Weighted Policymaking: The Federal, State and Individual Politics of Obesity

By

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ABSTRACT

In less than one generation, more than two-thirds of American adults have become overweight or obese. The financial and societal costs of obesity shift this condition from a private to a public problem necessitating a collective solution and an understanding of it as a public policy issue. This dissertation approaches obesity from three perspectives: individual, state and federal.

Using public opinion survey data, Chapter One examines the factors that predict individuals' acceptance of government interventions to resolve it. As opinion scholars theorize, awareness and socio-demographic characteristics exert a strong effect on preferences for a public policy solution. Additionally, factors that predict a positive attitude toward adult-directed policies do not have the same effect on attitudes toward child-directed policies. These results suggest that childhood anti-obesity efforts are viewed differently from those aimed at the general population, perhaps because childhood obesity is a newer phenomenon and Americans are less certain of their preferences toward a demographic group perceived as less culpable for their condition.

Chapter Two uses integrated diffusion of innovation and agenda setting theory to investigate the factors that encourage states to consider and enact measures to combat obesity. I evaluate consideration and enactment of anti-obesity legislation separately, facilitating a more nuanced understanding of diffusion. This approach leads to a surprising conclusion: the determinants of policy consideration are quite different from those of enactment. Political factors

are much more predictive in the consideration and agenda setting stage than in the passage stage of anti-obesity legislation.

In the final chapter, I study how federal agencies cooperate to forge solutions to the obesity epidemic. Elinor Ostrom's Institutional Analysis and Design framework guides this qualitative research. Results of semi-structured interviews and documents review indicate that collaboration among federal agencies is accepted despite the absence of formal rules mandating it. Collaborative behavior may be a professional norm among public health policymakers and an inherent part of their training. The role of resources is nuanced: bureaucrats cooperate as theorized to gain access to and share assets, but a certain level of resources is necessary to credential groups to participate in interagency initiatives.

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Finally, to my children who grew up during this process: you are my life and my joy and my pride. You are uniquely talented young adults yet scholars all and I am deeply proud of you. I thank you from the bottom of my heart for your love and encouragement, and most especially for the humor you used to remind me to seek and maintain that fine balance between serious and fun. Your gift to me has been twofold: your personal success and your unwavering support.

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INTRODUCTION

Technological and medical knowledge, fueled by a dedication to scientific processes, doubled and redoubled the progress in health that marked the twentieth century. Food safety, sanitation and hygiene, childhood immunizations and infectious diseases cures represent tremendous success stories in improving our collective health. Reductions in infant mortality and increased life expectancy are indicators that our national investment in health research has proven worthwhile and successful.

These improvements in public health are positive developments, and as such, offer the promise of longer and healthier lives. However, such advances perversely confer a new risk. While vaccines and antibiotics successfully prevent and treat diseases such as polio, cholera and tuberculosis that once struck down children and adults in large sweeping epidemics, bodies that live longer become more susceptible to chronic health conditions.

Obesity in particular has become an epidemic according to public health experts (Brownell 2005, IOM 2005). Americans are gaining more and more weight: in less than a generation, more than two-thirds of American adults have become overweight and obese. Obesity's contributions to heart disease, cancers, diabetes, sleep disorders and some gastrointestinal illnesses magnify the scope of the obesity health problem (Mokdad et al. 2001). While yesterday's killer illnesses took their victims quickly and efficiently, chronic diseases by their nature are debilitating and require many years' treatment, bringing enormous pressure to bear on our health care system. The medical, financial and social costs are substantial.

The condition of obesity is the topic of this dissertation. Obesity damages not only individual and community health, but also economic well-being. In the same manner that the

chronically ill face problems in many aspects of their personal lives, society suffers the consequences of a population in declining health. More visibly, the economic costs of obesity draw attention to the enormity of the issue and signify a shift from its origins as a behavioral problem (people eat too much and exercise too little) to a political problem (how can the government help resolve it). Obesity has become a systemic public health problem and as such, poses important questions to political science and the study of public policy.

Scope of the Problem

According to the Centers for Disease Control and Prevention (CDC), adult overweight and obesity, measured by Body Mass Index (BMI)[1], has more than doubled since 1980 (CDC 2009b). More than 60% of American adults are overweight or obese; 34% are obese, with a BMI over 30. Among the overweight and obese, the numbers of extremely or morbidly obese are rising most sharply (Ogden et al. 2007).

While these numbers are dramatic, more alarming is the explosion of overweight among children and adolescents. Today, more than 17% of our youth are overweight or obese[2] (Ogden et al. 2008), representing a three-fold increase in the last twenty years (Institute of Medicine [IOM] 2005). Children aged 6-11 have experienced the sharpest increase: prevalence of overweight for this group has more than quadrupled from 4% in 1974 to 18.8% in 2002. Teens'

[1] BMI is an indication of the amount of an individual's body fat relative to his or her height, and is calculated by dividing weight in kilograms by height in meters squared. A BMI between 25 and 30 is considered overweight; over 30 denotes obesity. The distinction between overweight and obesity notwithstanding, in this dissertation I use the term 'obesity' to refer to overweight and obesity in general terms.

[2] Overweight and obesity in children are measured differently than in adults. Overweight is calculated in percentiles to account for growth. Children at risk for overweight fall between 85% and 95% of normal and overweight children are measured at 95% and above on the Body Mass Index (BMI)-for-age chart [CDC 2007

prevalence grew to 18.1%, and even pre-schoolers more than doubled their rates, from 5% to 10.4%. Trends for youths aged 10-17 demonstrate the same phenomenon as for adults: rates of overweight have leveled off in recent years, while rates of obesity (BMI in the 95% percentile and above) continue to climb (Bethell et al. 2010). In a grim reminder that children's obesity levels are shifting toward higher individual BMIs, Kaiser Permanente projects that 6.4% of youth are extremely obese, measured as 20% heavier than the 95th percentile, or twice the average weight of their age group (Koebnick et al. 2010). Figure 1 depicts the growth in obesity among children and adults since the 1960s.

[Figure 1 about here]

The outlook for these children's health is poor. More than 80% will remain obese the rest of their lives (Whitaker et al. 1997). Fully half of severely obese adolescents suffer from type 2 diabetes, a disease virtually unknown among youth until recently. Among moderately obese children, the prevalence of metabolic syndrome (a precursor to diabetes) is 39% (Weiss et al. 2004). If the rate of growth of obesity among young people is not slowed or reversed, future generations will suffer even more severe health, economic and social consequences. In addition to diabetes, their risk for heart disease, strokes, digestive disorders, hypertension, arthritis and some cancers are magnified. Disability at an earlier age may be the fate of many of these youngsters (Lakdawalla et al. 2004).

As with many health issues, minority populations suffer disproportionately from obesity. By age 60, 61% of African-American women are obese, compared to 32% of Caucasian women and 37% of Hispanic women (Ogden et al. 2007). Prevalence of overweight among poor children is almost 50% higher than among non-poor youth (Miech et al. 2006) and half of African-

American and Hispanic children born today will develop type 2 diabetes, compared to 25% among white children. This differential risk leads to "staggering disparities in obesity-related co-morbidities" (Yancey et al. 2007, S172).

Obesity as a Public Policy Problem

The Surgeon General first drew attention to the dramatic increase in weight gain among Americans in 2001 (Satcher 2001). Since then, research into the causes and implications of obesity has swelled, reflecting the consensus in the scientific and medical communities that action must be taken to avert serious health and economic problems in the future (IOM 2005, Katz et al. 2005, Mello et al. 2006).

Some public health problems have clear causes. For example, smoking is a behavior that confers fairly precise risks and measures to regulate smoking and control its practice are widely accepted. However, there is disagreement over the exact causes of obesity. Many consider obesity to be a behavioral problem, rooted in over-eating and a sedentary lifestyle. Excessive consumption and too little exercise result in an imbalance of calories and weight gain. Naming personal irresponsibility as the root cause of the obesity epidemic, many claim that it is inappropriate for the government to intervene in what is a private issue (Oliver and Lee 2005, ABC News/Time Magazine 2004).

Others cite research pointing to dramatic societal changes that contribute to over-consumption and under-exercising, noting that not all behavior change can be traced to individual choices. Changes in the built environment lead to less walking and more dependence upon mechanized transportation; children seldom walk to school and adults must drive distances from the suburbs to their place of work. Today's jobs often require little activity beyond a desk

chair and a computer. Societal shifts to a two-earner family structure result in a reliance upon fast food, working families too stressed to prepare healthful meals, and children who 'play' only at computers and video games. Pressures on the educational system such as the assessment-heavy No Child Left Behind federal initiative encourage schools to reduce physical education and recess time. These trends and their accompanying social changes conspire to upset the balance between consumption and burning of calories (Burdette and Whitaker 2004, IOM 2005, Lakdawalla and Philipson 2004).

Both groups may be correct. The proximate cause of weight gain is the expenditure of too few calories and the distal cause may be environmental changes that contribute to unhealthful eating and too little activity. Despite a growing awareness of the importance of exercise, few Americans are diligent about it. Additionally, food expenses have declined as a portion of income since the 1970s and prices of the unhealthiest most fattening foods have dropped the most (Lakdawalla and Philipson 2004, Monsivais and Drewnoski 2007). Fast food is cheaper and comes in larger portion sizes than ever before. Simple laws of economics predict that lower costs per calorie will lead to higher consumption.

The precise contribution of each of these obesogenic factors may not be known for some time but its costs are calculable. This condition - both a risk and exacerbating factor for heart disease, strokes and cancer - carries significant costs: $147 billion annually in medical expenditures alone. These costs will ultimately be shifted to the healthy (in insured populations) or to the taxpayers and government (through Medicare and Medicaid health and disability programs) (Finkelstein et al. 2009). Other costs include lower workplace productivity, higher taxes and

greater health disparities among races and socio-economic groups (Arena et al. 2006, Pronk et al. 2004, Wellever 2004).

Another societal cost is bias against the overweight and obese. Prejudice against the overweight is present as early as eight years of age, and these negative opinions harden early and are reinforced by heavy children's own loss of self-esteem (Tiggeman and Anesbury 2000). Discrimination in the workplace can depress wages and limit job and promotional opportunities (Puhl and Brownell 2001). Even health care professionals admit that they have negative perceptions of obese patients and often place blame for the condition on such individual characteristics as laziness and lack of discipline (Schwartz et al. 2003).

Obesity's costs and associated public health risks shift this condition from a private to a public problem necessitating a collective solution and an understanding of it as a public policy issue. In a thought-provoking application of the policy process to obesity policymaking, Kersh and Morone (2002) outline seven triggers that lead to government regulation of individual behavior. Using alcohol consumption, drug use, smoking and sexuality as illustration, the authors trace societal shifts in sentiment toward those who indulge in undesirable behaviors. Private actions evolve from a personal matter to something necessitating public intervention through seven steps, the first of which is a coalescence of public disapproval. Medicalization of the negatively perceived activity follows, along with self-help movements designed to encourage behavior change. Next comes 'demonization' of sufferers and later of the industry that supports the negative actions. The final steps are interest group formation and mobilization. The authors theorize that regulatory proscriptions of individual obesogenic behaviors will, like tobacco and alcohol policies, gain acceptance as opinion about obesity evolves through these seven stages.

By observing changes in Americans' opinions over time about obesity and the obese, we can gain insights into whether and when public policy becomes the accepted and expected outcome.

This dissertation fills several gaps in public policy scholarship by examining the political aspects of obesity. Obesity's recent appearance in the academic collective conscious affords researchers broad opportunities to explore and study decision making at several levels and to apply political theory to an important substantive issue area. This research identifies trends and lays the foundation for future work, while contributing new insights to the study of obesity and health policy. I focus on three aspects: public opinion, the states and the federal bureaucracy.

Public opinion

Lawmakers must be attuned to the preferences of their constituents, and research demonstrates congruence between public opinion and policy-making. Although attitudes about obesity have only been tracked for a relatively short time, it is important to ask: what is the state of public opinion about obesity, its causes and potential solutions? Has opinion changed over the nine years these surveys have been conducted? What factors predict respondents' preferences for anti-obesity laws? Chapter 1 of this dissertation uses survey data to investigate how the American public views obesity and examine the factors that predict individuals' acceptance of government interventions to resolve it. I anticipate that, as opinion theory suggests, awareness of the seriousness of the obesity epidemic, a negative opinion of the obese as a group and a tendency to blame them for their condition have an effect on individual preferences for a government solution to obesity. I also suspect that the factors may differ depending upon whether anti-obesity policies target children or adults.

State level

While all levels and branches of government share in its burdens, states play a critical role in addressing obesity. Given states' traditional obligation for safeguarding their residents' health as well as the devolution of responsibility from the federal to state governments, states are now recognizing the ramifications of obesity and the need to act to stem its spread. Chapter 2 seeks to identify the factors that encourage states to consider and enact measures to combat obesity. Using secondary data across eight years' time, I evaluate consideration and enactment of anti-obesity legislation separately, facilitating a more nuanced understanding of diffusion. Relying upon agenda-setting and integrated diffusion of innovation theory, I expect to find an influence on state-level anti-obesity policymaking from such factors as diffusion pressure from nearby states and the federal government, problem severity, state legislative partisanship, resources and pressure groups.

Federal bureaucracy

Federal efforts to reduce obesity focus on education and promotion of healthy lifestyles. This is a very broad mission, and a challenging one in light of the intractability of the obesity problem. Many agencies within the Department of Health and Human Services (DHHS) share the goal of reducing obesity rates (albeit giving it different priorities). In the face of a difficult problem with no laws or mandates to draw upon, do these agencies work together to share resources and information, pooling their efforts to attack the problem? If they do, what factors predict cooperation among federal agencies? Chapter 3 shares insights from a series of semi-structured interviews and selected documents review to shed light on inter-agency collaboration in this substantive issue area.

WORKS CITED

ABC. "ABC News/Time Magazine Obesity Poll." Horsham, PA: ABC News Time Magazine Inter-University Consortium for Political and Social Science Research, 2004.

Arena, Vincent C., Krishna R. Padiyar, Wayne N. Burton, and Joseph J. Schwerha. "The Impact of Body Mass Index on Short-Term Disability in the Workplace." *Journal of Occupational and Environmental Medicine* 48 (2006): 1118-24.

Bethell, Christina, Lisa Simpson, Scott Stumbo, Adam C. Carle, and Narangerel Gomgbojav. "National, State, and Local Disparities in Childhood Obesity." *Health Affairs* 29, no. 3 (2010): 347-56.

Brownell, Kelly D. "The Chronicling of Obesity: Growing Awareness of Its Social, Economic, and Political Contexts." *Journal of Health, Politics, Policy and Law* 30, no. 5 (2005): 955-64.

Burdette, Hillary L., and Robert C. Whitaker. "Neighborhood Playgrounds, Fast Food Restaurants, and Crime: Relationships to Overweight in Low-Income Preschool Children." *Preventive Medicine* 38 (2004).

CDC. "Childhood Overweight and Obesity." Centers for Disease Control and Prevention, http://www.cdc.gov/obesity/childhood/defining.html. 2010.

———. "Health, United States, 2009: In Brief." Atlanta GA: National Center for Health Statistics, 2009b.

Finkelstein, Eric A., Justin G. Trogdon, Joel W. Cohen, and William Dietz. "Annual Medical Spending Attributable to Obesity: Payer- and Service-Specific Estimates." *Health Affairs* 28, no. 5 (2009): w822-w31.

Flegal, Katherine M., Margaret D. Carroll, Cynthia L. Ogden, and Lester R. Curtin. "Prevalence and Trends in Obesity among Us Adults: 1999-2008." *Journal of the American Medical Association* 303, no. 3 (2010): 235-41.

IOM. "Childhood Obesity in the United States: Facts and Figures " In *Preventing Childhood Obesity: Health in the Balance*, edited by Jeffrey P. Koplan, Catharyn T. Liverman and Vivica A. Kraak: Institute of Medicine, 2005.

Katz, David L., Meghan O'Connell, Ming-Chin Yeh, Haq Nawaz, Valentine Njike, Laurie M. Anderson, Stella Cory, and William Dietz. "Public Health Strategies for Preventing and Controlling Overweight and Obesity in School and Worksite Settings." edited by MMWR. Atlanta: CDC, 2005.

Kersh, Rogan, and James Morone. "The Politics of Obesity: Seven Steps to Government Action." *Health Affairs* 21, no. 6 (2002): 142-53.

Koebnick, Corinna, Ning Smith, Karen J. Coleman, Darios Getahun, Kristi Reynolds, Virginia P. Quinn, Amy H. Porter, Jack K. Der-Sarkissian, and Steven J. Jacobsen. "Prevalence of Extreme Obesity in a Multiethnic Cohort of Children and Adolescents." *Journal of Pediatrics* in press (2010).

Lakdawalla, Darius N., Jayanta Bhattacharya, and Dana P. Goldman. "Are the Young Becoming More Disabled?" *Health Affairs* 23, no. 1 (2004).

Lakdawalla, Darius, and Tomas Philipson. "The Growth in Obesity and Technological Change." In *2003 Economics of Obesity Workshop*, 6-13. Washington DC: Economic Research Service, United States Department of Agriculture, 2004.

Mello, Michelle M., David M. Studdert, and Troyen A. Brennan. "Obesity- the New Frontier of Public Health Law." *New England Journal of Medicine* 354, no. 24 (2006): 2601-10.

Miech, Richard A., Shiriki K. Kumanyika, Nicolas Stettler, Bruce G. Link, Jo C. Phelan, and Virginia W. Chang. "Trends in the Association of Poverty with Overweight among Us Adolescents, 1971-2004." *Journal of the American Medical Association* 295, no. 20 (2006): 2385-3.

Mokdad, Ali H., Barbara A. Bowman, Earl S. Ford, Frank Vinicor, James S. Marks, and Jeffrey P. Koplan. "The Continuing Epidemics of Obesity and Diabetes in the United States." *Journal of the American Medical Association* 286 (2001): 1195-200.

Monsivais, Pablo, and Adam Drewnowski. "The Rising Cost of Low-Energy-Density Foods." *Journal of the American Dietetic Association* 107, no. 12 (2007): 2071-76.

Ogden, CL, MD Carroll, MA McDowell, and KM Flegal. "NCHS Data Brief No. 1." edited by National Center for Health Statistics. Hyattsville MD: NCHS, 2007.

Ogden, Cynthia L., Margaret D. Carroll, Lester R. Curtin, Molly M. Lamb, and Katherine M. Flegal. "Prevalence of High Body Mass Index in Us Children and Adolescents, 2007-2008." *Journal of the American Medical Association* 303, no. 3 (2010): 242-9.

Ogden, Cynthia L., Margaret D. Carroll, Lester R. Curtin, Margaret A. McDowell, Carolyn J. Tabak, and Katherine M. Flegal. "Prevalence of Overweight and Obesity in the United States, 1999-2004." *Journal of the American Medical Association* 295, no. 13 (2006): 1549-55.

Ogden, Cynthia L., Margaret D. Carroll, and Katherine M. Flegal. "High Body Mass Index for Age among Us Children and Adolescents, 2003-2006." *Journal of the American Medical Association* 299, no. 20 (2008): 2401-5.

Ogden, Cynthia L., Margaret D. Carroll, Margaret A. McDowell, and Katherine M. Flegal. "Obesity among Adults in the United States - No Statistically Significant Change since 2003-2004." In *NCHS Data Brief*. Bethesda: United States Department of Health and Human Services 2007.

Ogden, Cynthia L., Katherine M. Flegal, Margaret D. Carroll, and Clifford L. Johnson. "Prevalence and Trends in Overweight among Us Children and Adolescents, 1999-2000." *Journal of the American Medical Association* 288 (2002): 1728-32.

Ogden, CL, MD Carroll, MA McDowell, and KM Flegal. "NCHS Data Brief No. 1." edited by National Center for Health Statistics. Hyattsville MD: NCHS, 2007.

Oliver, J. Eric, and Taeku Lee. "Public Opinion and the Politics of Obesity in America." *Journal of Health Politics, Policy and Law* 30, no. 5 (2005).

Philipson, Tomas, Carolanne Dai, and Loren Helmchen. "The Economics of Obesity: A Report on the Workshop Held at Usda's Economic Research Service." In *2003 Economics of Obesity Workshop*. Washington DC: Economic Research Service, United States Department of Agriculture, 2004.

Pronk, Nicolaas P., Brian Martinson, Ronald C. Kessler, Arne L. Beck, Gregory E. Simon, and Philip Want. "The Association between Work Performance and Physical Activity, Cardiorespiratory Fitness, and Obesity." *Journal of Occupational and Environmental Medicine* 46, no. 1 (2004).

Puhl, Rebecca, and Kelly D. Brownell. "Bias, Discrimination and Obesity." *Obesity Research* 9 (2001).

Satcher, David. "The Surgeon General's Call to Action to Prevent and Decrease Overweight and Obesity." edited by Department of Health and Human Services. Washington, DC: U.S. Government Printing Office, 2001.

Schwartz, Marlene B., Lenny R. Vartanian, Brian A. Nosek, and Kelly D. Brownell. "The Influence of One's Own Body Weight on Implicit and Explicit Anti-Fat Bias." *Obesity* 14, no. 3 (2006): 440-7.

Tiggeman, Marika, and Tracy Anesbury. "Negative Stereotyping of Obesity in Children: The Role of Controllability Beliefs." *Journal of Applied Social Psychology* 30, no. 9 (2000): 1977-93.

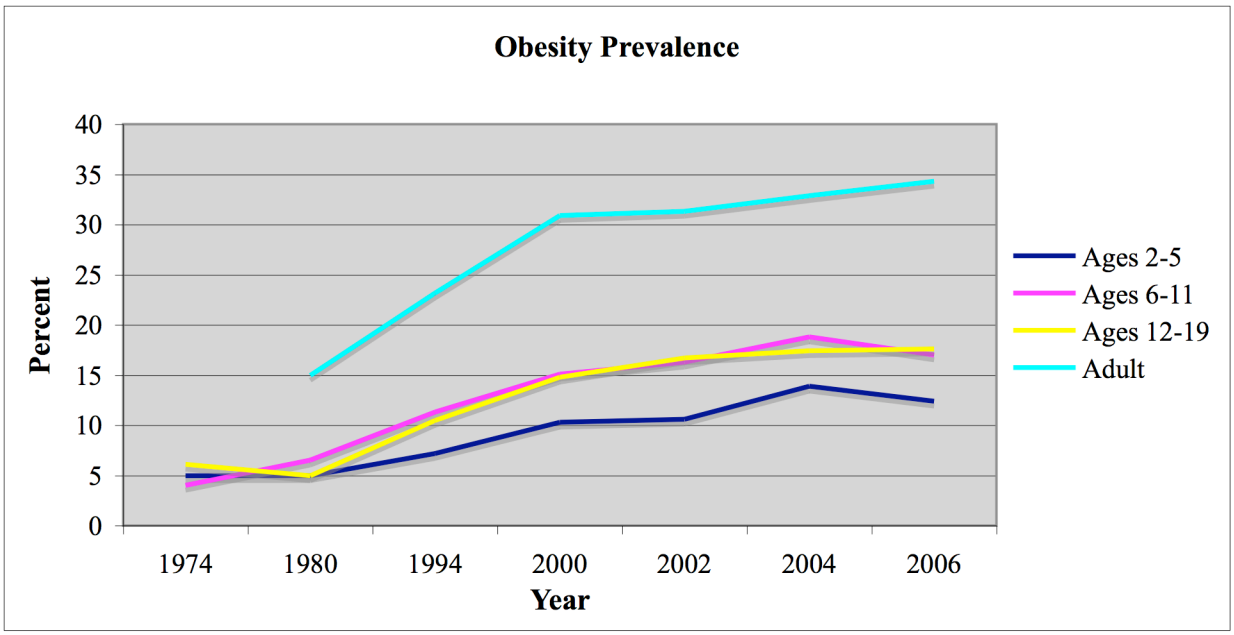
Weiss, Ram, James Dziura, Tania S. Burgert, William V. Tamborlane, Sara E. Taksali, Catherine W. Yeckel, Karin Allen, Melinda Lopes, Mary Savoye, John Morrison, Robert S. Sherwin, and Sonia Caprio. "Obesity and the Metabolic Syndrome in Children and Adolescents." *New England Journal of Medicine* 350, no. 23 (2004): 2362-74.

Wellever, Anthony. "Obesity and Public Policy: A Framework for Intervention." Topeka, KS: Kansas Health Institute, 2004.

Whitaker, R. C., J.A. Wright, M.S. Pepe, K.D. Seidel, and W.H. Dietz. "Predicting Obesity in Young Adulthood from Childhood and Parental Obesity." *New England Journal of Medicine* 337 (1997): 869-73.

Yancey, Antronette K., and Shiriki K. Kumanyika. "Bridging the Gap: Understanding the Structure of Social Inequities in Childhood Obesity." *American Journal of Preventive Medicine* 33, no. 4S (2007): S172-4.

Figure 1



Sources: Adult data: BMI 30 and above. Sources: CDC's Health, US, 2009; Ogden et al. 2006; Flegal et al 2010. Children data: 95th percentile and above. Sources: Ogden et al. 2002, 2006, 2008, 2010; CDC 2010.

CHAPTER ONE

PUBLIC OPINION AND OBESITY: PREDICTING ANTI-OBESITY POLICY PREFERENCES

Abstract: Obesity in America has become a public health problem of epidemic proportions and potentially devastating physical and economic costs. As such, it is provoking calls for a public solution to address its growing prevalence. While health conditions that appear to be a result of poor behavior are traditionally not candidates for government intervention, policymakers and the American public now recognize obesity as more than a problem of personal irresponsibility. Its systemic costs and burdens have social and political consequences. Using public opinion survey data, this chapter investigates how the American public views obesity and examines the factors that predict individuals' acceptance of government interventions to resolve it. I find that, as opinion scholars theorize, awareness and socio-demographic characteristics exert a strong effect on preferences for a public policy solution. Additionally, factors that predict a positive attitude toward policies directed at adults do not have the same effect on attitudes toward policies directed at children. While these results are preliminary, they suggest that childhood anti-obesity efforts are viewed differently from those aimed at the general population, perhaps because childhood obesity is a newer phenomenon and Americans are less certain of their preferences toward a demographic group perceived as less culpable for their condition.

SECTION I: INTRODUCTION

Americans are getting larger and it is damaging their health in dramatic ways. In less than a generation, more than two-thirds of American adults have become overweight and obese (measured by Body Mass Index (BMI))[1], an increase of 260% since 1960 (CDC 2009a). The young are equally vulnerable to this condition and 80% of overweight children will remain so the rest of their lives (Whitaker et al. 1997). Public health experts have deemed obesity an epidemic and warn of its looming negative impact on the nation's economy and collective health (Satcher 2001, Brownell 2005).

The costs associated with an obese population can be measured in more than the $147 billion dollars spent annually on obesity-related medical expenses (Finkelstein et al. 2009). Workplace productivity suffers as obesity rates rise, sick days multiply and disability claims increase (Arena et al. 2006, Pronk et al. 2004). Future Medicare and Medicaid payments will explode as obesity co-morbidities drive more patients into expensive chronic care. The rising tax burden will place ever greater financial pressures on firms and taxpayers.

Health policy in general and obesity policy in particular receive limited attention in political science compared to such social science disciplines as economics and sociology. However, because of obesity's soaring medical and social costs, governmental institutions are likely to intervene to mitigate its effects. As awareness of obesity's consequences widens, there are growing calls for the government to take action. In fact, some states are increasingly active in

[1] BMI is a measure of an individual's body fat relative to his or her height, and is calculated by dividing weight in kilograms by height in meters squared. A BMI between 25 and 30 is considered overweight; over 30 indicates obesity. The distinction between overweight and obesity notwithstanding, in this chapter I use the term 'obesity' to refer to overweight and obesity in general terms (CDC 2009a).

anti-obesity legislating. Between 2003 and 2007, the number of obesity reduction laws passed by state legislatures jumped from 32 to 135 (Wellever 2004, CDC 2007a).

This trend highlights a classic tension in the study of public policy: at what point does the government intervene in personal behaviors in the interest of the common good? Are the social costs of such interventions outweighed by the collective benefits that accrue to a healthier population? What is the public's reaction to policies designed to curb private behaviors? As in other policy domains, the emergence of obesity as a public health risk necessitates an understanding of the interaction between public opinion and policymaking.

Public Opinion

If politics is about the distribution of benefits among a population (Lasswell 1950), an assessment of constituents' needs and wishes is imperative. Public opinion conveys these preferences and is an important linkage between the governed and the government. Anthony Downs noted long ago that one's beliefs and knowledge have important consequences for successful participation in a democratic system, and participation is a necessary first step to securing benefits (1957). For a variety of normative (representative) and practical (electoral) reasons, policy-makers must be attuned to the preferences of their constituents and appreciate the factors that predict such attitudes. More directly, political leadership is interested in how voters feel about issues, even if their interest is rooted in a desire to win re-election (Mayhew 1974).

As the opinion-policy congruence literature shows, lawmakers frequently take their cues from the public. The correlation between public opinion and policy adoption is often significant, especially in salient issues (Monroe 1998, Page and Shapiro 1983, Burstein 2003) and this finding is consistent in some health policy issues as well (Rushefsky and Patel 1998). An

important indicator of citizens' priorities is the public opinion poll, a powerful tool whose popularity and use have exploded in the last 50 years. Lawmakers aiming to satisfy their constituents' desires and public opinion scholars are able to tap into these rich sources of data that can yield normatively important information about democratic institutions and public preferences.

Although obesity is a fairly recent public health issue, its costs and consequences for Americans' collective and personal health compel a consideration of public opinion about obesity's causes and potential solutions. In this chapter, I use public opinion formation theory to examine the relationship between policy and public opinion in this substantive issue. Specifically, what are the factors that predict respondents' preferences for anti-obesity laws? What contributes to a positive attitude toward government solutions to this problem?

A number of polls since 2001 have gauged opinion about obesity. These surveys question respondents on their beliefs about obesity's cause and severity, their attitudes toward obesity and the obese, and their sentiment toward public policy interventions to resolve the problem. Knowledge of the public's perceptions and preferences about an issue provides direction to policymakers and will help political scientists understand how obesity might rise to prominence on the policy agenda.

Research Questions

This chapter asks two broad questions about public opinion and obesity. First, what are Americans' attitudes about obesity? What do they see as the cause, and how much do they support governmental measures to reduce its prevalence? What are the attitudes toward the obese as a population? Second, what factors predict whether survey respondents favor a public policy

solution for obesity, and do those factors differ by the target of the policy, i.e., whether policies are directed toward the general public or toward children?

To answer these questions, the chapter will progress in the following manner. Section II outlines the theoretical context for the study of public opinion and its relationship to anti-obesity policy-making. Section III contains a descriptive analysis that draws upon nine public opinion polls measuring attitudes about obesity to summarize and offer a broad overview of the current state of opinion about obesity. Section IV outlines the chapter's hypotheses and investigates the determinants of preferences for obesity policymaking. It delineates the data, methodological approach and results. Section V offers conclusions and speculates on the appropriate direction of future research into the politics of obesity.

SECTION II: THEORETICAL APPROACH

Attitude Formation

Political philosophers emphasize the value of public opinion as a linkage between democratic institutions and citizens. If politics is about resolving conflicts over the distribution of benefits, then identification of the public's needs and preferences is the first step in policymaking: agenda-setting. When the public recognizes and attributes importance to an issue, it gains salience among the general population and draws the attention of policymakers whose interests lie in satisfying their constituents' needs (Cobb and Elder 1972, Downs 1972, Jones and Baumgartner 2005).

Public opinion theory can help explain how issues move from obscurity to prominence on the policy agenda by suggesting attributes that exert an influence on attitudes toward issues and possible solutions. In a noisy and chaotic political environment filled with conflicting

information that impedes perfect understanding, how do ordinary citizens arrive at conclusions and preferences? Certainly, polls indicate that respondents hold opinions, but they do not explain how survey participants gain those attitudes, or whether they are consistently formed and held. As issues emerge onto the public agenda, "…public opinion will surely play a key role in defining the boundaries of policy debates. The question remains, however, as to what form public opinion will take" (Oliver and Lee 2005, 925).

Converse's 'black and white' model set the terms of the debate with its conclusion that there is no consistency or functional interdependence in how most Americans view politics (1964, 2000). Surveys that attempt to measure coherence in belief systems indicate nothing better than random guesses, or even 'non-attitudes' both cross-sectionally and over time. According to this model, elites demonstrate much more 'constraint' in their opinions than does the population as a whole, whose attitudes seldom reflect a consistently logical and ordered worldview (Converse 1964, 2000; Campbell et al. 1960; Delli Carpini and Keeter 1996).

When faced with complex and often conflicting information, people often rely upon 'cues' such as elite opinion, turning to experts for direction when an unfamiliar issue arises, thereby minimizing the costs associated with gaining sophisticated issue-specific knowledge themselves. Additionally, they resort to other shortcuts, or heuristics, such as a reliance upon political predispositions; ideology and partisanship have been shown to guide attitude formation and can be deployed to help individuals make sense of an issue (Key 1964, Page and Shapiro 1994, Lupia et al. 2000).

Acknowledging that survey response modeling is complex and that polls are an aggregation of individual opinions, public opinion scholars have turned in recent decades to an

examination of the "microfoundations" of attitude formation. This line of inquiry is informed by the study of psychology and yields insights into how beliefs are adopted. Conceding that individuals cannot maintain solid, true attitudes on every issue, this research suggests that they instead hold "considerations" that are less firm than fully formed opinions, and while these attitudes may be ambivalent, they are not necessarily inconsistent. When questioned about attitudes or preferences, respondents appear to draw upon some combination of three factors: interest and engagement, reflected in awareness of the issue and its seriousness; acceptance of the message when one is persuaded of a view thanks in part to an ideological or partisan predisposition to such beliefs; and what is easily accessible to the respondent at the time of the questioning - what Zaller and Feldman called a 'top of their heads" response choice. This theory is predicated upon survey participants' eagerness to offer an answer to a question, even if it is not fully formed or grounded in experience (Zaller 1992, Zaller and Feldman 1992, Delli Carpini and Keeter 1996).

Public Opinion and Obesity

The first systematic test of obesity and public opinion theory used a survey especially designed to measure attitudes toward obesity and the obese. Oliver and Lee (2005) found that in 2001 Americans did not view obesity as a very serious problem and were not overly supportive of anti-obesity measures. Drawing upon Zaller and Feldman's survey response theory (1992), Oliver and Lee investigated the influence of such traditional political factors as awareness, ideology, partisanship and core values and beliefs on attitudes toward obesity policy. They concluded that the issue was too recent to detect the effects of traditional causal factors on attitude formation, speculating that in the absence of clear evidence of the cause of obesity, even

elites would be unable to forge a consensus. While this analysis found that salience contributed to attitude formation, neither partisanship, ideology nor other individual level factors such as belief in the norm that the obese are personally responsible for their weight was significant. Without such heuristics, survey respondents used as a surrogate their opinions on other social regulatory policy (in this case, smoking) to help them make judgments about the value of an anti-obesity policy. Oliver and Lee suggest that as the issue of obesity gains valence, traditional predictors are likely to gain significance (2005).

This chapter takes a similar approach, relying upon a more recent survey to investigate the factors associated with positive attitudes toward obesity reduction legislation. Using a 2004 ABC News/Time Magazine poll, I test the effects of several measures on respondents' preferences for different types of anti-obesity policy, paying particular attention to the roles played by issue salience and the belief that obesity is caused by personal irresponsibility (see Appendix A for survey details).

Before turning to this analysis, it is helpful to understand the current state of public opinion on obesity. The following section summarizes the results of obesity-related surveys from the early to mid-2000s.

SECTION III: PUBLIC OPINION AND ANTI-OBESITY POLICY

While polling about obesity is more limited than for more mature public health issues, a number of surveys conducted between 2001 and 2007 shed light on Americans' opinions about obesity and the obese. These surveys asked similar questions about respondents' attitudes and track the following beliefs about obesity: its cause, support for public actions to reduce obesity, and negative affect toward the obese. The time period covered by survey data is brief as these

surveys appeared only after then-Surgeon General David Satcher's alarm-raising Call to Action in 2001, but permit several general conclusions about the state of public opinion and obesity.

Table 1 lists the polls under review and describes their methods and key characteristics. In order to summarize appropriately, I carefully compared question wording in the surveys to determine whether aggregations in opinion are possible. Table 2 outlines the survey results for key questions.

[Table 1 about here]

[Table 2 about here]

Survey Summary

The polls feature a variety of general questions about awareness of obesity as a problem, its possible causes and respondents' tolerance for policy activity to address it. The surveys also query participants about specific policies. These policies fall into two categories: those directed at the general public and those focused on children. Public-directed policies include initiatives such as laws to require explicit labeling of calorie and fat content of foods sold in grocery stores and in restaurants, taxes on processed or unhealthy foods such as sugary sodas and snack foods, and even controls on restaurant portion sizes. The surveys also asked respondents to rank their support of policies aimed at children, such as the regulation of or outright ban on advertising of junk food to children and restrictions on the common practice of selling fast- and 'competitive' foods (food choices offered by snack and beverage companies in vending machines that often take the place of a sack or school-provided lunch) in schools. Such measures are fairly new and most are being considered (and some passed) at the state and local levels, while the federal

government focuses on educational efforts and resources designed to encourage healthier eating and exercise habits.

The surveys featured enough questions with similar wording to suggest tentative conclusions. The results, while preliminary, offer evidence of how Americans think about obesity. Awareness of obesity as a serious or very serious problem is high across almost all nine surveys. Obesity is a salient issue for most Americans, who recognize that it has profound consequences for our collective health, demonstrated by the up to 86% who recognize obesity as a serious problem (see Figure 1 below).

[Figure 1 about here]

Though the data are more limited for the question of personal responsibility, from 2001 to 2005 a growing percentage of respondents indicate that they consider obesity to be a result of individual behaviors. In spite of public health professionals' increasing concerns with social-ecological factors such as the built environment and sedentary lifestyles (Brownell 2005) and the fact that more of us are heavier than ever, weight gain is commonly attributed to individuals' inability to manage caloric intake and expenditures.

This belief that obesity is a matter of personal responsibility notwithstanding, support for public intervention scores fairly high, highlighting a classic tension between individual responsibility and government action, and echoing the long-standing political question: at what point does individual behavior necessitate a government response? Measured broadly by questions about the perceived value of laws to reduce obesity levels, support for government solutions in the obesity epidemic ranges from 69% to 92% depending upon the poll. In addition, several surveys measured inclination toward specific policy types. For the policies directed at

adults, there is considerable support for the publication of fat and calorie contents in restaurants (60% - 78%). Even the more controversial alternative of a junk food tax engenders support in 33% - 51% of respondents. When these preferences are averaged across each poll, enthusiasm for regulatory action is high, ranging from 45% in 2001 to 66% in 2005 (see Figure 2).

[Figure 2 about here]

Americans appear even more receptive to policies targeting childhood obesity (see Figure 3). A majority of those surveyed favor restricting vended and 'competitive' foods in schools (69% - 75%) and that support has risen dramatically, as has opposition to advertising junk food to youth (77% in 2005). A majority of survey participants are clearly concerned with activities that may promote obesity among children. The next section of this chapter explores this distinction between public-directed and child-directed policy preference in greater depth.

[Figure 3 about here]

SECTION IV: PREDICTING POLICY PREFERENCES

Public opinion and policy research suggests that certain respondent attributes will predict attitudes for or against government policymaking designed to address a social problem. I rely upon public opinion theory to investigate the factors that influence predispositions toward anti-obesity legislation. My analysis further examines whether the factors differ by the targets of the policies (public-directed versus child-directed).

Hypotheses and Independent Variables

Previous scholarship indicates that in the early days of an issue's attention cycle, awareness of the issue is an important factor in determining attitudes (Zaller 1992, Zaller and Feldman 1992, Delli Carpini and Keeter 1996). The more people know of a topic and the more

serious they consider it to be, the likelier they are to favor policies designed to alleviate the problem. Thus I anticipate that the greater the recognition of obesity as a problem, the higher the probability of support for policy relief. *Awareness* is measured by the ranked response to the question of how serious a problem survey participants consider obesity to be.

Hypothesis 1: Respondents who rate obesity as a serious health issue will be more likely to support government action to reduce it.

Deborah Stone's (1998) work on causal stories suggests that those who believe that obesity is caused by individuals' personal weakness (eating too much and/or exercising too little) will not favor public activity aimed at obesity. Oliver and Lee call these beliefs "norms of self-reliance" (2005), which should act to dampen respondents' enthusiasm for anti-obesity policy. I anticipate that those who blame individuals for their condition will have a negative view of public-directed policies that tend to focus responsibility on societal factors. However, this individual blame might not extend to children's policy, as youth are perceived as less responsible than adults for their habits. The measure of *Individual Irresponsibility* is derived from the ranked response to the question of how much responsibility individuals bear for their weight.

Hypothesis 2: Respondents who believe that obesity is caused by personal irresponsibility will be less likely to favor anti-obesity policies.

The overweight and obese are often viewed negatively as a group. If the public's perception of a group is poor, I anticipate that there will be less support for public policy solutions. This extends the suggestion that blaming the obese for their condition is a predictor for negative feelings toward anti-obesity policy (Oliver and Lee 2005). *Negative Affect* toward the obese as a population should likewise be associated with a lack of support for such interventions.

Hypothesis 3: Those with negative opinions about the obese will be less likely to support legislative solutions to reduce obesity.

Polling indicates that the public views child-directed policies more favorably than public-directed policies; respondents tend to be more enthusiastic about laws aimed at childhood obesity. This raises the question of whether similar factors are at work when preferences are formed. Given the differing levels of support for public- versus child-directed measures, it is likely that determinants of preferences for public- versus child-directed policies will not be the same.

Hypothesis 4: The factors predicting preference for anti-obesity policies will differ by category type (public-directed versus child-directed).

State-level Influences

State culture has been shown to affect citizens' party identification and ideological predispositions (Erikson et al 1987); does that extend to policy preferences as well? Acknowledging the importance of elites to attitude formation among the masses (Page and Shapiro 1983, Zaller 1992), measuring the effect of certain state-level characteristics as a proxy for elite cues may have value in explaining preferences. I use state-level data from a variety of secondary sources to test the influence of the following factors.

The percent of Democrats in the state legislature (*Democratic Legislature)* may provide some understanding of how one group of elites, state legislators, might affect citizens' preferences. More liberal lawmakers should favor anti-obesity policies. Another set of elites may be found in state public health departments. These professionals are important participants in the efforts to stem obesity, often partnering with federal agencies to reduce obesity rates. Well-staffed public health departments should, by publicizing information about obesity and its risks,

enhance citizens' appreciation for anti-obesity laws. *Public Health* is measured as the number of public health department full time employees per thousand of state population.

Adequate funding is necessary to implement programs to reduce obesity. States that enjoy greater financial resources may be more inclined to favor government policy solutions. Using *GSP per capita,* I control for the effects of state wealth on policy preferences with the expectation that higher GSP will predict greater acceptance of anti-obesity policies. Finally, the policy environment itself at the state level is a possible factor in predicting preferences. States that have begun to introduce and debate anti-obesity laws will naturally experience a heightened level of discourse around the issue. I expect that the more *Anti-obesity Policies* that are introduced in state legislatures, the greater the public acceptance of such policy solutions will be.

Hypothesis 5a: Respondents from states with Democratic legislatures will be more likely to favor anti-obesity policies.

Hypothesis 5b: A strong public health presence predicts higher approval rates for obesity reduction laws.

Hypothesis 5c: Wealthier states have a higher probability of support for policies to shrink obesity rates.

Hypothesis 5d: Past state legislative activity predicts approval of anti-obesity policies.

Socio-demographic Controls

The survey also recorded socio-demographic factors such as *Education, Age, Urbanity, Race, Income, BMI and Gender,* which are theorized to influence policy preferences (Zaller 1992, Oliver and Lee 2005). I expect that increasing age will predict less support, as individuals often become more conservative as they age. Those with a high BMI might also reject policies directed at controlling their behavior. Further, I anticipate that education level, female gender, higher income, urban dwelling, and non-white race will predict greater support due to the

tendency for these groups to be more ideologically liberal, and thus more receptive to government involvement and interventions.[2]

Data

The ABC News/Time Magazine Obesity Poll from May 2004 surveyed more than 1200 individuals, weighted for age, race, gender and level of education and provides the data for all hypotheses except numbers 5a-d (state contextual factors)(ABC News/Time Magazine 2004). This survey asked a variety of questions to ascertain public support for different types of policy solutions designed to reduce obesity levels: support for additional taxes on unhealthy foods, labeling of fat and sugar content of foods purchased in both restaurants and grocery stores, and control of the size of food portions served in restaurants. In addition to these public-directed policy types, questions are included about policies directed at children, e.g., restrictions on advertising of junk food to children and bans on vended and fast foods in schools. The survey also measured how respondents perceive the obese, the role they deem appropriate for government in this health issue, their beliefs about the underlying cause of high obesity levels, and demographic information.

State contextual data originate from the Bureau of Economic Analysis (*GSP per capita*), the United States Census Bureau (*Public Health*), the Centers for Disease Control and Prevention (*Anti-obesity Policies*) and the State Politics and Policy Quarterly Data Center (*Democratic Legislature*). Table 3 lists all variables, how they are measured and their sources.

[2] Income and education are often considered to be reflective of one another and statisticians warn against using both in an analysis because of the potential for multicollinearity. In this chapter, I believe that either or both may be theoretically important, and after performing quality control (the correlation is 0.4 and the variable inflation factor mean for all variables is 1.25), I retained both. It is expected that the risk involved in such an approach is low, yielding more conservative results. See Appendix B for full regression diagnostic results.

[Table 3 about here]

Methods

Attitudes toward six different anti-obesity policies are measured. Four of the policies are directed at the general population: higher taxes on snacks and unhealthy foods, publication of calorie and fat content on restaurant menus, warning labels on fattening and unhealthy foods and restrictions on serving sizes of restaurant meals. Two questions are aimed at policies targeting childhood obesity: limits on the advertising of junk food to children and constraints on school sales of unhealthy vended and "competitive" foods. I begin by investigating factors that influence preferences for each of these policy types individually. I then test preferences for summed models that combine the responses for public-directed and child-directed preferences. Finally, I offer an overall preference model based upon a sum of the preferences for all six policy types.

Dependent variables:

<u>Public-directed preferences</u>

Model 1 *Food Tax:* support for higher taxes on snacks and unhealthy foods

Model 2 *Restaurant Labels*: support for listing calorie and fat content on restaurant menus

Model 3 *Food Labels:* support for warning labels on fattening and unhealthy foods

Model 4 *Restaurant Portion Size:* support for restrictions on serving sizes of restaurant meals

Model 5 *Summed Public-Directed Policies:* a summary of all public-directed policies

<u>Child-directed preferences</u>

Model 6 *Advertising Restrictions:* support for restrictions on advertising junk food to children

Model 7 *School Food Restrictions:* support for restrictions on school sales of unhealthy vended and "competitive" foods

Model 8 *Summed Child-Directed Policies:* a summary of all child-directed policies

<u>All preferences</u>

Model 9 *Summed: All Policies:* support for public policies to reduce obesity (a summary of all six policy preferences)

I use regression analysis with robust standard errors to estimate the effects of the hypothesized factors on support for anti-obesity policies. For the public-directed policies in Models 1-4 and the advertising restrictions model (number 6), participants are asked to rank their support for a policy, using a scale of 1 (support strongly), 2 (support somewhat), 3 (oppose somewhat) or 4 (oppose strongly). In order to facilitate ease of interpretation, I reverse and collapse the scale to 0 (oppose strongly or oppose somewhat) and 1 (support somewhat or support strongly) in each individual category (the response for Model 7, School Food Restrictions, is already in a binary form). This facilitates the use of logistic regression and Stata's 'marginal effects' function (Stata™ Statistics/Data Analysis software, version 10) to calculate the effects of changes in the independent variables on the probability of a preference for anti-obesity policy solutions. The Codebook in Appendix C contains details of question wording and recoding.

Model 5 tests a summary of public-directed policy types (*Summed: Public-Directed Policies),* Model 8 summarizes the child-directed policies (*Summed: Child-Directed Policies*) and Model 9 sums all six policy types (*Summed: All Policies*). The parameters for these three summed models are calculated by ordinary least squares regression with robust standard errors.[3]

Table 4 outlines the descriptive statistics for these data.

[Table 4 about here]

[3] Another way to operationalize the three *Summed* dependent variables is to calculate an average across the public-directed preferences. To confirm, I also regressed this average on the same independent variables. There was no difference in the outcomes for the summed versus the average measure. I report the parameter estimates using the sum of the preferences.

Results: Public-Directed Policies

Table 5 reports the coefficients for the five public-directed policy equations and Table 6 the corresponding marginal effects. These results demonstrate broadly consistent and significant support for my hypotheses. The overall Summed Public-Directed Policies model confirms several theoretical expectations. Notably, awareness of obesity as a public health problem, a strong public health presence at the state level, education, race, income and gender all predict approval for policy solutions.

[Table 5 about here]

[Table 6 about here]

Awareness is highly significant across all four of the public-directed models as well as the summary model; as awareness of the problem grows, so too do positive attitudes toward public policy solutions. Predicted probabilities for the individual policy types indicate that those who are more aware of the seriousness of obesity are anywhere from 4.7% (food labeling) to 8.2% (food tax) more likely to support obesity reduction policies when all other variables are held at their means. The Summed Public-directed Policies Model illustrates that, on average, for every one-unit increase in awareness, preference for a public-directed solution increases by .699 (all other variables held constant). Put another way, if awareness goes from average (obesity is a somewhat serious problem) to its maximum (an extremely serious problem), policy preference rises by 5.6 on a scale of 4-16, indicating a substantial increase in the public's receptivity to government intervention.

Individual irresponsibility predicts preferences only for restaurant portion limits. Its effect is negative and only modestly significant. As expected, those who assign blame for obesity

to personal behaviors are less likely to favor restrictions on restaurant portion size, demonstrating an almost 3% drop in likelihood of support (all other variables at their means). However, the effect does not hold in the other public-directed or summary models, precluding any broader conclusions about values and norms (Oliver and Lee 2005) or causal stories (Stone 1988) and responsibility in public-directed policies.

Negative affect is not associated with preferences in any of the policy areas; having negative views of the obese does not translate into a rejection of policies to change their behavior. Generally, most of the state characteristics are not significant, except for a marginal effect of Democratic legislature on preference for food labels and state wealth on preference for restaurant labeling regulations. Nor does an active policy environment appear to make a difference. In spite of increasing lawmaking activity at the state level, the previous consideration of obesity reduction bills does not contribute to greater acceptance.

More interestingly, the public health measure contributes explanatory power in three of four of the individual public-directed models and its effects are even greater in the Summed Public-Directed Policies Model. While it is not possible to discern if this effect is due conclusively to elite cues from the public health community, clearly a strong public health function at the state level leads to greater acceptance of anti-obesity activities. For each additional public health employee per 1000 population hired by a state, respondents will be 7-8% more likely to positively view junk food taxes and mandatory restaurant labeling, and will result in an increase in preference of .526 on the scale of 4-16 for public-directed policies in general (with all other variables held constant).

The socio-economic control variables are mixed in their impact. Income is significant in four of five of the public-directed models (including the summed model), and its effects are consistently negative, an unexpected finding. Increased personal income does not encourage support for this sort of government intervention. For example, a move from one income bracket to the next higher level results in a decline of approval for public-directed policies of .257 (all others held constant) and survey participants are 1.8 % to 3% less likely to approve of public-directed policies. BMI exerts a significant but small negative effect on preference for junk food taxes (a 0.9% decrease in preference for every unit increase in BMI) and a slightly smaller and less significant impact on preference for the regulation of restaurant portion sizes (0.5% less likely to approve, all other variables held at their means). This effect is not apparent in the Summed: Public-Directed Policies Model.

Education, age and urban living play mixed roles across the models. Surprisingly, the more highly educated favor less intervention, marginally in the food tax model and significantly in the restaurant portion size and summary models. In the evaluation of education's impact in the Summed Public-Directed Policies Model, the coefficients reveal that each jump in education level (on a scale of 1 to 6) yields a .253 reduction in preference, all other variables held constant, and the better educated were 3% and 4% more likely to disapprove of junk food taxes and restaurant portion controls respectively. Age is significant only in the restaurant label policy model, demonstrating a 5% reduction in preference with advancing age, but the effect disappears for the other policy categories. Urban living exhibits a positive influence in the food tax and summary models, indicating that, for example, city dwellers can be expected to have a .198 point higher approval than suburbanites, all other variables at their means.

Race and gender perform as anticipated in public-directed policies: non-whites are more favorably inclined toward policy solutions than whites, no matter the policy type, from 6.3% more likely to favor food labeling laws to more than 15.7% more likely to approve of restaurant portion controls when other variables are held at their means. In the Summed: Public-Directed Policies Model, non-whites' preference is 1.4 points higher on average on a scale of 5-21 (other variables held constant) across all public directed policies. Gender is also an important factor. Women tend to approve of all types of policy interventions; they range from 4.9% (restaurant portion size) to 15.8% (restaurant labels) more likely to approve of these policies than men. Females' preference is on average 1.16 points higher on the scale for all public-directed policies (all other predictors constant).

Results: Child-Directed Policies

Turning now to policies directed at childhood obesity, I test the effects of the same set of independent variables on support for restrictions on junk food advertising to children and on vended and competitive foods in schools, as well as on a combined Summed: Child-Directed Policies Model. Table 7 outlines the results, including the marginal effects calculations for the two individual policy preference models.

[Table 7 about here]

The results are striking. The child-directed model results are quite different from those of the public-directed models. Most of the factors that predict public-directed policy preferences are not significant in the child-directed models. Only awareness and gender – and, to a lesser extent, age - remain influential across child-directed equations. Race, income, urbanity and all state characteristics are insignificant.

As awareness rises, the probability goes up more than 7% that respondents will favor restrictions on both advertising and school foods, all other variables held at their means. In the Summed: Child-Directed Policies model, there is an increase of .305 (on a scale of 1-5) for every point increase in awareness, when other variables are held constant. This means that a shift from the lowest to the highest level of awareness of the seriousness of obesity will result in a 1.5 point rise in approval, and offers further support for the hypothesis that awareness predicts preference for anti-obesity measures.

Older adults favor child-directed policies more than those addressing the general public. As one moves from one age bracket to the next there is a 5.2% increase in the probability that one will approve of school food restrictions, all other predictors at their means. The impact of age is small and only marginally significant in the summary model: an increase of .058 on a scale of 1-5 can be expected for each rise in age bracket, holding all other variables constant. Interestingly, age plays a positive role in child-directed policies, whereas its effect is negative in the only significant public-directed policy model (restaurant labels). This signifies that the public views adult and child-centered policies differently, favoring those that address youth and signaling that different influences are at work informing attitudes.

The results for gender are consistently positive and significant among the child-directed models. Gender's effects are slightly larger in both child-directed models than in all of the public-directed models (except restaurant labels), indicating that being female will result in a 11.8% and 16.2% greater likelihood of approval of advertising restrictions and school food restrictions respectively (other variables held at their means). The gender coefficient for the Summary Child-Directed Policies Model suggests that women manifest an average .552 increase

in approval of anti-obesity policies aimed at children, all other predictors held constant. This is consistent with the results of my public-directed policy models as well as Oliver and Lee's finding (2005) that women are more supportive of child-directed policies such as banning fast food in schools and regulating food advertising to children.

Overall, sentiment toward child-directed policies is stronger than it is for public-directed policies, supporting what public opinion polls suggest: there appears to be growing appreciation for actions that address obesity among children. It also confirms the hypothesis that different dynamics affect preferences for the two policy categories (see Table 1 and Figure 3).

Results: Summed: All Policies Model

Table 8 reports the results of preferences when they are summed across all individual policy categories. This 'rolled-up' model facilitates an examination of broad effects.

[Table 8 about here]

Awareness remains influential. The more concerned respondents are with the seriousness of the obesity problem, the more supportive they are of policy solutions to address it: an increase of one unit in awareness leads to an average 1.1 unit increase in support (all other variables held constant). However, neither individual irresponsibility nor negative affect shapes attitudes in favor of or against these types of policies. The only influential state level factor is the marginally significant public health variable: an increase of .544 in support can be anticipated for each additional public health employee per 1000 population.

On the other hand, race, income and gender are strong indicators of preferences. Non-whites' approval of anti-obesity policies is an average of 1.4 points higher than whites', and women's support is 1.7 points higher than men's. Income is negatively associated with

preferences, signaling that for every increase in income bracket, the average approval goes down .29 points. Urbanity exerts a marginally significant positive effect.

SECTION V: CONCLUSIONS

In a thought-provoking application of public opinion to the policy process, Kersh and Morone (2002) describe seven triggers that lead to government regulation of private behavior. Using alcohol consumption, drug use, smoking and sexuality as illustration, the article traces societal shifts in sentiment toward those who indulge in undesirable behaviors. Private actions evolve from a personal matter to something necessitating public intervention through seven steps, the first of which is a coalescence of public disapproval. Medicalization of the negatively perceived activity follows, along with self-help movements designed to encourage behavior change. Next comes 'demonization' of sufferers and later of the industry that supports the negative actions (in the case of obesity, perhaps the food and restaurant industries will be the target of vilification). The final steps are interest group formation and mobilization. The authors theorize that regulatory proscriptions of individual obesogenic behaviors will, like tobacco and alcohol policies, gain acceptance as opinion about obesity evolves through these seven stages. By observing changes in Americans' opinions over time about obesity and the obese, we can gain insights into whether and when public policy becomes the accepted and expected outcome.

This chapter speaks to Kersh and Morone's model of how intervention in health issues evolves into acceptability. It is possible that if respondents are not using individual irresponsibility as a cue to make judgments about the value of anti-obesity public policy (their high levels of disapproval notwithstanding), then the shift from demonization of the obese to demonization of other groups may be occurring, as these authors suggest. This conclusion will be

useful to policymakers who wish to gauge when the public might become more receptive to such policies. Future research is needed to confirm if acceptance for anti-obesity measures will trace a similar arc from public disapproval (stage one) to interest group mobilization (stage seven).

The results of the anti-obesity policy preference models outlined in this chapter contribute to broader public opinion scholarship in several ways. Awareness of the problem as a serious concern is consistently predictive of a positive attitude toward policy solutions and provides support for my first hypothesis. On the other hand, the belief that individuals' behavior is solely responsible for their weight status has no influence. Nor does negative affect yield any explanatory power: poor opinions about the obese do not predict approval for anti-obesity policies. My fourth hypothesis receives scant support: the only influential state level characteristic is a strong public health presence in the Summed: Public-Directed Policies Model and to a lesser extent in the Summed: All Policies model.

Several socio-demographic factors are significantly associated with policy preferences. Higher income predicts lower policy preferences, an unexpected conclusion. Increased age predicts more negative sentiment toward overall policy solutions. Importantly though, this is not true for the policies in the child-directed category in which increasing age has a positive effect, as do gender and race. Women and non-whites are much likelier than men and whites to support a public response to the obesity problem.

While these results reinforce Oliver and Lee's analysis (2005) in several ways, certain aspects challenge their conclusions. First, awareness of the problem is a key factor as are income and race. However, while these authors find a positive effect for age, my analysis suggests that a positive association exists only for child-directed policies. This distinction may be due to the fact

that Oliver and Lee's work did not differentiate between child- and public-directed policies, or it may signal that different factors affect child- versus public-directed attitude formation.

This article also disputes the assertion that causal stories and beliefs make a difference in policy preference. While Oliver and Lee found that blaming individuals' behavior for their weight status is associated with a rejection of anti-obesity policies, my analysis did not confirm that relationship. One explanation may be that we did not analyze exactly the same policies. It is also possible that even as Americans continue to blame a lack of discipline for the obesity epidemic, they are becoming more aware of other causes as a result of increasing media and public health attention to potential social-ecological factors. Americans are also becoming larger themselves. While this may not encourage them to place blame elsewhere, it may discourage preferences for laws that regulate their behavior.

The results of this investigation also offer support for the hypothesis that attitudes toward policies directed at children are different. While awareness remains predictive across all individual and summary models, most of the factors at work in the public-directed models are not influential in the child-directed and overall policy summary models. Different phenomena affect preferences for public-directed policies, signifying that respondents view adults and children differently and raising the possibility that there is a higher tolerance for solutions targeted to children. It may also indicate that Americans distinguish prevention strategies - directed at children - differently from weight-reduction strategies, and have higher hopes for the former. Either way, this information will be of interest to those seeking support for the adoption of such policies.

This analysis relies upon a survey that is rich in demographic data and explores a wide variety of policy types. However, as this issue matures, future research would benefit from the addition of political measures, such as partisanship and ideology, in order to more extensively test attitude formation theory. Additional research could also serve public opinion scholarship by including more explicit indications of elite preferences. Directly measuring these factors, perhaps through interviews, will help to determine more definitively if obesity policy preferences follow traditional paths. As obesity develops as a substantive policy area, it will confer upon scholars the opportunity to test more fully Zaller and others' theories about awareness, political ideology and other cues the public uses to fashion attitudes and beliefs.

Finally, little is known about how other types of health policy might differ from one another. There is value to expanding comparative research into anti-smoking and other behavior-control policies to discover whether attitudes toward anti-obesity measures are determined by similar factors, and, if they are different, how. Health policy is an increasingly important topic in political science, and expanding its study to include anti-obesity policymaking will benefit scholars, public health professionals and lawmakers.

APPENDIX A: ABC NEWS/TIME MAGAZINE OBESITY POLL

ABC News/Time Magazine Obesity Poll conducted a survey in May of 2004 to evaluate public opinion on obesity in the U.S. A wide variety of questions assessed respondents' lifestyle choices for exercise, fast food consumption, personal weight, opinions about obese people and ideology. Other questions asked about the perceived cause of obesity, preferences for different types of policy solutions as well as the dependent variables listed in Table 3. Background information included community information, gender, race, income and others.

The telephone survey used random-digit dialing. The sampling frame consisted of all area codes and exchanges, which were stratified by census regions and then urban/non-urban and finally by median county income. Respondents totaled 1202. Final data are weighted based upon age, race, gender and level of education. The survey data are available to University of Kansas students and faculty at no charge from ICPSR (Inter-University Consortium for Political and Social Research).

APPENDIX B: REGRESSION DIAGNOSTICS

Correlation Matrix

	Education	Age	Urbanity	Race	Income	BMI	Gender	Anti-obesity Policies	Democratic Legislature	Public Health	GSP per capita	Awareness
Education	1.0000											
Age	0.0192	1.0000										
Urbanity	0.1873	-0.1205	1.0000									
Race	-0.0656	-0.1928	0.1853	1.0000								
Income	0.3951	0.0457	0.1021	-0.0792	1.0000							
BMI	-0.1397	0.1105	-0.0762	0.0586	-0.0998	1.0000						
Gender	-0.0548	-0.0032	-0.0379	0.0219	-0.1160	-0.1082	1.0000					
Anti-obesity Policies	0.0099	-0.0459	0.1251	0.1622	0.0355	0.0064	-0.0616	1.0000				
Democratic Legislature	-0.0209	-0.0743	0.0139	0.0265	0.0043	-0.0045	0.0157	0.1344	1.0000			
Public Health	-0.0608 -	0.0643	-0.0424	0.0228	-0.0667	0.0274	0.0413	-0.1265	0.6371	1.0000		
GSP per capita	0.0895	0.0185	0.1157	0.0387	0.1330	0.0234	-0.0592	0.2753	-0.0829	-0.3286	1.0000	
Awareness	0.0179	0.0364	-0.0563	0.0562	0.0311	-0.0298	0.1418	-0.0326	-0.0111	0.0093	-0.0394	1.0000
Individual Irresponsibility	0.1496	0.0229	0.0129	-0.0786	0.1500	-0.0460	0.0135	-0.0429	0.0047	0.0250	-0.0147	0.0691
Negative Affect	0.1169	0.0319	0.0341	-0.0733	0.0471	-0.0275	-0.0789	-0.0022	-0.0083	0.0145	0.0031	0.0485

Variable Correlation Matrix Results

Results: two high correlations (0.6371, between Public Health and Democratic Legislature and -0.3286 between GSP per capita and Public Health) are theoretically and practically independent of one another, and thus not a cause for concern. The only other correlation of concern (0.3951 for Income and Education) is addressed in footnote number three.

APPENDIX B: REGRESSION DIAGNOSTICS (continued)

Variable Inflation Factor Analysis

Variable	VIF	1/VIF
Public Health	2.10	0.475192
Democratic Legislature	1.90	0.525701
GSP per capita	1.27	0.786932
Education	1.26	0.794628
Income	1.23	0.813142
Anti-Obesity Legislation	1.20	0.836155
Race	1.13	0.882235
Urbanity	1.11	0.897568
Age	1.08	0.929012
Gender	1.07	0.934662
BMI	1.07	0.935099
Individual Irresponsibility	1.05	0.952858
Awareness	1.04	0.958254
Negative Affect	1.03	0.968824
Mean VIF	1.25	

Variable Inflation Factor Results

The variable inflation factors for these independent variables indicate the absence of significant multicollinearity

Variable	Description	Source	Question wording (if applica
Awareness	Perceived seriousness of obesity as public health problem	ABC News/Time Magazine Obesity Poll, Horsham, PA. Courtesy of the Inter-University Consortium for Political and Social Science Research, 2004	4 (g). For each item I name, pleas health problem you think it is in tl serious, 2-very serious, 3-somewh than that. *
Individual Irresponsibility	Individuals' level of responsibility for the obesity problem	ABC News/Time Magazine Obesity Poll, Horsham, PA. Courtesy of the Inter-University Consortium for Political and Social Science Research, 2004	37. Whatever the causes of obesity groups that may or may not be res problem. For each, please tell me deal of responsibility for the natio amount, just some or hardly any: I choice of diet and lack of exercise amount, 3-Just some, 4-Hardly an
Negative Affect	Negative affect toward the obese	ABC News/Time Magazine Obesity Poll, Horsham, PA. Courtesy of the Inter-University Consortium for Political and Social Science Research, 2004	39. If you honestly assessed yours have at least some negative feelin overweight? 0-No 1-Yes
Democratic Legislature	Percent of state legislature seats held by Democrats	Courtesy of Carl Klarner, accessed through SPPQ Data Center at http://www.ipsr.ku.edu/SPPQ/journal_datasets/klarner.shtml	
Anti-obesity Policies Considered	Number of anti-obesity policies considered cumulative to 2004 (includes bills that are passed)	Centers for Disease Control and Prevention's State Legislative Information http://apps.nccd.cdc.gov/DNPALeg/ and Kansas Health Institute: Obesity and Public Policy: Legislation Passed by States, 1999-2003, April 2004, Wellever et al	
GSP per capita	Gross state product per capita, $1000s, 2004	Bureau of Economic Analysis, US Chamber of Commerce	
Public Health	Number of state public health full-time employees per 1000 population, 2004	US Census Bureau Census of Governments, Federal, State and Local Governments Employment and Payroll	
Education	Formal education achieved	ABC News/Time Magazine Obesity Poll, Horsham, PA. Courtesy of the Inter-University Consortium for Political and Social Science Research, 2004	909. What was the last grade of sc grade or less 2-some high school some college 5-graduated college

Variable	Description	Source	Question wording
Age	Age, bracketed	ABC News/Time Magazine Obesity Poll, Horsham, PA. Courtesy of the Inter-University Consortium for Political and Social Science Research, 2004	910. What is your age? 1=18-29, 5=65+
Urbanity	Rural, suburban, small town or large city	ABC News/Time Magazine Obesity Poll, Horsham, PA. Courtesy of the Inter-University Consortium for Political and Social Science Research, 2004	913. Would you describe the area city 2-suburb of a large city 3-sma analytical convenience, scale was town, 3-suburb, 4-large city
Race	White or other	ABC News/Time Magazine Obesity Poll, Horsham, PA. Courtesy of the Inter-University Consortium for Political and Social Science Research, 2004	918. Are you of Hispanic origin o Black 3-White Hispanic 4-Black I Other race Note: this variable wa white-1
Income	Income, bracketed	ABC News/Time Magazine Obesity Poll, Horsham, PA. Courtesy of the Inter-University Consortium for Political and Social Science Research, 2004	INCOME. What was the total cor for all the members of your housel me when I get to the right categor 35-50k 4-50-75k 5-75-100k 6-mo
Body Mass Index	Body Mass Index: a measure of individual obesity that compares weight to height	ABC News/Time Magazine Obesity Poll, Horsham, PA. Courtesy of the Inter-University Consortium for Political and Social Science Research, 2004	Respondents were asked weight a calculated by the survey
Gender	Male = 0; female = 1	ABC News/Time Magazine Obesity Poll, Horsham, PA. Courtesy of the Inter-University Consortium for Political and Social Science Research, 2004	Record gender 1-Male 2-Female N convenience, Male was re-coded t
Food Tax	Support for a tax on junk and unhealthy foods; 0=no support, 1=support	ABC News/Time Magazine Obesity Poll, Horsham, PA. Courtesy of the Inter-University Consortium for Political and Social Science Research, 2004	40. Thinking about government p oppose a tax on high-fat and high- used for advertising and programs strongly 2-support somewhat 3-op strongly **
Restaurant Labels	Support for a calorie and other informational labeling on restaurant menus	ABC News/Time Magazine Obesity Poll, Horsham, PA. Courtesy of the Inter-University Consortium for Political and Social Science Research, 2004	40. Thinking about government p oppose a law requiring restaurants fat content of all items on their me support somewhat 3-oppose some

Variable	Description	Source	Question wording
Food Labels	Support for calorie and other information on food labels	ABC News/Time Magazine Obesity Poll, Horsham, PA. Courtesy of the Inter-University Consortium for Political and Social Science Research, 2004	40. Thinking about government p oppose a warning labels on high-f the health risks of being overweig support somewhat 3-oppose some
Restaurant Portion Size	Support for restrictions on restaurant portion size	ABC News/Time Magazine Obesity Poll, Horsham, PA. Courtesy of the Inter-University Consortium for Political and Social Science Research, 2004	40. Thinking about government p oppose a law setting a legal limit 1-support strongly 2-support some oppose strongly **
Summary: Public-Directed Policy	Preference for public-directed policy solutions surveyed; sum of four public-directed policy preference responses	ABC News/Time Magazine Obesity Poll, Horsham, PA. Courtesy of the Inter-University Consortium for Political and Social Science Research, 2004	Derived from public-directed poli of public-directed preference resp
Advertising Restrictions	Preference for a ban on junk food advertising to children	ABC News/Time Magazine Obesity Poll, Horsham, PA. Courtesy of the Inter-University Consortium for Political and Social Science Research, 2004	40. Thinking about government p oppose a ban on advertising high- children's television shows and in support strongly 2-support somew oppose strongly**
School Food Restrictions	Support for restrictions on the sale of junk and other food in schools that competes with school lunches	ABC News/Time Magazine Obesity Poll, Horsham, PA. Courtesy of the Inter-University Consortium for Political and Social Science Research, 2004	43. Do you think schools should b their budgets by allowing soda an school, or should this not be allow should not be allowed
Summary: Child-Directed Policy	Preference for child-directed policy solutions surveyed ; sum of two child-directed policy preference responses	ABC News/Time Magazine Obesity Poll, Horsham, PA. Courtesy of the Inter-University Consortium for Political and Social Science Research, 2004	Derived from child-directed polic child-directed preference response
Summary: All Policy	Preference for all policy solutions surveyed; sum of all policy preference responses	ABC News/Time Magazine Obesity Poll, Horsham, PA. Courtesy of the Inter-University Consortium for Political and Social Science Research, 2004	Derived from child-directed polic all preference responses)

* To facilitate ease and consistency of interpretation, scale is reversed to: 1=less serious, 2=somewhat serious, 3=very serious, 4=extremely serious

** To facilitate use of marginal effects with logistic regression and interpretation ease, these individual policy preferences were reversed and collapsed to: 0-Oppose sc somewhat or strongly

WORKS CITED

ABC. "ABC News/Time Magazine Obesity Poll." Horsham, PA: ABC News Time Magazine Inter-University Consortium for Political and Social Science Research, 2004.

APHA. "Americans' Attitudes on Fighting Obesity." American Public Health Association, 2003.

Arena, Vincent C., Krishna R. Padiyar, Wayne N. Burton, and Joseph J. Schwerha. "The Impact of Body Mass Index on Short-Term Disability in the Workplace." *Journal of Occupational and Environmental Medicine* 48 (2006): 1118-24.

BEA. "Regional Economic Accounts." Bureau of Economic Analysis, http://www.bea.gov/regional/gsp/.

Brownell, Kelly D. "The Chronicling of Obesity: Growing Awareness of Its Social, Economic, and Political Contexts." *Journal of Health, Politics, Policy and Law* 30, no. 5 (2005): 955-64.

Burstein, Paul. "The Impact of Public Opinion on Public Policy: A Review and an Agenda." *Political Research Quarterly* 56, no. 1 (2003): 29-40.

Campbell, Angus, Philip E. Converse, Warren E. Miller, and Donald E. Stokes. *The American Voter*. New York: Wiley, 1960.

CDC. "Health, United States, 2009: In Brief." Atlanta GA: National Center for Health Statistics, 2009b.

———. "Obesity - at a Glance." Atlanta: Centers for Disease Control and Prevention, 2009a.

———. "State Legislative Information." Centers for Disease Control and Prevention, http://apps.nccd.cdc.gov/DNPALeg/ 2007a.

Cobb, Roger W., and Charles D. Elder. *Participation in American Politics: The Dynamics of Agenda-Building*. Boston: Allyn and Bacon, 1972.

Converse, Philip E. "Assessing the Capacity of Mass Electorates." *Annual Review of Political Science* 3 (2000): 331-53.

———. "The Nature of Belief Systems in Mass Publics." In *Ideology and Discontent*, edited by David Apter. New York: University of California Free Press, 1964.

Delli-Carpini, Michael X., and Scott Keeter. *What Americans Know About Politics and Why It Matters*. New Haven: Yale University Press, 1996.

Downs, Anthony. "An Economic Theory of Political Action in a Democracy." *Journal of Political Economy* 65, no. 2 (1957): 135-50.

———. "Up and Down with Ecology: The Issue Attention Cycle." *The Public Interest* (1972): 38-50.

Erikson, Robert S., John P. McIver, and Gerald C. Wright. "State Political Culture and Public Opinion." *American Political Science Review* 81, no. 3 (1987).

Finkelstein, Eric A., Justin G. Trogdon, Joel W. Cohen, and William Dietz. "Annual Medical Spending Attributable to Obesity: Payer- and Service-Specific Estimates." *Health Affairs* 28, no. 5 (2009): w822-w31.

Harvard. "Harvard School of Public Health." Boston: Harvard School of Public Health, 2005.
———. "Obesity as a Public Health Issue: A Look at Solutions." Boston: Harvard Forums on Health, 2003.

Jones, Bryan D., and Frank R. Baumgartner. *The Politics of Attention: How Government Prioritizes Problems*. Chicago: University of Chicago Press, 2005.

Kaiser. "Survey on Childhood Obesity." San Francisco: San Jose Mercury News Kaiser Family Foundation, 2004.

Kersh, Rogan, and James Morone. "The Politics of Obesity: Seven Steps to Government Action." *Health Affairs* 21, no. 6 (2002): 142-53.

Key, V.O. *Public Opinion and American Democracy*. New York: Alfred A. Knopf, Inc., 1964.

Klarner, Carl. "State Partisan Balance 1959-2007." State Politics and Policy Quarterly Data Resource, 2007.

Lakdawalla, Darius N., Jayanta Bhattacharya, and Dana P. Goldman. "Are the Young Becoming More Disabled?" *Health Affairs* 23, no. 1 (2004).

Lasswell, Harold D. *Politics: Who Gets What, When, How*. New York: P. Smith, 1950.

Lupia, Arthur, Matthew D. McCubbins, and Samuel L. Popkins, eds. *Elements of Reason: Cognition, Choice and the Bounds of Rationality*. Cambridge: Cambridge University Press, 2000.

Mayhew, David. *Congress: The Electoral Connection*. New Haven: Yale University Press, 1974.

Monroe, Alan D. "Public Opinion and Public Policy, 1980-1993." *Public Opinion Quarterly* 62 (1998): 6-28.

Oliver, J. Eric, and Taeku Lee. "Public Opinion and the Politics of Obesity in America." *Journal of Health, Politics, Policy and Law* 30, no. 5 (2005): 923-54.

Page, Benjamin I., and Robert Y. Shapiro. *The Rational Public*, 1994.

Page, Benjamin I., and Robert Y. Shapiro. "Effects of Public Opinion on Policy." *American Political Science Review* 77 (1983): 175-90.

Pronk, Nicolaas P., Brian Martinson, Ronald C. Kessler, Arne L. Beck, Gregory E. Simon, and Philip Want. "The Association between Work Performance and Physical Activity, Cardiorespiratory Fitness, and Obesity." *Journal of Occupational and Environmental Medicine* 46, no. 1 (2004).

RTI. "Survey on Perceptions of Childhood Obesity I." Raleigh-Durham: University of North Carolina, 2004.

———. "Survey on Perceptions of Childhood Obesity II." Raleigh-Durham: University of North Carolina, 2004.

Rushefsky, Mark E., and Kant Patel. *Politics, Power & Policy Making*. New York: M.E. Sharpe, 1998.

Satcher, David. "The Surgeon General's Call to Action to Prevent and Decrease Overweight and Obesity." edited by Department of Health and Human Services. Washington, DC: U.S. Government Printing Office, 2001.

Stone, Deborah. *Policy Paradox*. New York: W. W. Norton, 1988.

TAH. "Tackling the Obesity Epidemic." Washington, DC: Trust for America's Health, 2007.

USCB. "1990 Census of Population and Housing Unit Counts (Cph-2)." Washington: US Census Bureau.

Wellever, Anthony, Amanda Reichard, and Marc Velasco. "Obesity and Public Policy: Legislation Passed by States, 1999 to 2003." Topeka: Kansas Health Institute, 2004.

Whitaker, R. C., J.A. Wright, M.S. Pepe, K.D. Seidel, and W.H. Dietz. "Predicting Obesity in Young Adulthood from Childhood and Parental Obesity." *New England Journal of Medicine* 337 (1997): 869-73.

Zaller, John. *The Nature and Origins of Mass Opinion*. Cambridge: Cambridge University Press, 1992.

Zaller, John, and Stanley Feldman. "A Simple Theory of the Survey Response: Answering Questions Versus Revealing Preferences." *American Journal of Political Science* 36, no. 3 (1992): 579-616.

Table 1 **Survey Details**

Poll	Year	Sponsored by	Conducted by	Method	Sampling approach	Response	Response rate	Margin of error
"American Attitudes Toward Obesity"	2001	J. Eric Oliver and Taeko Lee	Survey Research Center of Princeton University	Telephone interview using random-digit dialing	National sample, oversampled for black households; weighted to restore representativeness	909	23%	3.8%
"Americans' Attitudes on Fighting Obesity"	2003	American Public Health Association	Widmeyer Polling and Research	Not reported	Not reported	600	Not reported	4.0%
"Obesity as a Public Health Issue: A Look at Solutions"	2003	Harvard Forums on Health	Lake Snell Perry and Associates	Not reported	National	1002	Not reported	Not reported
"Survey on Childhood Obesity" (national sample)	2004	San Jose Mercury News and the Kaiser Family Foundation	International Communications Research	Not reported	National	1017	Not reported	3.1%
"Survey on Childhood Obesity" (local sample, San Francisco, CA)	2004	San Jose Mercury News and the Kaiser Family Foundation	International Communications Research	Not reported	Not reported	1175	Not reported	3.4%
"ABC News/Time Magazine Obesity Poll, May 2004"	2004	ABC News and Time Magazine	TNS Intersearch	Telephone interview using random-digit dialing	National sample (48 states), weighted by age, gender, race and education	1202	Not reported	2.8%
Harvard School of Public Health	2005	Harvard School of Public Health	International Communications Research	Telephone interview using random-digit dialing	National sample, weighted for age, gender, race and education	2033	Not reported	2.2%
"Public Perceptions of Childhood Obesity I"	2004	Research Triangle Institute	Odom Survey Research Institute	Telephone interview, using random digit dialing	Single-stage equal probability selection, national sample	1047	30%	Not reported
"Changing Perceptions of the Childhood Obesity Epidemic II"	2004	Research Triangle Institute	Odom Survey Research Institute	Telephone interview, using random digit dialing	Single-stage equal probability selection, national sample	1139	28%	Not reported
"Tackling the Obesity Epidemic"	2007	Trust for America's Health	Greenberg Quinlan Rosner Research	interviews	no information; weighted by age, gender, race and region	1021	Not reported	3.1%

Table 2		Opinion About Obesity										
Poll	Year	Number of respon-dents	Awareness of obesity as a serious problem	Support for public action	Negative affect toward obese	Support restaurant labeling	Support taxes on unhealthy foods	Support restrictions on competitive / junk foods in schools	Support ban on competitive and junk foods in schools	Support regulation of food advertising to children	Support ban on food advertising to children	Support for public action: average of individual preferences
"American Attitudes Toward Obesity"	2001	909	86%				33%		47%	57%		46%
"Americans' Attitudes on Fighting Obesity"	2003	600	83%	71%				70%	55%			
"Obesity as a Public Health Issue: A Look at Solutions"	2003	1002	79%	81%		62%	41%		59%	58%		55%
"Survey on Childhood Obesity" (national sample)	2004	1017				70%	40%		52%	53%		54%
"Survey on Childhood Obesity" (local sample, San Francisco, CA)	2004	1175		69%	56%	78%	51%	69%		58%		64%
"ABC News/Time Magazine Obesity Poll, May 2004"	2004	1202	80%	92%	43%	60%	48%	70%			57%	59%
Harvard School of Public Health	2005	2033	75%									
"Public Perceptions of Childhood Obesity I"	2004	1010				67%	39%	75%	67%	75%	48%	64%
"Changing Perceptions of the Childhood Obesity Epidemic II"	2004					75%	37%	74%	70%	77%	53%	66%
"Tackling the Obesity Epidemic"	2007	1021	85%	81%								

Figure 1

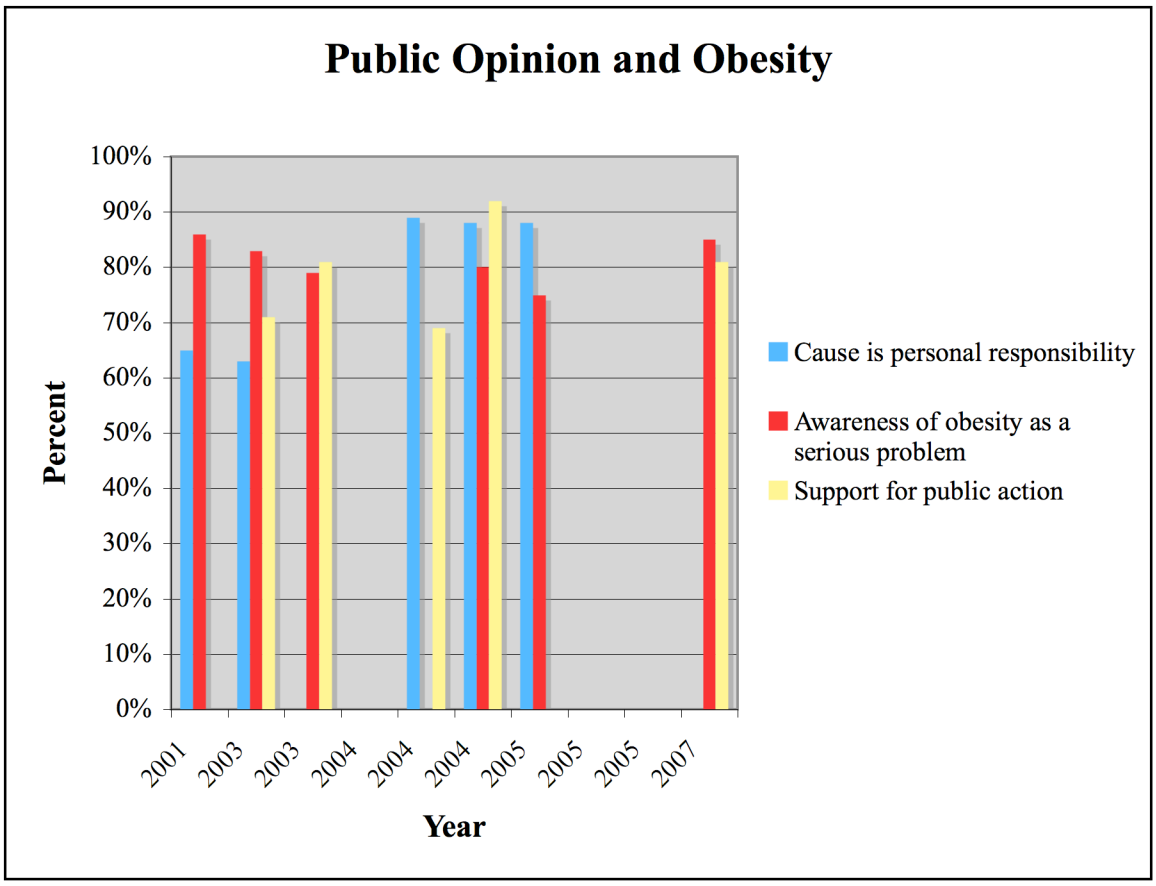

Public Opinion and Obesity
Percent
100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
2001
2003
2003
2004
2004
2004
2005
2005
2005
2007
Year
Cause is personal responsibility
Awareness of obesity as a serious problem
Support for public action

Figure 2

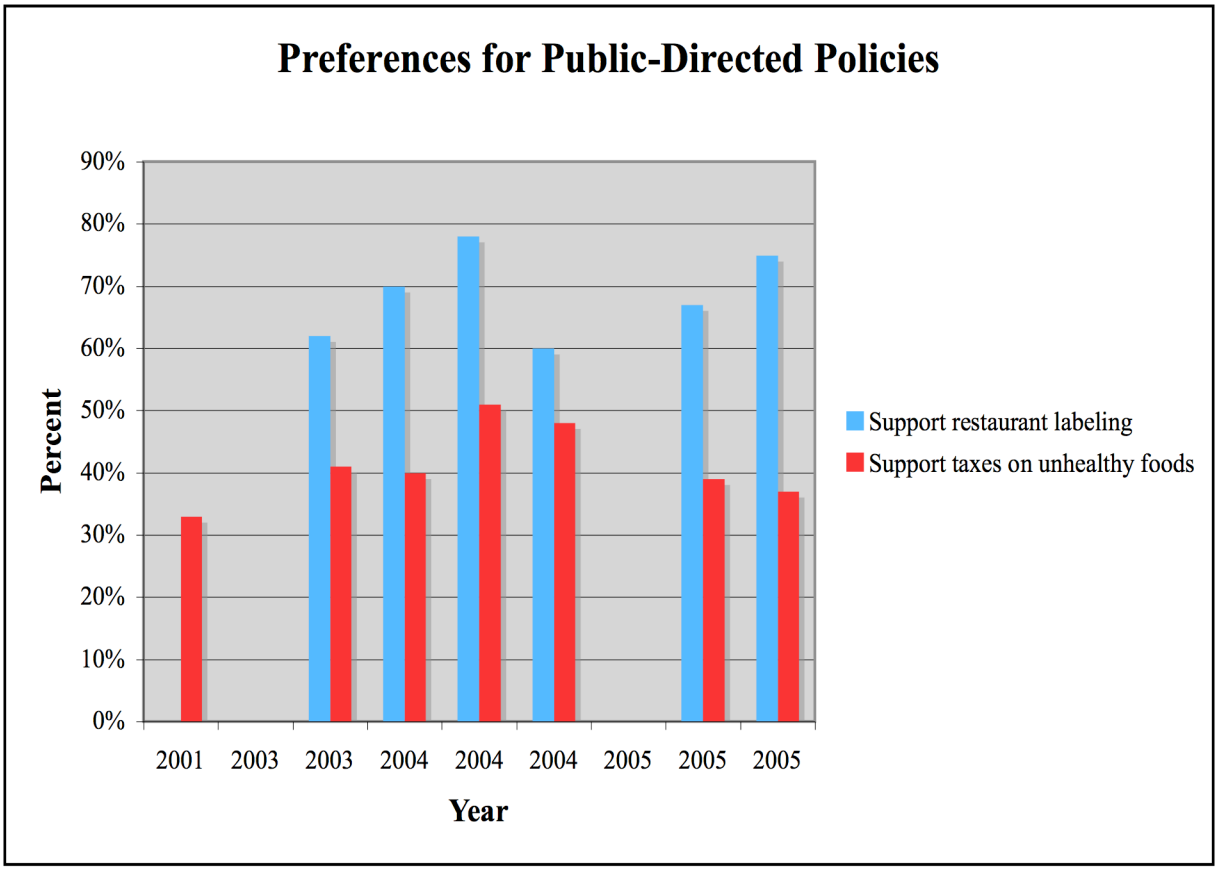

Preferences for Public-Directed Policies
Percent
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
2001
2003
2003
2004
2004
2004
2005
2005
2005
Year
Support restaurant labeling
Support taxes on unhealthy foods

Figure 3

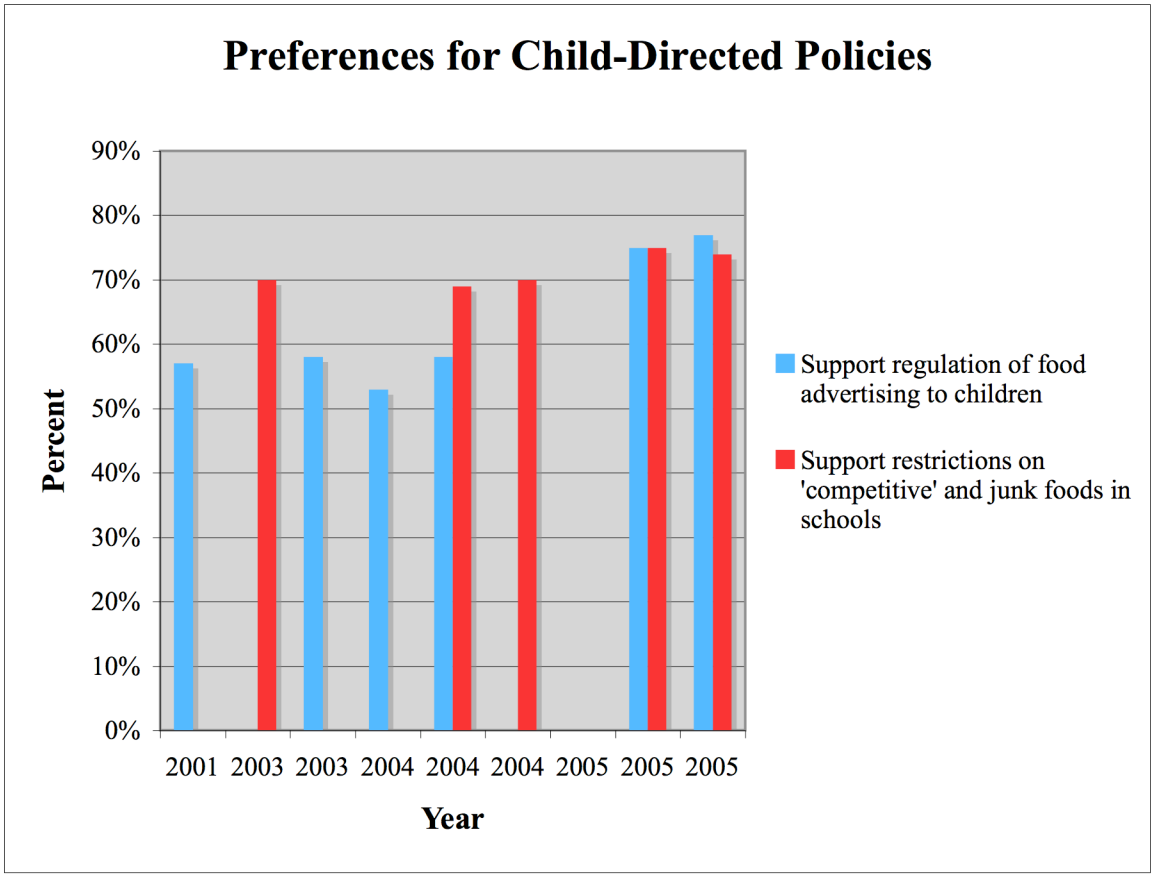

Preferences for Child-Directed Policies
Percent
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
2001 2003 2003 2004 2004 2004 2005 2005 2005
Year
Support regulation of food advertising to children
Support restrictions on 'competitive' and junk foods in schools

Table 3 Variables

Variable	Description	Source
Awareness	Perceived seriousness of obesity as public health problem	ABC News/Time Magazine Obesity Poll, Horsham, PA. Courtesy of the Inter-University Consortium for Political and Social Science Research, 2004
Individual Irresponsibility	Individuals' level of responsibility for the obesity problem	ABC News/Time Magazine Obesity Poll, Horsham, PA. Courtesy of the Inter-University Consortium for Political and Social Science Research, 2004
Negative Affect	Negative affect toward the obese	ABC News/Time Magazine Obesity Poll, Horsham, PA. Courtesy of the Inter-University Consortium for Political and Social Science Research, 2004
Democratic Legislature	State level: percent of state legislature seats held by Democrats	courtesy of Carl Klarner, accessed through SPPQ Data Center at http://www.ipsr.ku.edu/SPPQ/journal_datasets/klarner.shtml
Anti-obesity Policies Considered	State level: number of anti-obesity policies considered cumulative to 2004 (includes bills that are passed)	Centers for Disease Control and Prevention's State Legislative Information http://apps.nccd.cdc.gov/DNPALeg/ and Kansas Health Institute: Obesity and Public Policy: Legislation Passed by States, 1999-2003, April 2004, Wellever et al
GSP per capita	State level; gross state product per capita, $1000s, 2004	Bureau of Economic Analysis, US Chamber of Commerce
Public Health	State level: number of state public health full-time employees per 1000 population, 2004	US Census Bureau Census of Governments, Federal, State and Local Governments Employment and Payroll
Education	Formal education achieved	ABC News/Time Magazine Obesity Poll, Horsham, PA. Courtesy of the Inter-University Consortium for Political and Social Science Research, 2004
Age	Age, bracketed	ABC News/Time Magazine Obesity Poll, Horsham, PA. Courtesy of the Inter-University Consortium for Political and Social Science Research, 2004
Urbanity	Rural, suburban, small town or large city	ABC News/Time Magazine Obesity Poll, Horsham, PA. Courtesy of the Inter-University Consortium for Political and Social Science Research, 2004
Race	White or other	ABC News/Time Magazine Obesity Poll, Horsham, PA. Courtesy of the Inter-University Consortium for Political and Social Science Research, 2004
Income	Income, bracketed	ABC News/Time Magazine Obesity Poll, Horsham, PA. Courtesy of the Inter-University Consortium for Political and Social Science Research, 2004

Body Mass Index	Body Mass Index: a measure of individual obesity that compares weight to height (self-reported)	ABC News/Time Magazine Obesity Poll, Horsham, PA. Courtesy of the Inter-University Consortium for Political and Social Science Research, 2004
Gender	Male = 0; female = 1	ABC News/Time Magazine Obesity Poll, Horsham, PA. Courtesy of the Inter-University Consortium for Political and Social Science Research, 2004
Food Tax	Support for a tax on junk and unhealthy foods; 0=no support, 1=support	ABC News/Time Magazine Obesity Poll, Horsham, PA. Courtesy of the Inter-University Consortium for Political and Social Science Research, 2004
Restaurant Labels	Support for a calorie and other informational labeling on restaurant menus	ABC News/Time Magazine Obesity Poll, Horsham, PA. Courtesy of the Inter-University Consortium for Political and Social Science Research, 2004
Food Labels	Support for calorie and other information on food labels	ABC News/Time Magazine Obesity Poll, Horsham, PA. Courtesy of the Inter-University Consortium for Political and Social Science Research, 2004
Restaurant Portion Size	Support for restrictions on restaurant portion size	ABC News/Time Magazine Obesity Poll, Horsham, PA. Courtesy of the Inter-University Consortium for Political and Social Science Research, 2004
Summary: Public-Directed Policy	Preference for public-directed policy solutions surveyed; sum of four public-directed policy preference responses	ABC News/Time Magazine Obesity Poll, Horsham, PA. Courtesy of the Inter-University Consortium for Political and Social Science Research, 2004
Advertising Restrictions	Preference for a ban on junk food advertising to children	ABC News/Time Magazine Obesity Poll, Horsham, PA. Courtesy of the Inter-University Consortium for Political and Social Science Research, 2004
School Food Restrictions	Support for restrictions on the sale of junk and other food in schools that competes with school lunches	ABC News/Time Magazine Obesity Poll, Horsham, PA. Courtesy of the Inter-University Consortium for Political and Social Science Research, 2004
Summary: Child-Directed Policy	Preference for child-directed policy solutions surveyed; sum of two child-directed policy preference responses	ABC News/Time Magazine Obesity Poll, Horsham, PA. Courtesy of the Inter-University Consortium for Political and Social Science Research, 2004
Summary: All Policy	Preference for all policy solutions surveyed; sum of all policy preference responses	ABC News/Time Magazine Obesity Poll, Horsham, PA. Courtesy of the Inter-University Consortium for Political and Social Science Research, 2004

Table 4	Descriptive Statistics				
	Average	Std Deviation	Minimum	Maximum	N
INDEPENDENT VARIABLES					
Awareness	3.121	0.776	1	4	1200
Individual Irresponsibility	3.564	0.794	1	4	1194
Negative Affect	0.436	0.496	0	1	1194
Democratic Legislature	0.51	0.248	0.219	8	1192
Anti-obesity Policies	6.230	6.168	0	21	1202
GSP per capita	35.478	4.860	0.222	56.290	1201
Public Health	0.615	0.536	0.136	13	1201
Education	4.017	1.162	1	6	1196
Age	3.023	1.313	1	5	1176
Urbanity	2.528	1.028	1	4	1190
Race	0.193	0.395	0	1	1179
Income	3.538	1.637	1	6	1033
Body Mass Index	26.083	5.288	9.055	58.727	1144
Gender	0.537	0.499	0	1	1202
DEPENDENT VARIABLES					
Food Tax	0.392	0.488	0	1	1202
Restaurant Labels	0.612	0.487	0	1	1202
Food Labels	0.745	0.436	0	1	1202
Restaurant Portion Size	0.215	0.411	0	1	1202
Summed: Public-Directed Policy	9.734	3.169	4	16	1154
Advertising Restrictions	0.587	0.493	0	1	1202
School Food Restrictions	0.713	0.453	0	1	1184
Summed: Child-Directed Policy	3.442	1.371	1	5	1171
Summed: All Policies	13.197	3.937	5	21	1134

Table 5 Determinants of Anti-Obesity Policy Preferences: Public-Directed

	Food Tax		Restaurant Labels		Food Labels		Restaurant Portion Size		Summed Public-Directed Policy	
Independent Variables	*Coefficient*		*Coefficient*		*Coefficient*		*Coefficient*		*Coefficient*	
Awareness	0.342	***	0.276	***	0.256	**	0.335	***	0.699	***
	(0.094)		(0.093)		(0.101)		(0.113)		(0.129)	
Individual Irresponsibility	-0.055		-0.097		0.109		-0.172	*	-0.076	
	(0.090)		(0.094)		(0.102)		(0.098)		(0.122)	
Negative Affect	-0.076		-0.069		-0.108		0.009		-0.151	
	(0.140)		(0.141)		(0.154)		(0.169)		(0.193)	
Democratic Legislature	0.031		-0.414		1.315	*	-0.242		-0.270	
	(0.444)		(0.402)		(0.684)		(0.342)		(0.388)	
Anti-obesity Policies	-0.008		0.009		-0.004		0.021		-0.005	
	(0.012)		(0.012)		(0.014)		(0.015)		(0.017)	
GSP per capita	0.011		-0.028	*	-0.008		0.015		0.002	
	(.015)		(0.015)		(0.017)		(0.018)		(0.021)	
Public Health	0.330	*	0.340	*	0.112		0.448	**	0.526	**
	(0.169)		(0.178)		(0.187)		(0.192)		(0.233)	
Education	-0.127	*	-0.080		-0.057		-0.268	***	-0.253	***
	(0.067)		(0.068)		(0.074)		(0.079)		(0.096)	
Age	-0.051		-0.213	***	0.030		0.071		-0.105	
	(0.055)		(0.056)		(0.062)		(0.068)		(0.075)	
Urbanity	0.176	**	0.119		0.045		-0.099		0.198	**
	(0.070)		(0.075)		(0.080)		(0.085)		(0.101)	
Race	0.593	***	0.511	***	0.361	*	0.872	***	1.406	***
	(0.178)		(0.197)		(0.219)		(0.205)		(0.270)	
Income	-0.125	***	-0.056		-0.099	*	-0.141	**	-0.257	***
	(0.047)		(0.048)		(0.054)		(0.058)		(0.064)	
Body Mass Index	-0.039	***	0.007		-0.011		-0.032	*	-0.016	
	(0.013)		(0.014)		(0.015)		(0.017)		(0.020)	
Gender	0.434	***	0.684	***	0.400	**	0.319	*	1.162	***
	(0.140)		(0.141)		(0.155)		(0.172)		(0.197)	
Cons	-0.500		1.200		-0.061		-0.566		9.029	
	(0.821)		(0.840)		(0.944)		(0.990)		(1.164)	
N	968		968		968		968		939	
X^2	73.98		78.76		34.71		89.76		15.59	
Prob X^2	0.000		0.000		0.002		0.000		0.000	
Pseudo-R^2	0.066		0.071		0.033		0.090		0.176	

***p<0.01; **p < 0.05; *p<0.10 (two tailed tests)

Robust standard errors in parentheses

Table 6 Public-Directed Anti-Obesity Preferences: Marginal Effects

	Food Tax		Restaurant Labels		Food Labels		Restaurant Portion Size	
Independent Variables								
Awareness	0.082	***	0.064	***	0.047	**	0.052	***
Individual Irresponsibility	-0.013		-0.023		0.020		-0.027	*
Negative Affect	-0.018		-0.016		-0.020		0.001	
Democratic Legislature	0.008		-0.096		0.243	*	-0.037	
Anti-obesity Policies	-0.002		0.002		-0.001		0.003	
GSP per capita	0.003		-0.007	*	-0.001		0.002	
Public Health	0.080	*	0.079	*	0.021		0.069	**
Education	-0.030	*	-0.019		-0.011		-0.041	***
Age	-0.012		-0.050	***	0.005		0.011	
Urbanity	0.042	**	0.028		0.008		-0.015	
Race	0.145	***	0.113	***	0.063	*	0.157	***
Income	-0.030	***	-0.013		-0.018	*	-0.022	**
Body Mass Index	-0.009	***	0.002		-0.002		-0.005	*
Gender	0.103	***	0.158	***	0.074	**	0.049	*
N	968		968		968		968	
X^2	73.98		78.61		34.71		89.76	
Prob X^2	0.000		0.000		0.002		0.000	

***p<0.01; **p < 0.05; *p<0.10 (two tailed tests)

Robust standard errors in parentheses

Table 7 Determinants of Anti-Obesity Policy Preferences: Child-Directed

	Advertising Restrictions			School Food Restrictions			Summed Child-Directed Policy	
Independent Variables	*Coefficient*		*Marginal effects*	*Coefficient*		*Marginal effects*	*Coefficient*	
Awareness	0.301	***	0.073	0.360	***	0.071	0.305	***
	(0.089)			(0.096)			(0.056)	
Individual Irresponsibility	0.060		0.014	0.175	*	0.034	-0.009	
	(0.086)			(0.096)			(0.056)	
Negative Affect	0.088		0.021	0.002		0.000	0.074	
	(0.135)			(0.153)			(0.088)	
Democratic Legislature	-0.443		-0.107	-0.268		-0.053	-0.175	
	(0.306)			(0.337)			(0.181)	
Anti-obesity Policies	0.008		0.002	0.003		0.001	0.002	
	(0.012)			(.013)			(0.008)	
GSP per capita	0.001		0.000	0.021		0.004	0.006	
	(0.015)			(0.017)			(0.010)	
Public Health	0.114		0.028	0.024		0.005	0.042	
	(0.167)			(0.189)			(0.107)	
Education	0.093		0.022	0.096		0.019	0.066	
	(0.065)			(0.072)			(0.041)	
Age	0.004		0.001	0.266	***	0.052	0.058	*
	(0.053)			(0.062)			(0.034)	
Urbanity	0.105		0.025	0.013		0.003	0.039	
	(0.068)			(0.079)			(0.044)	
Race	-0.027		-0.007	-0.207		-0.042	0.031	
	(0.177)			(0.194)			(0.117)	
Income	-0.029		-0.007	-0.042		-0.008	-0.028	
	(0.046)			(0.051)			(0.029)	
Body Mass Index	0.004		0.001	0.025	*	0.005	0.004	
	(0.013)			(0.015)			(0.008)	
Gender	0.490	***	0.118	0.823	***	0.162	0.552	***
	(0.137)			(0.157)			(0.089)	
Cons	-1.629			-3.507			1.525	
	(0.804)			(0.884)			(0.491)	
N	968			958		N	949	
X^2	37.40			77.02		F	7.170	
Prob X^2	0.001			0.000		Prob>F	0.000	
Pseudo-R^2	0.028			0.075		R^2	0.088	

***p<0.01; **p < 0.05; *p<0.10 (two tailed tests)

Robust standard errors in parentheses

Table 8 Determinants of Anti-Obesity Policy Preferences Summed: All Policies

Independent Variables	*Coefficient*	
Awareness	1.060	***
	(0.163)	
Individual Irresponsibility	-0.118	
	0.153	
Negative Affect	-0.023	
	(0.244)	
Democratic Legislature	-0.437	
	(0.502)	
Anti-obesity Policies	-0.002	
	(0.022)	
GSP per capita	0.000	
	(0.027)	
Public Health	0.544	*
	(0.301)	
Education	-0.166	
	(0.121)	
Age	-0.042	
	(0.096)	
Urbanity	0.232	*
	(0.128)	
Race	1.425	***
	(0.341)	
Income	-0.293	***
	(0.080)	
Body Mass Index	-0.013	
	(0.024)	
Gender	1.679	***
	(0.249)	
Cons	10.717	
	(1.429)	
N	924	
F(10,920)	13.65	
Prob >F	0.000	
R-squared	0.166	

***p<0.01; **p < 0.05; *p<0.10 (two tailed tests)

Robust standard errors in parentheses

CHAPTER TWO

THE STATE POLITICS OF OBESITY: PREDICTING STATE RESPONSES TO THE OBESITY EPIDEMIC

ABSTRACT

Obesity is a growing public health problem with serious implications for the U.S. economy and for its collective health. With more than 60% of Americans overweight or obese, the costs of this condition now exceed $147 billion per year (Finkelstein et al. 2009). While all levels and branches of government share in its burdens, states play a critical role in addressing this epidemic. Given states' traditional obligation for safeguarding their residents' health as well as the devolution of responsibility from the federal to state governments that has transpired in recent decades, states are now recognizing the ramifications of obesity and the need to act to stem its spread. This chapter uses integrated diffusion of innovation and agenda setting theory to investigate the factors that encourage states to consider and enact measures to combat obesity. I evaluate consideration and enactment of anti-obesity legislation separately, facilitating a more nuanced understanding of diffusion. This approach leads to a surprising conclusion: the determinants of policy consideration are quite different from the determinants of policy enactment. Political factors are much more predictive in the consideration and agenda setting stage than in the passage stage of anti-obesity legislation.

SECTION I: INTRODUCTION

In less than a generation, more than two-thirds of Americans have become overweight or obese. Obesity rates have doubled since 1980 for men and women of all races, ethnicities, income and education (Centers for Disease Control and Prevention [CDC] 2009a). While these numbers are problematic, more alarming is the explosion of overweight among youth. Today, more than 17% of American children are overweight or obese (Ogden et al. 2008), representing a three-fold increase in the last twenty years (Institute of Medicine [IOM] 2005). Americans are getting larger and it is damaging their health in dramatic, preventable ways.

Since 2001 when the Surgeon General first drew attention to the increase in weight gain among Americans with the "Surgeon General's Call to Action to Prevent and Decrease Overweight and Obesity," obesity has emerged as a critical public health policy issue (Satcher 2001). Obesity is both a risk and an exacerbating factor for other diseases. Health care professionals argue persuasively that the consequences of obesity, particularly early and childhood obesity, are grave, and that our health care system is poorly equipped to handle the anticipated diabetes, heart disease, strokes, and other expensive diseases that are associated with excessive weight (IOM 2005).

Obesity is a national health problem; however, as with many other policy issues, state governments are at the forefront of obesity policy. This chapter examines anti-obesity efforts at the state level, paying particular attention to understanding why some states propose and adopt public policy aimed at mitigating the obesity epidemic. What are the factors that lead states to *consider* and *enact* novel anti-obesity policies?

Following Mintrom (1997) and Karch (2007), I explore the consideration and adoption of anti-obesity legislation separately. Acknowledging that lawmaking is a two-step process in which legislators must propose and consider legislation before adopting it, this technique allows for the possibility that these two processes could be very distinct, and different factors may determine states' approaches to them. I rely upon Berry and Berry's integrated diffusion of innovation theory (1990) to guide my analysis of both steps, and augment diffusion theory with insights from the agenda setting literature. I use secondary data from a number of sources, such as the United States Census Bureau, the CDC, the National Center for Health Statistics and the Bureaus of Labor Statistics and Economic Analysis, to determine the factors that predict states' consideration and enactment of anti-obesity policies.

The chapter unfolds as follows. Section II characterizes obesity as more than a medical problem, highlighting the reasons to expect public action to mitigate this condition. The next section presents the theoretical context of the arguments, which is followed by data and methods in Section IV. Section V discusses the results of the analyses and the conclusion offers implications for these results and speculates on the direction future research should take.

SECTION II: OBESITY – BACKGROUND AND CONTEXT

Overweight and obesity are measured by calculating Body Mass Index (BMI).[4] More than 60% of all Americans are overweight or obese. Those with a BMI over 30 – the obese –

[4] BMI is a measure of an individual's body fat relative to his or her height, and is calculated by dividing weight in kilograms by height in meters squared. A BMI between 25 and 30 is considered overweight; over 30 denotes obesity (Ogden et al. 2006). For the purposes of trend analysis in this section, the data refer to BMI greater than 30. In the remainder of this chapter I use the term 'obesity' to refer to overweight and obesity in general terms, unless the context indicates a distinction.

number 72 million adults. For those aged 40-59, the rate is over 40% (Ogden et al. 2007). While rates of overweight (BMI from 25 to 30) have remained fairly flat from 1996-2007, obesity has increased to 34% among all adults in the same time period (see Table 1). The obese can be expected to experience even more serious health problems, and the pressures they bring to bear on the system are proportionately greater.

[Insert Table 1 about here]

Table 1 and Figure 1 highlight the worsening of the condition over time. Prevalence rates have increased the fastest for children: youths aged 6-11 have experienced the sharpest jump, almost quintupling from 4% in 1974 to 19.6% in 2008.[5] Teens' prevalence grew to 18.1%, and even pre-schoolers more than doubled their rates, from 5% to 10.4%. Trends for youths aged 10-17 demonstrate the same phenomenon as for adults: rates of overweight have leveled off in recent years, while rates of obesity (BMI in the 95% percentile and above) continue to climb (Bethell et al. 2010). In a grim reminder that children's obesity levels are shifting toward higher individual BMIs, Kaiser Permanente projects that 6.4% of youth are extremely obese, measured as 20% heavier than the 95th percentile, or twice the average weight of their age group (Koebnick et al. 2010).

[Insert Figure 1 about here]

At least 300,000 deaths per year in the United States can be attributed to obesity (Mokdad et al. 2001), a condition that inflicts damage to virtually every system in the human body. The social and economic costs of obesity are equally profound. Obesity and its co-morbidities result

[5] For children, researchers use 'BMI-for-age' adjusted to account for age and gender differences. Percentiles are used: children whose BMI-for-age falls between the 85th and 95th percentiles are considered overweight; those above the 95th percentile are obese (CDC 2010).

in health care and insurance outlays estimated at over $147 billion annually in 2008 (Finkelstein et al. 2009) and the monetary costs of work time lost to obesity-related illness and short- and long-term disability are more than $42 billion per year (Finkelstein et al. 2005). These costs are borne by the entire population through higher healthcare costs, increased insurance premiums and a greater tax burden required to care for the publicly insured (Philipson et al. 2004).

Addressing the nation's obesity trends is a challenging task. Some public opinion polls indicate that Americans perceive obesity as an individual issue of personal responsibility and not necessarily a public policy problem (ABC News/Time Magazine 2004, Oliver and Lee 2005), potentially dampening demand for government action. Also hindering the development of a policy solution is the elusiveness of success. Initiatives at the federal level center on education and awareness programs, such as *Healthy People 2000* and *Healthy People 2010*. However, such programs have demonstrated almost no measurable progress in slowing the rate of growth of obesity (US Department of Health and Human Services [DHHS] 2007). Researchers are now beginning to call for more aggressive federal efforts, such as the modification of farm programs to provide more support for fruit and vegetable crops and the improvement of school lunch and food stamps programs (Kimbro et al. 2010, Wallings 2010).

States play an important role in health care. They are traditionally responsible for administering the Medicaid program, regulating health care provision and monitoring safety and compliance. The Surgeon General's Call to Action in 2001 and increasing obesity rates have compelled states to consider laws to stem the increase in obesity.

There are many types of anti-obesity legislation. Some bills aim to improve health by establishing and funding research priorities or enhancing education on the benefits of healthful

eating and exercise. Other policies regulate schools' sale of 'competitive' foods from beverage and snack food companies or mandate physical education classes that will increase children's activity within schools. Still others require that health insurers, public and private, cover treatment for the obese, such as bariatric surgery.

While some states are quite active in responding to growing obesity rates, considerable variation in state policymaking is evident. As might be expected, many more laws are considered than enacted, but a surprising number of states have passed a variety of legislation since 2003. Between 2003 and 2007, the number of policies introduced in state legislatures rose from 67 to 428 and those enacted from 32 to 135. Some states have neither considered nor passed any legislation (South Dakota, North Dakota, Alaska, Wisconsin and Washington DC). Nine states put bills to a vote but enacted none. Four states enacted 100% of the policies their legislators proposed (Alabama, Arizona, Nebraska and Nevada) but the total never exceeded two bills in these states. Three states passed more than two-thirds of the bills offered: Arkansas, Colorado and Vermont. California enacted the highest number. It considered 33 bills and passed 18.[6] Appendix A provides details of state obesity rates and policymaking activity.

SECTION III: THEORY AND THE STATE POLITICS OF OBESITY

Policymaking at any level of government is complex, but includes at least two steps: consideration of a law and a vote to enact it. Obviously, enactment is impossible unless a bill has

[6] Anti-obesity policy falls naturally into two categories: (1) regulatory, which seeks to regulate individual or organizational behavior and (2) non-regulatory, which uses incentives such as education, research and grants to relieve the obesity problem. In an effort to understand if different mechanisms are at work with the two classifications, I split out the regulatory and non-regulatory policies and used counts of each as dependent variables. Disappointingly, the results of the models were not significant, possibly because there was insufficient variation in the dependent variables. As policy activity increases, future research will benefit from approaching these two types of policy separately.

been proposed and debated. Recognizing that the two events are of equal importance and interest, I examine the determinants of these steps individually. Their separate study provides an opportunity to investigate the difference between factors that determine the political agenda – consideration – and factors that determine decision making – enactment. Integrated diffusion of innovation theory guides my investigation. I also take advantage of insights from the well-developed agenda setting literature to augment diffusion theory.

Integrated Diffusion of Innovation Theory

Early diffusion of innovation theory cites the role of regional cues in determining how states decide which policies to adopt (Walker 1969). Since regional diffusion is predicated upon the propensity of states to compete with one another, state leaders are thought to track policy innovation in surrounding states and adopt similar measures in order not to fall behind in the benefits they offer residents, or to meet citizen demand (Berry and Berry 1990, 1992; Gray 1973; Jacoby and Schneider 2001; Savage 1978). Conversely, states will pare back some social programs in order to avoid becoming a 'welfare magnet' (Peterson and Rom 1989).

Diffusion can travel both horizontally among states and vertically from the federal government to states. Vertical or national diffusion is usually conceptualized as pressures originating with the federal government: funding, regulation or other means to encourage states to act in accordance with the government's preferences. Fundamentally, this body of work suggests that state policy activity is a function of characteristics external to a state (Berry and Berry 2007). This chapter will assess the effects of both regional and national diffusion.

Systems theory can also help explain how conditions within a state might influence decision making and policy adoption (Sharkansky and Hofferbert 1969). In this line of inquiry,

internal determinants such as economic, political and social characteristics are analyzed for their contribution to policy outcomes (Blomquist 2007). These characteristics include such factors as the partisan composition of the state legislature, sufficient state resources to support the legislative process and pressure groups, which may agitate in favor of laws friendly to their interests.

Berry and Berry recognized the value of combining internal determinants and diffusion theory. Their analysis of tax and lottery policy adoption across states indicates that both phenomena are influential in state passage of policy innovations. Extending this integrated model to multiple years using "Event History Analysis" further enhances an understanding of state-level policymaking (Berry and Berry 1990, 1992; Berry 1994).[7]

Agenda Setting Theory

The typical focus of diffusion of innovation theory is on policy adoption among states. Of course, the passage of a bill depends upon its prior consideration. Parsing this process still further, bill consideration assumes that the problem is perceived as a burden costly enough to pose a serious public problem. Once this problem gains sufficient attention, it earns a place on the public agenda. Agenda setting theory provides insights into how the issue of obesity rises to the level of a public problem and achieves agenda status (Baumgartner and Jones 1993, Cobb and Elder 1972, Kingdon 1995, Rochefort and Cobb 1994). When a new law is proposed and

[7] Not all scholars are convinced of either the theoretical or predictive utility of traditional diffusion theory. Robert Savage asserts that there is less variability among adopters than is commonly assumed (1978) while Volden (2006) argues that characteristics beyond geography drive adoption. Similarly, Grossback and colleagues determined that shared ideology often encourages emulation in policy-making (2004). Mintrom (1997) and Mintrom and Vergari (1998) go a step further and contend that diffusion occurs less by physical proximity than by way of policy networks and entrepreneurs.

considered, it is logical to conclude that it has successfully earned a place on the policy agenda, no small feat in today's crowded political landscape (Karch 2007).

Citing the complex issue environment responsible for much of the inertia that characterizes policymaking as well as the difficulty issues face in earning a place on the public agenda, those who map the policy process agree that at a systemic level, stasis is the norm. It is only interrupted when an issue gains public and then institutional attention (Anderson 1997, Baumgartner and Jones 1993, Cobb and Elder 1972, Downs 1972, Kingdon 1995). To what signals do policymakers respond? Jones and Baumgartner describe the problems elites experience in allocating their attention, noting that issues progress past the inherent 'bottleneck' in policymaking when enough of the public's attention is triggered (Jones and Baumgartner 2005, Karch 2007). An important step in the consideration of a bill is thus recognition that the perception of a problem has shifted from being an individual to a social concern necessitating a public solution. Once state lawmakers sense that an issue has captured the public's attention and achieved agenda status, they may act by introducing a bill.

Karch explicitly links the diffusion of innovation and agenda setting literatures in his work on state-level diffusion in health and welfare policies: "Bill introduction is a good proxy for agenda status because it suggests that officials are paying attention to, aware of, and interested in the new policy idea" (2007, 69). Karch and other scholars find evidence that issue salience, measured by media coverage, helps shape agendas (Dunaway et al. 2010, Haider-Markel 2001, Karch 2007, Mintrom 1997). As they suggest, I hypothesize that newspaper attention will encourage policy consideration in state legislatures. Adding this variable to the two

steps should provide a more nuanced interpretation of diffusion of innovation theory at the state level.

SECTION III: DATA AND METHODS

The CDC and the Kansas Health Institute track anti-obesity laws proposed and enacted at the state level (CDC 2007a, Wellever 2004). Using these data, I identify bills designed to reduce obesity: resolutions to draw attention to the problem, funding for research, programs to encourage adult and school-based physical activity, education to encourage better nutrition, requirements to control or ban the sale of fast or junk food in schools and bills to require medical coverage for weight loss treatment. I exclude legislation directed at protecting the food industry from lawsuits claiming that restaurants and food manufacturers are responsible for weight gain. I then counted the policies that were considered and enacted by states for the years 1999 to 2006. These counts serve as dependent variables and represent policies aimed at lowering obesity rates. Two models are constructed. Model A ('Considered Policies Model') uses the count of the total number of anti-obesity policies considered as its dependent variable. Model B ('Enacted Policies Model') uses the count of the total number of anti-obesity policies adopted as its dependent variable.

Agenda setting and integrated diffusion of innovation theory suggest a number of factors that predict and explain policy activity directed at reducing obesity. Secondary data from a variety of sources are used as in these analyses. Table 2 describes the dependent and independent variables along with their sources:

[Insert Table 2 about here]

Salience. According to agenda setting theory, salience is a critical factor in determining the issues appear on the public policy agenda. I anticipate that the more state lawmakers know of a problem and the greater their awareness of its severity, the likelier they will be to pursue solutions to resolve it. Salience is a function in part of media coverage. Like Karch (2007) and Jones and Baumgartner (2005), I operationalize *Salience* as newspaper attention paid to the issue of interest. I follow the lead of Haider-Markel (1998) and gain further precision by measuring this variable as the number of obesity-related articles appearing in the states' largest newspapers. I rely upon Newsbank's *America's Newspapers* for these data. Appendix B lists these newspapers and explains in detail my search methods.[8]

Hypothesis 1: States in which more obesity-related newspaper articles have appeared will be more likely to consider and adopt anti-obesity legislation.

Problem Severity. Past work in comparative state politics has considered the relative impact of problem conditions on decision making-making on issues as diverse as health insurance reform, environmental cleanup efforts and water management (Daley 2007, Mullin 2009, Stream 1999). Given that states are responsible for a significant portion of the costs of obesity, I predict that states with a relatively higher proportion of obese adults will be likely to consider and adopt legislation to mitigate it. *Problem Severity* is measured as the percent of

[8] *Salience* data were not available for three states: Delaware, Arkansas and Hawaii. Stata™ version 10 software remedies missing data problems by list-wise case deletion. King et al. (2001) recommend multiple imputation as a more appropriate method for accounting for missing data. Imputing the data (using Stata™ Statistics/Data Analysis software, version 10) for this variable yields the results found in Tables 4 and 5. I also performed the calculations using non-imputed data. The results were consistent with the imputed model; however, I report the imputed results since their marginal effects are lower and thus more conservative.

adults in a state who are either overweight or obese (BMI greater than 25); data are from the Behavioral Risk Factor Surveillance System sponsored by the CDC.

Hypothesis 2: States whose citizens have a higher BMI will consider and enact more policies aimed at reducing the condition.

Democratic Legislature. Party control of state legislatures may also explain why some states are more active than others in obesity policy. Noting that the Democratic Party tends to favor the proactive use of government intervention to address public problems, scholars employ party competitiveness (Berry 1994, Haider-Markel 2001, Walker 1969), a measure of whether control of a state legislature is divided or not (Berry and Berry 1990, 1992) or Democratic Party control (Daley 2007, Stream 1999, Volden 2006) to test the impact of political composition on state decision making. In this chapter, I use the percent of Democrats in state legislatures. The data are provided courtesy of Carl Klarner and *State Politics and Policy Quarterly* Website.

Hypothesis 3: The greater the proportion of Democrats in state legislatures, the more likely state decision makers will be to consider and adopt anti-obesity legislation.

Regional Diffusion. Integrated diffusion of innovation theory anticipates that states look to neighbors and respond to 'peer pressure' when considering anti-obesity legislation. If states track and compete with other states, I should detect an effect of this pressure on states' willingness to consider and adopt obesity reduction measures. I calculate this variable as the average number of anti-obesity policies enacted or considered by states within a census division (excluding the state of interest). I fine-tune this regional measure by using census divisions, which are essentially Census sub-regions ranging in size from three states (the Mid-Atlantic) to nine states (the South-Atlantic), which are also used by the CDC and DHHS. If state

policymaking is influenced by regional activity, then I expect to see more policies considered and enacted as Census division peers work to address this issue.

Hypothesis 4: States whose census division counterparts consider and enact measures to reduce obesity will consider and enact more legislation of their own.

National Diffusion. The federal government wields influence over state level policymaking in various ways. With obesity policy, this influence often takes the form of financial and educational incentives to develop obesity reduction programs. To assess the effects of vertical diffusion, I consider the CDC's sponsorship of a long-term program that funnels resources to states seeking to attenuate their obesity problem. Entitled the Nutrition and Physical Activity and Obesity Program (NPAO), it offers funding, planning, benchmarking and other assistance to states that meet acceptance criteria. Participation entails sophisticated planning and evaluation stipulations and features two levels: 'capacity-building' during which states draft plans, and 'implementation' when states move to execute their plans, for which funding is increased. The *National Diffusion* variable is assigned a '0' for non-participants, '1' for those at building capacity and '2' for those at the implementation level (CDC 2008a).

Hypothesis 5: States that participate in the NPAO program are more likely to consider and enact anti-obesity laws.

State Wealth. Policy adoption implies the expansion of government activities involving some level of economic investment (Grossback et al. 2004, Miller 2006, Mooney 2001). The costs of obesity are sizeable, and impose a financial burden on states both in terms of medical costs and educational resources necessary for policy implementation. It is reasonable to expect that state resources will affect the activity that can be devoted to health policies in general and

obesity policies in particular. The variable *State Wealth* is measured as per capita gross state product (GSP) in thousands of constant dollars (Bureau of Labor Statistics).

Hypothesis 6: Wealthier states are more likely to consider and enact anti-obesity legislation.

Interest Groups. Non-political actors have an impact on policymaking through an expression of their needs and interests (Jacoby and Schneider 2001, Rosenthal 1996, Stream 1999). Medical providers who treat obesity and its co-morbidities should be sensitive to the acuteness of the problem and its consequences. Since obesity is a relatively new issue, I expect that these professionals will be influential in obesity policymaking by raising awareness of the problem and supporting the passage of legislation to resolve it. Thus interest group pressure is operationalized as the number of full time health care providers per thousand state population (Bureau of Economic Analysis).

Hypothesis 7: States with a larger health care profession presence will consider and enact more bills to reduce obesity.

Control Variables. Bills often must be presented multiple times before they pass; a state that has considered a number of bills might be encouraged to move toward enactment thanks to greater exposure to the issue within the state legislatures (Karch 2007). I measure the effects of previous policy activity by adding a variable to account for the number of policies that have been considered cumulatively by the state in prior years. It is also important to consider how the passage of time influences results (Beck et al. 1998). While some scholars utilize a series of year dummy variables to account for "duration dependence," I include a temporal counter in order to preserve statistical power and parsimony (Buckley and Westerland 2004).

Below are the descriptive statistics for these calculations.

[Insert Table 3 about here]

I use negative binomial regression for these analyses. This technique is appropriate when the dependent variables are counts. It adjusts for the presence of over-dispersion within my dataset, and, when combined with robust standard errors to account for heterogeneity, provides a rigorous test for my hypotheses. In order to gain a more substantive interpretation of the model's results, I also use Stata's 'marginal effects' function (Stata™ Statistics/Data Analysis software, version 10) to calculate the effects of changes in the independent variables on the probability of states' consideration and enactment of anti-obesity policy solutions.

SECTION IV: RESULTS AND DISCUSSION

Tables 4 and 5 present the results of the Considered Policies and Enacted Policies analyses. While both models demonstrate significance, the results contrast in an interesting way. A wider range of factors explains the consideration of obesity policies compared to actual policies adopted. It is clear that political factors weigh more heavily upon the agenda setting process than upon the enactment of such laws, suggesting that the two steps are quite distinct from one another.

Considered Policies Model Results (Model A)

The results of the Considered Policies model indicate support for both diffusion of innovation and agenda setting theory. The model is highly significant overall, and several key political factors determine the likelihood of anti-obesity bill introduction and deliberation and in the anticipated direction. The results are presented in Table 4 below.

[Insert Table 4 about here]

A Democratic legislature is strongly associated with the consideration of more obesity bills, signaling that Democratic legislatures are indeed more willing to put the legislative process to work on the problem of obesity. Each percent increase in the number of Democrats in statehouses results in a 0.3% greater probability of consideration, all other variables held at their means. This finding supports the contention that Democratic legislatures are more inclined to favor public policy solutions to address social problems.

As with other policy areas, regional diffusion is an important predictor of states' interest in anti-obesity legislation. State policymakers are sensitive to the regional political environment and more likely to initiate anti-obesity policy when nearby states within their census division have done so. While they may not enact more laws because of this pressure, they do contemplate them. As anti-obesity legislative activity rises in nearby states, states will consider more policies themselves. For each additional bill introduced among its census division counterparts, states are 6% more likely to propose legislation of their own (holding all other variables at their means).

Issue salience also enhances state lawmakers' willingness to propose obesity-related legislation. Awareness of the obesity problem, manifested in this model as newspaper attention, has a significant effect on policy consideration and supports agenda setting theory's premise that media coverage encourages legislative action. For each additional article appearing in state newspapers, the probability of the introduction of an anti-obesity bill grows by 0.2%. This corroborates Karch (2007) and Jones and Baumgartner's research (2005) concluding that public attention to a problem is an important factor in policymaking and confirms the potential value of

agenda setting theory for diffusion of innovation theory. Lawmakers pay attention to the media and appear to respond to public interest and awareness with increased legislative activity.

The measure for previous policy consideration, included to account for the possibility that previous policy debate might encourage more consideration, also predicts that states will propose legislation: each additional policy introduced in statehouses in prior years increases the probability of an additional proposal by 8.4% (all other variables at their means). The other control variable, a time counter in years, is also positive, indicating that as the issue of obesity matures, acceptance for policy solutions becomes more common. As time passes, states become more likely to introduce obesity reducing measures, and each year enhances this probability by 3.2%, holding all other variables at their means.

Four hypothesized political factors are not influential. Problem severity is not related to the consideration of anti-obesity policies. States suffering from higher rates of obesity are no more likely than others to propose legislation to address the condition. Lawmakers do not seem to be attuned to the general dimensions of the obesity problem when considering obesity policy. I anticipated that state wealth would predict legislative activity, but the Considered Policies model does not confirm this hypothesis. Access to greater financial resources does not encourage lawmakers to take more steps toward obesity solutions.

Neither the national diffusion nor the interest group measure predicts consideration of obesity reduction measures. States that participate in the CDC's NPAO program and states with more health care professionals are no more likely to propose obesity policy than others. This lack of effect raises both theoretical and measurement questions. Perhaps obesity is too new an issue for federal pressures to bear significantly on states' willingness to consider policy solutions or

for medical groups to exert sufficient influence on state legislatures. It is also possible that NPAO resources are inadequate or that these measures are poorly conceptualized or measured. As the federal government launches additional anti-obesity initiatives, a more sophisticated measure, perhaps of research or educational expenditures, might yield more theoretically interesting results.

Enacted Policies Model (Model B)

The Enacted Policies model relies upon the same independent variables as the Considered Policies model, facilitating a comparison of the determinants of anti-obesity policy consideration and adoption (see Table 5 below). The results point to very different factors influencing states' propensity to enact legislation rather than to simply consider it. A Democratic legislature is the only statistically significant predictor common to both analyses, and its effect on enactment is larger than for consideration. In this case, for every percent increase in the Democratic makeup of a legislature, the probability of voting a bill into law rises 0.8%, all other variables at their means.

[Insert Table 5 here]

The interest group measure, Health Care Employment, contributes marginally to bill passage, but in an unexpected direction, and it does not retain significance in its associated marginal effects analysis. This variable, while theoretically interesting, needs further investigation before a conclusion can be drawn. For example, it is possible that the health care profession is not as interested or active in obesity reduction efforts as I anticipated. It may be more likely, however, that the complexity of the issue hinders agreement among medical experts

and their lack of consensus about obesity's cause and solution weakens this 'interest group' pressure.

The *Policies Considered Control* variable does not influence bill passage; the number of bills introduced in prior years does not have any predictive value for how many policies are enacted, nor does the passage of time. Problem severity exerts no statistically significant influence on the enactment of policies, nor does either of the diffusion measures, salience or state wealth. Aside from Democratic legislatures, political factors do not seem to shape bill adoption dynamics. These are unexpected findings and warrant additional investigation.

SECTION V: CONCLUSIONS

Acknowledging the serious consequences of an unchecked obesity epidemic, states are proposing and enacting legislation designed to promote research, educate citizens about healthy lifestyles and regulate school foods and insurance coverage of obesity-related conditions. This chapter identified the political factors that influence state policymaking in this important health issue, applying traditional diffusion of innovation theory in an expanded way. To evaluate the two steps of the policy adoption process individually, I construct two models, one for considered policies and one for enacted policies, using independent variables suggested by the integrated diffusion of innovation theory. In addition, I draw from the agenda setting literature to enhance an understanding of this process. Using bill consideration as a proxy for agenda status, I explore the role of issue salience in the two phases of anti-obesity legislation. The results of these models confirm several hypotheses and provide support for state-level diffusion of innovation theory.

Several traditional political factors appear to encourage states to consider anti-obesity bills but not necessarily to enact them. Democratic legislatures, regional diffusion, previous

policy consideration and salience are all significant predictors in the agenda setting stage. These results support both agenda setting and diffusion of innovation theory at the state level.

At the adoption stage, however, only the proportion of Democrats in state legislatures is significant and it is the only factor common to both steps. No other political determinants demonstrate an effect on policy enactment, suggesting that the political dynamics of anti-obesity agenda setting are very different from those of decision making. It is beyond the scope of this chapter to fully explain this distinction; however, it prompts the question of whether consideration might be the more symbolic (and less risky) of the two acts and thus more open to political influence.

Alternatively, since obesity is a relatively new and complicated health issue and there is no consensus about its cause and potential solutions, lawmakers may be uncertain about the value of measures on which they might cast a vote. In a similar public health issue, tobacco use, anti-smoking efforts only became successful after researchers definitively linked cigarette smoking to lung cancer. Thereafter, it became much more straightforward to construct policies to limit the use of tobacco (Kersh and Morone 2002). Perhaps it is simply too early in the obesity issue's life cycle for traditional factors to influence bill enactment.

This research is preliminary and can be improved in several ways. The use of total counts of policies considered and enacted is a fairly blunt application. As states debate and adopt more policies, it will become possible to refine this outcome variable by classifying anti-obesity activities into regulatory and non-regulatory categories. This distinction can shed additional light on whether anti-obesity policy behaves in a manner similar to other types of public policy (see Section II and footnote 3).

Other variables may be imperfectly operationalized. For instance, I expected, given the relatively recent emergence of obesity reduction policies, that health care professionals would be an appropriate interest group measure, but this variable was not significant. Future research should consider other types of organizational activity to ascertain the effect of interest groups. For example, as government anti-obesity educational programming expands, public health professionals may play an increasingly important role, and measuring the effects of public health expenditures or employment levels will be advantageous. On the opposite side of the debate, restaurant and food industry interests are beginning to organize in response to charges that they contribute to obesity. Accounting for these groups' influence will be necessary to clarify the interactions of pressure groups and their effects on obesity legislation. Finally, my national diffusion measure may be inadequately drawn. Future measures should include an estimation of federal anti-obesity program spending by state as these data become available.

In order to learn more about this complex issue, it will also be important to know more about how, in complex health matters such as obesity, policymakers interact with those from other states and learn from one another. Placing diffusion analysis within the context of an information-sharing and learning dynamic as states emulate other states' successful activities represents a valuable opportunity for exploration (Mooney 2001, Mintrom and Vergari 1998).

Finally, in addition to expanding our knowledge of how health policies diffuse, future research should address whether and how success diffuses among states. Volden's (2006) work tracking the effect that policy success makes to diffusion offers an intriguing starting place for such inquiries. This approach could also serve as an interesting bridge to policy analysis.

Uncoupling the consideration and enactment stages of the policy adoption process is a useful step in understanding how health care legislation is made and diffused at the state level. Further untangling the process that leads up to a successful vote will refine diffusion of innovation theory by adding lessons drawn from the agenda setting literature. More research of this nature will also contribute to obesity research and perhaps ultimately to a healthier population.

APPENDIX A

Comparison of Obesity Rates and State Level Policy Activity

State	Percent Adults Overweight or Obese	Percent Youth Overweight or Obese	Number of Bills Considered Through 2007	Number of Bills Enacted Through 2007
Alaska	65.1	33.9	3	0
Alabama	66.6	36.1	1	1
Arkansas	65.6	37.5	9	7
Arizona	65.6	30.6	1	1
California	59.0	30.5	33	18
Colorado	55.7	27.2	8	7
Connecticut	59.2	25.7	22	1
Washington DC	55.3	35.4	0	0
Delaware	65.0	33.2	4	3
Florida	62.1	33.1	7	4
Georgia	65.0	37.3	7	2
Hawaii	56.8	28.5	16	2
Iowa	64.7	26.5	9	1
Idaho	63.1	27.5	4	2
Illinois	63.0	34.9	16	4
Indiana	63.2	29.9	7	3
Kansas	63.8	31.1	4	0
Kentucky	69.1	37.1	6	0
Louisiana	65.2	35.9	8	5
Massachusetts	58.9	30	6	0
Maryland	62.7	28.8	12	4
Maine	62.9	28.2	4	1
Michigan	64.3	30.6	1	0
Minnesota	62.0	23.1	5	1
Missouri	63.3	31	14	0
Mississippi	68.1	44.4	23	7
Montana	61.8	25.6	4	2
North Carolina	64.6	33.5	10	3
North Dakota	64.9	25.7	0	0
Nebraska	64.7	31.5	1	1
New Hampshire	61.8	29.4	3	1
New Jersey	62.3	31	8	1
New Mexico	60.8	32.7	22	7
Nevada	63.0	34.2	2	2
New York	61.9	32.9	22	4

Ohio	63.5	33.3	2	0
Oklahoma	65.1	29.5	6	3
Oregon	62.0	24.3	9	1
Pennsylvania	62.7	29.7	2	0
Rhode Island	60.8	30.1	8	5
South Carolina	65.3	33.7	6	2
South Dakota	65.5	28.4	0	0
Tennessee	67.4	36.5	28	8
Texas	65.8	32.2	24	8
Utah	58.0	23.1	4	0
Virginia	61.9	31	18	6
Vermont	58.8	26.7	3	2
Washington	62.1	29.5	7	2
Wisconsin	62.3	27.9	0	0
West Virginia	68.0	35.5	8	3
Wyoming	62.2	25.7	1	0
MEANS	62.9 (3.0)	31.0 (4.2)	8.4 (8.0)	2.6 (3.2)

Prevalence data from 2007; standard deviations in parentheses

Adult data from CDC's Behavioral Risk Factor Surveillance System; youth data from the National Center for Health Statistics. Policy data from CDC's State Legislative Information and Wellever 2004.

APPENDIX B: Largest Newspapers and *Salience* variable operationalization

State	Newspaper	Notes
Alaska	Anchorage Daily News	
Alabama	Mobile Press-Register	Largest paper is Birmingham News; no data
Arkansas	Arkansas Democrat-Gazette	No data available
Arizona	Arizona Daily Star	Largest paper is Arizona Republican
California	San Francisco Chronicle	Largest paper is LA Times; no data for years before 2006
Colorado	Denver Post	In the top 100 at www.refdesk.com
Connecticut	Hartford Courant	In the top 100 at www.refdesk.com
Washington DC	Washington Post	In the top 100 at www.refdesk.com
Delaware	The News Journal	No data available
Florida	St Petersburg Times	In the top 100 at www.refdesk.com
Georgia	Atlanta Journal-Constitution	In the top 100 at www.refdesk.com
Hawaii	Honolulu Star Bulletin	No data available
Iowa	The Gazette	Largest paper is Des Moines Register; no data
Idaho	Idaho Statesman	
Illinois	Chicago Tribune	In the top 100 at www.refdesk.com
Indiana	Evansville Courier and Press	Largest paper is Indianapolis Star; no data
Kansas	Wichita Eagle	
Kentucky	Lexington Herald Leader	Largest paper is Courier Journal; no data
Louisiana	Times Picayune	
Massachusetts	Boston Globe	In the top 100 at www.refdesk.com
Maryland	The Sun	In the top 100 at www.refdesk.com
Maine	Portland Press Herald	
Michigan	Detroit News	In the top 100 at www.refdesk.com
Minnesota	Star Tribune	In the top 100 at www.refdesk.com
Missouri	St Louis Post Dispatch	In the top 100 at www.refdesk.com
Mississippi	Sun-Herald	Largest newspaper is Clarion-Ledger; no data
Montana	Independent Record	Largest paper is Billings Gazette; no data
North Carolina	Charlotte Observer	
North Dakota	Grand Forks Herald	Largest paper is the Forum; no data
Nebraska	Lincoln Journal Star	Largest paper is Omaha World Herald; no data
New Hampshire	Union Leader	
New Jersey	Star Ledger	
New Mexico	Albuquerque Journal	

Nevada	Las Vegas Review Journal	
New York	New York Times	In the top 100 at www.refdesk.com
Ohio	Cleveland Plain Dealer	In the top 100 at www.refdesk.com
Oklahoma	The Oklahoman	
Oregon	The Oregonian	In the top 100 at www.refdesk.com
Pennsylvania	Philadelphia Enquirer	In the top 100 at www.refdesk.com
Rhode Island	Newport Daily News	Largest paper is the Providence Journal; the Newport Daily News has a much smaller circulation (1/10)
South Carolina	The State	
South Dakota	Aberdeen American News	Largest paper is Argus Leader; no data
Tennessee	Commercial Appeal	Largest paper is the Tennessean; no data
Texas	Houston Chronicle	In the top 100 at www.refdesk.com
Utah	Salt Lake Tribune	In the top 100 at www.refdesk.com
Virginia	Virginian-Pilot	In the top 100 at www.refdesk.com
Vermont	Rutland Herald	Largest paper is Burlington Free Press; no data
Washington	Seattle Times	In the top 100 at www.refdesk.com
Wisconsin	Milwaukee Journal Sentinel	In the top 100 at www.refdesk.com
West Virginia	Charleston Gazette	
Wyoming	Wyoming Tribune Eagle	

Step 1: Identify the largest newspapers in each state.
Using www.refdesk.com (http://www.refdesk.com/paper.html), I noted the largest 100 newspapers in the United States by circulation and matched them to their states. If two or more newspapers appeared in the list for one state, I used the newspaper with the largest circulation.

Step 2: Determine the number of articles published per year about obesity.
Utilizing Newsbank's *America's Newspapers* database, I searched each newspaper for the years 1999-2008 using the keywords "obesity" or "BMI" that appeared in the 'Lead/First Paragraph' ('overweight' was dropped as a search term because it returned too many unrelated articles).

Step 3: Exceptions.
In some cases, the *America's Newspapers* database did not include the state's largest newspaper or it did not feature sufficient years' data. In those instances, I identified the next-largest city at individual state Websites, and then sought that city's newspaper at www.refdesk.com before returning to the *America's Newspapers* site for the article count. This strategy worked in most cases. The 'Notes' column indicates these special cases and exceptions.

APPENDIX C: REGRESSION DIAGNOSTICS: Variable Correlation Matrix

	Con-sidered Policies	Enacted Policies	Problem Severity	Democra-tic Legis-lature	Regional Diffusion - consi-dered	Regional Diffusion - enacted	National Dif-fusion	State Wealth	Health Care Employ-ment	Salience	Policies Con-sidered Control	Tempo-ral Counter
Considered Policies	1.0000											
Enacted Policies	0.1288	1.0000										
Problem Severity	0.2311	0.0186	1.0000									
Democratic Legislature	0.0981	0.1455	-0.0682	1.0000								
Regional Diffusion (considered)	0.2918	0.1378	0.3884	0.0019	1.0000							
Regional Diffusion (enacted)	0.0678	0.2271	0.0302	0.0153	0.5651	1.0000						
National Diffusion	0.1667	-0.0092	0.1629	0.0731	0.3578	0.0155	1.0000					
State Wealth	0.1254	-0.0108	-0.2068	0.0434	0.0319	-0.1084	0.0882	1.0000				
Health Care Employment	0.0504	-0.0763	-0.0165	-0.0128	-0.0383	-0.1967	0.0238	0.1579	1.0000			
Salience	0.2944	-0.0003	0.1769	0.1421	0.2302	-0.0207	0.4026	0.2936	0.0510	1.0000		
Policies Considered Control	0.6906	0.0656	0.3485	0.1211	0.3026	-0.0403	0.2645	0.1348	0.0745	0.3597	1.0000	
Temporal Counter	0.3431	0.0079	0.5356	-0.0684	0.6115	0.0309	0.4945	0.1745	0.1133	0.2752	0.5638	1.0000

Variable Correlation Matrix Results

Results: the highest correlation (0.6906) is between Policies Considered Control and the Considered Policies variables. Removing it from the Considered Policies model did not substantively change the results; I report the more conservative coefficients. Two other correlations (0.6115 and 0.5638) between the Temporal Counter and Regional Diffusion Considered and Policies Considered Control respectively, are theoretically distinct. The 0.5651 correlation between the two regional diffusion variables is unimportant as they are not used in the same model. Finally, the correlation between Temporal Counter and Problem Severity's is 0.5356; however, they are theoretically and practically independent of one another.

APPENDIX C: Regression Diagnostics (continued)
Variable Inflation Factors

Variable Inflation Factor: Considered Policies Model	VIF	1/VIF
Problem Severity	1.76	0.5672
Democratic Legislature	1.07	0.9317
Regional Diffusion	1.37	0.7281
National Diffusion	1.59	0.6282
State Wealth	1.35	0.7407
Health Care Employment	1.04	0.9628
Salience	1.47	0.6783
Policies Considered Control	1.64	0.6080
Temporal Counter	3.07	0.3258
Mean VIF	1.60	

Variable Inflation Factor Analysis Results
The variable inflation factors for these independent variables indicate the absence of significant multicollinearity.

WORKS CITED

"ABC News/Time Magazine Obesity Poll." Horsham, PA: ABC News Time Magazine Inter-University Consortium for Political and Social Science Research, 2004.

Anderson, James E. *Public Policymaking*. Third ed. Boston: Houghton Mifflin Company, 1997.

Baumgartner, Frank R., and Bryan D. Jones. *Agendas and Instability in American Politics*. Chicago: University of Chicago Press, 1993.

Berry, Frances Stokes. "Sizing up State Policy Innovation Research." *Policy Studies Journal* 22, no. 3 (1994): 442-56.

Berry, Frances Stokes, and William D. Berry. "Innovation and Diffusion Models in Policy Research." In *Theories of the Policy Process*, edited by Paul A. Sabatier. Cambridge: Westview Press, 2007.

———. "State Lottery Adoptions as Policy Innovations: An Event History Analysis." *American Political Science Review* 84, no. 2 (1990).

———. "Tax Innovation in the States: Capitalizing on Political Opportunity." *American Journal of Political Science* 36, no. 3 (1992): 715-42.

Bethell, Christina, Lisa Simpson, Scott Stumbo, Adam C. Carle, and Narangerel Gomgbojav. "National, State, and Local Disparities in Childhood Obesity." *Health Affairs* 29, no. 3 (2010): 347-56.

Blomquist, William. "The Policy Process and Large-N Comparative Studies." In *Theories of the Policy Process*, edited by Paul A. Sabatier. Boulder: Westview Press, 2007.

BLS. Bureau of Labor Statistics, http://data.bls.gov/cgi-bin/dsrv.

Beck, Nathaniel, Jonathan N. Katz, and Richard Tucker. "Taking Time Seriously: Time-Series Cross Section Analysis with a Binary Dependent Variable." *American Journal of Political Science* 42, no.4 (1998): 1260-88.

Buckley, Jack and Chad Westerland. "Duration Dependence, Functional Form, and Corrected Standard Errors: Improving EHA Models of State Policy Diffusion." *State Politics and Policy Quarterly* 4, no. 1 (2004): 94-113.

CDC. "Behavioral Risk Factor Surveillance System." Centers for Disease Control and Prevention, http://apps.nccd.cdc.gov/brfss/list.asp?cat=Ob&yr=1999&qkey=4409&state=all

———. "Childhood Overweight and Obesity." Centers for Disease Control and Prevention, http://www.cdc.gov/obesity/childhood/defining.html, 2010.

———. "Health, United States, 2009: In Brief." Atlanta GA: National Center for Health Statistics, 2009b.

———. "Obesity - at a Glance." Atlanta: Centers for Disease Control and Prevention, 2009a.

———. "Performance Report of the Nutrition and Physical Activity Program to Prevent Obesity and Other Chronic Diseases." Centers for Disease Control and Prevention, http://www.cdc.gov/nccdphp/DNPA/obesity/state_programs/pdf/NPAO_Performance_Report_2005.pdf, 2008a.

———. "State Legislative Information." Centers for Disease Control and Prevention, http://apps.nccd.cdc.gov/DNPALeg/, 2007a.

Cobb, Roger W., and Charles D. Elder. *Participation in American Politics: The Dynamics of Agenda-Building*. Boston: Allyn and Bacon, 1972.

Daley, Dorothy M. "Voluntary Approaches to Environmental Problems: Exploring the Rise of Nontraditional Public Policy." *The Policy Studies Journal* 35, no. 2 (2007): 165-80.

DHHS. "Healthy People 2010 Mid-Course Review." Washington: United States Department of Health and Human Services, 2007.

Downs, Anthony. "Up and Down with Ecology: The Issue Attention Cycle." *The Public Interest* (1972): 38-50.

Dunaway, Johanna, Regina P. Branton, and Marisa A. Abrajano. "Agenda Setting, Public Opinion, and the Issue of Immigration Reform." *Social Science Quarterly* 91, no. 2 (2010): 359-78.

Finkelstein, Eric A., Justin G. Trogdon, Joel W. Cohen, and William Dietz. "Annual Medical Spending Attributable to Obesity: Payer- and Service-Specific Estimates." *Health Affairs* 28, no. 5 (2009): w822-w31.

Finkelstein, Eric, Ian C. Fiebelkorn, and Guijing Wang. "The Costs of Obesity among Full-Time Employees." *American Journal of Health Promotion* 20, no. 1 (2005): 45-51.

Flegal, Katherine M., Margaret D. Carroll, Cynthia L. Ogden, and Lester R. Curtin. "Prevalence and Trends in Obesity among Us Adults: 1999-2008." *Journal of the American Medical Association* 303, no. 3 (2010): 235-41.

Gray, Virginia. "Innovation in the States: A Diffusion Study." *The American Political Science Review* 67, no. 4 (1973): 1174-85.

Grossback, Lawrence J., Sean Nicholson-Crotty, and David A. M. Peterson. "Ideology and Learning in Policy Diffusion." *American Politics Research* 32, no. 5 (2004): 521-45.

Haider-Markel, Donald P. "Policy Diffusion as a Geographic Expansion of the Scope of Political Conflict: Same-Sex Marriage Bans in the 1990s." *State Politics and Policy Quarterly* (2001): 5-26.

———. "Policy Diffusion as a Geographical Expansion of the Scope of Political Conflict: Same-Sex Marriage Bans in the 1990s." *State Politics and Policy Quarterly* (2001).

———. "The Politics of Social Regulatory Policy: State and Federal Hate Crime Policy and Implementation Effort." *Political Research Quarterly* 51, no. 1 (1998): 69-88.

IOM. "Childhood Obesity in the United States: Facts and Figures " In *Preventing Childhood Obesity: Health in the Balance*, edited by Jeffrey P. Koplan, Catharyn T. Liverman and Vivica A. Kraak: Institute of Medicine, 2005.

Jacoby, William G., and Saundra K. Schneider. "Variability in State Policy Priorities: An Empirical Analysis." *The Journal of Politics* 63, no. 2 (2001): 544-68.

Jones, Bryan D., and Frank R. Baumgartner. *The Politics of Attention: How Government Prioritizes Problems*. Chicago: University of Chicago Press, 2005.

Karch, Andrew. *Democratic Laboratories: Policy Diffusion among the American States*. Ann Arbor: University of Michigan Press, 2007.

Kersh, Rogan, and James Morone. "The Politics of Obesity: Seven Steps to Government Action." *Health Affairs* 21, no. 6 (2002): 142-53.

Kimbro, Rachel Tolbert, and Elizabeth Rigby. "Federal Food Policy and Childhood Obesity: A Solution or Part of the Problem?" *Health Affairs* 29, no. 3 (2010): 411-8.

King, Gary, James Honaker, Anne Joseph, and Kenneth Scheve. "Analyzing Incomplete Political Science Data: An Alternative Algorithm for Multiple Imputation." *American Political Science Review* 95, no. 1 (2001): 49-69.

Kingdon, John. *Agendas, Alternatives and Public Policies*. 2nd ed. New York: Harper Collins, 1995.

Klarner, Carl. "State Partisan Balance 1959-2007." State Politics and Policy Quarterly Data Resource, 2007.

Koebnick, Corinna, Ning Smith, Karen J. Coleman, Darios Getahun, Kristi Reynolds, Virginia P. Quinn, Amy H. Porter, Jack K. Der-Sarkissian, and Steven J. Jacobsen. "Prevalence of Extreme Obesity in a Multiethnic Cohort of Children and Adolescents." *Journal of Pediatrics* in press (2010).

Miller, Edward Alan. "Explaining Incremental and Non-Incremental Change: Medicaid Nursing Facility Reimbursement Policy, 1980-98." *State Politics and Policy Quarterly* 6, no. 2 (2006): 117-50.

Mintrom, Michael. "Policy Entrepreneurs and the Diffusion of Innovation." *AMerican Journal of Political Science* 41, no. 3 (1997): 738-70.

Mintrom, Michael, and Sandra Vergari. "Policy Networks and Innovation Diffusion: The Case of State Education Reforms." *The Journal of Politics* 60, no. 1 (1998): 126-48.

Mokdad, Ali H., Barbara A. Bowman, Earl S. Ford, Frank Vinicor, James S. Marks, and Jeffrey P. Koplan. "The Continuing Epidemics of Obesity and Diabetes in the United States." *Journal of the American Medical Association* 286 (2001): 1195-200.

Mooney, Christopher Z. "Modeling Regional Effects on State Policy Diffusion." *Political Research Quarterly* 54, no. 1 (2001): 103-24.

Mullin, Megan. *Governing the Tap: Special District Governance and the New Local Politics of Water*. Boston: MIT Press, 2009.

NCHS. "2007 Childhood Obesity State Report Cards." National Center for Health Statistics, http://nschdata.org/Content/07ObesityReportCards.aspx.

Newsbank. "America's Newspapers." http://infoweb.newsbank.com.www2.lib.ku.edu:2048/iw-search/we/InfoWeb?p_product=NewsBank&p_action=explore&p_theme=aggregated5&p_nbid=H64H50IMMTI2OTM4MzUyMy41NjQyMDA6MToxNDoxMjkuMjM3LjM1LjIzNw&p_clear_search=yes&d_refprod=NEWSARCHIVES&f_clearContext=yes

Ogden, Cynthia L., Margaret D. Carroll, Lester R. Curtin, Molly M. Lamb, and Katherine M. Flegal. "Prevalence of High Body Mass Index in Us Children and Adolescents, 2007-2008." *Journal of the American Medical Association* 303, no. 3 (2010): 242-9.

Ogden, Cynthia L., Margaret D. Carroll, Lester R. Curtin, Margaret A. McDowell, Carolyn J. Tabak, and Katherine M. Flegal. "Prevalence of Overweight and Obesity in the United States, 1999-2004." *Journal of the American Medical Association* 295, no. 13 (2006): 1549-55.

Ogden, Cynthia L., Margaret D. Carroll, and Katherine M. Flegal. "High Body Mass Index for Age among Us Children and Adolescents, 2003-2006." *Journal of the American Medical Association* 299, no. 20 (2008): 2401-5.

Ogden, Cynthia L., Margaret D. Carroll, Margaret A. McDowell, and Katherine M. Flegal. "Obesity among Adults in the United States - No Statistically Significant Change since 2003-2004." In *NCHS Data Brief*. Bethesda: United States Department of Health and Human Services 2007.

Ogden, Cynthia L., Katherine M. Flegal, Margaret D. Carroll, and Clifford L. Johnson. "Prevalence and Trends in Overweight among Us Children and Adolescents, 1999-2000." *Journal of the American Medical Association* 288 (2002): 1728-32.

Oliver, J. Eric, and Taeku Lee. "Public Opinion and the Politics of Obesity in America." *Journal of Health Politics, Policy and Law* 30, no. 5 (2005).

Peterson, Paul E., and Mark Rom. "American Federalism, Welfare Policy, and Residential Choices." *American Political Science Review* 83, no. 3 (1989): 711-28.

Philipson, Tomas, Carolanne Dai, and Loren Helmchen. "The Economics of Obesity: A Report on the Workshop Held at Usda's Economic Research Service." In *2003 Economics of Obesity Workshop*. Washington DC: Economic Research Service, United States Department of Agriculture, 2004.

Refdesk. "Top 100 Us Newspapers." http://www.refdesk.com/top100pap.html.

REIS. "Regional Economic Accounts." Bureau of Economic Analysis, http://www.bea.gov/regional/gsp/.

Rochefort, David A., and Roger W. Cobb. *The Politics of Problem Definition: Shaping the Policy Agenda*. Lawrence: University of Kansas Press, 1994.

Rosenthal, Alan. "State Legislative Development: Observations from Three Perspectives." *Legislative Studies Quarterly* 21, no. 2 (1996): 169-98.

Satcher, David. "The Surgeon General's Call to Action to Prevent and Decrease Overweight and Obesity." edited by Department of Health and Human Services. Washington, DC: U.S. Government Printing Office, 2001.

Savage, Robert L. "Policy Innovativeness as a Trait of American States." *The Journal of Politics* 40, no. 1 (1978): 212-24.

Sharkansky, Ira, and Richard I. Hofferbert. "Dimensions of State Politics, Economics, and Public Policy." *The American Political Science Review* 63, no. 3 (1969): 867-79.

Stream, Christopher. "Health Reform in the States: A Model of State Small Group Health Insurance Market Reforms." *Political Research Quarterly* 52, no. 3 (1999): 499-525.

USCB. "1990 Census of Population and Housing Unit Counts (Cph-2)." Washington: US Census Bureau.

———. "Current Population Reports Table Co-Est2001-12-00 - Time Series of Intercensal State Population Estimates: April 1." Washington: US Census Bureau.

Volden, Craig. "States as Policy Laboratories: Emulating Success in the Children's Health Insurance Program." *American Journal of Political Science* 50, no. 2 (2006): 294-312.

Walker, Jack L. "The Diffusion of Innovations among the American States." *The American Political Science Review* 63, no. 3 (1969): 880-99.

Wallings, David. "Agricultural Policy and Childhood Obesity: A Food Systems and Public Health Commentary." *Health Affairs* 29, no. 3 (2010): 405-10.

Wellever, Anthony, Amanda Reichard, and Marc Velasco. "Obesity and Public Policy: Legislation Passed by States, 1999 to 2003." Topeka: Kansas Health Institute, 2004.

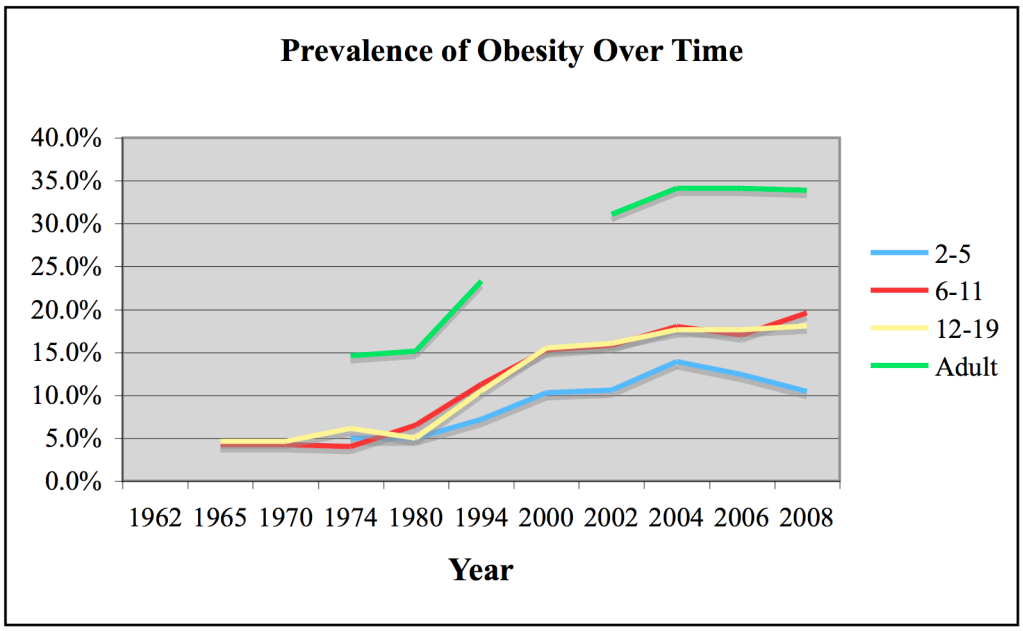
Table 1

Percent Prevalence of Obesity Over Time											
	1962	**1965**	**1970**	**1974**	**1980**	**1994**	**2000**	**2002**	**2004**	**2006**	**2008**
2-5				5.0%	5.0%	7.2%	10.3%	10.6%	13.9%	12.4%	10.4%
6-11		4.2%	4.2%	4.0%	6.5%	11.3%	15.3%	15.8%	18.0%	17.0%	19.6%
12-19		4.6%	4.6%	6.1%	5.0%	10.5%	15.5%	16.0%	17.6%	17.6%	18.1%
Adult	13.3%			14.6%	15.1%	23.3%		31.1%	34.1%	34.1%	33.9%

Adult data: BMI 30 and above. Sources: CDC's Health, US, 2009; Ogden et al. 2006; Flegal et al 2010

Children data: 95th percentile and above. Sources: Ogden et al. 2002, 2006, 2008, 2010; CDC 'Childhood Overweight and Obesity' http://www.cdc.gov/obesity/childhood/index.html

Figure 1



Source: see Table 1

Table 2

Variable Descriptions

Variable	Description	Source
Problem Severity	Percent adults overweight or obese; BMI > 25	CDC's Behavioral Risk Factor Surveillance System, accessed 4 June 2008 at http://apps.nccd.cdc.gov/brfss/list.asp?cat=Ob&yr=1999&qkey=4409&state=all (various years); for 2007
Democratic Legislature	Percent Democrats in state legislature	Data courtesy of Carl Klarner accessed through SPPQ Data Center at http://www.ipsr.ku.edu/SPPQ/journal_datasets/klarner.shtml
Regional Diffusion	Average of the number of policies considered/enacted by year by other states within the Census division	Author's calculation using Centers for Disease Control and Prevention's State Legislative Information and Kansas Health Institute: Obesity and Public Policy: Legislation Passed by States, 1999-2003, April 2004, Wellever et al.
Vertical Diffusion	Participates in NPAO (0=None 1=capacity-building 2=implementing)	Performance Report of the Nutrition and Physical Activity Program to Prevent Obesity and Other Chronic Diseases: July 1 Through December 31, 2005,CDC http://www.cdc.gov/nccdphp/DNPA/obesity/state_programs/pdf/NPAO_Performance_Report_2005.pdf
State Wealth	Gross domestic product by state, per capita, using constant 2000 dollars	REIS, Bureau of Economic Analysis: http://www.bea.gov/regional/gsp/action.cfm
Policies Considered	Total number of bills considered per year	Centers for Disease Control and Prevention's State Legislative Information http://apps.nccd.cdc.gov/DNPALeg/ and Kansas Health Institute: Obesity and Public Policy: Legislation Passed by States, 1999-2003, April 2004, Wellever et al.
Health Care Employment	Health care providers per 1000 state population	Bureau of Labor Statistics, http://data.bls.gov/cgi-bin/dsrv and "US Census Bureau Source: U.S. Census Bureau, 1990 Census of Population and Housing, Population and Housing Unit Counts (CPH-2); Current Population Reports, P25-1106; "Table CO-EST2001-12-00 - Time Series of Intercensal State Population Estimates: April 1."

Policies Enacted	Total number of bills enacted per year	Centers for Disease Control and Prevention's State Legislative Information http://apps.nccd.cdc.gov/DNPALeg/ and Kansas Health Institute: Obesity and Public Policy: Legislation Passed by States, 1999-2003, April 2004, Wellever et al.
Policies Considered Control	Total number of bills considered cumulatively	Centers for Disease Control and Prevention's State Legislative Information http://apps.nccd.cdc.gov/DNPALeg/ and Kansas Health Institute: Obesity and Public Policy: Legislation Passed by States, 1999-2003, April 2004, Wellever et al.
Salience	Number of articles that appeared per year in each state's leading newspaper addressing obesity	Using keywords 'obesity' or 'BMI', a count of articles in largest newspapers (identified by finding states' largest newspapers at www.refdesk.com) with sufficient years' data at Newsbank's *America's Newspapers* (http://www.newsbank.com). See Appendix B for additional details.
Temporal Counter	A variable that accounts for time in years	1999=0 through 2006=7

Table 3

Descriptive Statistics					
	Average	Std Deviation	Minimum	Maximum	N
Enacted Policies	0.299	0.789	0	9	408
Considered Policies	0.574	1.306	0	12	408
Problem Severity	58.860	3.502	47.90	67.3	407
Democratic Legislature	50.523	14.963	11.43	86.67	392
Regional Diffusion (considered)	0.873	0.922	0	5.33	408
Regional Diffusion (enacted)	0.299	0.440	0	2.33	408
National Diffusion	0.331	0.539	0	2	408
State Wealth	35.381	12.012	22.38	123.02	407
Policies Considered Control	1.569	2.963	0	20	408
Heath Care Employment	0.032	0.011	0.01	0.07	391
Salience	15.477	19.630	0	138	408

Table 4 Model A

Determinants of Anti-Obesity Policies: Considered			
Independent Variables	*Coefficient*	*Marginal Effects*	
Problem Severity	0.015	0.005	
	(0.026)	(0.008)	
Democratic Legislature	0.009	0.003	**
	(0.005)	(0.001)	
Regional Diffusion	0.195	0.057	**
	(0.087)	(0.025)	
National Diffusion	-0.052	-0.015	
	(0.136)	(0.040)	
State Wealth	-0.012	-0.004	
	(0.013)	(0.004)	
Health Care Employment	-0.919	-0.267	
	(5.141)	(1.494)	
Salience	0.008	0.002	***
	(0.003)	(0.001)	
Policies Considered Control	0.289	0.084	***
	(0.024)	(0.007)	
Temporal Counter	0.109	0.032	**
	(0.043)	(0.013)	
Constant	-3.321		
	(1.895)		
N	375		
X^2	399.780		
Prob X^2	0.000		

***p<0.01; **p < 0.05; *p<0.10 (two tailed tests)
Robust standard errors in parentheses

Table 5 Model B

Determinants of Anti-Obesity Policies: Enacted			
Independent Variables	*Coefficient*	*Marginal Effects*	
Problem Severity	0.008	0.002	
	(0.044)	(0.013)	
Democratic Legislature	0.026	0.008	**
	(0.009)	(0.003)	
Regional Diffusion	0.282	0.081	
	(0.246)	(0.069)	
National Diffusion	-0.053	-0.015	
	(0.325)	(0.094)	
State Wealth	-0.002	-0.001	
	(0.023)	(0.007)	
Policies Considered Control	0.031	0.009	
	(0.065)	(0.018)	
Health Care Employment	-22.798	-6.582	
	(13.204)	(4.130)	
Salience	-0.002	-0.001	
	(0.006)	(0.002)	
Temporal Counter	0.012	0.003	
	0.079	(0.023)	
Constant	-2.365		
	(2.921)		
N	375		
X^2	15.750		
Prob X^2	0.072		

***p<0.01; **p < 0.05; *p<0.10 (two tailed tests)
Robust standard errors in parentheses

CHAPTER THREE

BUREAUCRATIC COLLABORATION TO REDUCE OBESITY

Abstract

The federal bureaucracy dedicated to health is large and growing, with many agencies sharing an objective to help Americans lose weight. In this chapter, I study how federal agencies cooperate – or not - to forge solutions to the obesity epidemic. Elinor Ostrom's Institutional Analysis and Design framework guides this qualitative research, which consists of semi-structured interviews augmented by documents review. Results indicate that collaboration among federal agencies is accepted and valued despite the absence of formal rules mandating it. Collaborative behavior may be a professional norm that is expected among public health policymakers and an inherent part of their training. I also learn that the role of resources is nuanced: bureaucrats cooperate as theorized to gain access to and share assets, especially expertise and data, but a certain level of resources is necessary to credential groups to participate in interagency initiatives.

SECTION I: INTRODUCTION

Health is a matter of growing concern in the United States. Individually, Americans are consuming more health care than ever, spending an average of $7400 per person every year for a total of $2.2 trillion. On a systemic level, the provision of medical care is an increasingly large part of the American economy at 15% of Gross Domestic Product, the largest in the industrialized world (CDC 2009b). Healthcare also occupies a significant portion of the public debate, an issue made more salient by the consideration and passage of the 2010 health reform bill. This legislation will further swell the ranks of the federal bureaucracy dedicated to health issues. The Department of Health and Human Services' (DHHS) eleven agencies and 64,750 employees administered a budget in 2008 of $708 billion, almost one-fourth of all federal expenditures (DHHS 2010).

The federal bureaucracy, responsible for tracking, administering, funding and regulating the practice of medicine, also promotes health through its support for research and education. The executive branch develops extensive educational programming aimed at improving Americans' health. In recent years, these efforts are being directed at the growing obesity problem and are designed to encourage healthy lifestyle choices in the hopes of reducing the number of overweight Americans. Dozens of agencies and offices within the DHHS share the goal of reducing obesity rates.

The DHHS recognizes the seriousness of obesity as a major health threat in the United States. Indeed, First Lady Michelle Obama recently lent her support to the *White House Childhood Obesity Action Plan*. Reducing obesity is a broad mission, and a challenging one in

light of the complexity of the problem. Obesity is a condition that contributes to many of the already prevalent diseases that plague Americans: heart disease, type 2 diabetes, high blood pressure and some cancers (CDC 2009a) and there is no consensus among researchers or policymakers on the exact set of factors that cause or exacerbate it.

Obesity is more than simply a health condition. Experts now consider obesity an epidemic with far-reaching economic ramifications: reduced employee productivity, rising disability rates and an unsustainable cost of more than $147 billion per year (Finkelstein et al. 2009). Its immediate cause, an imbalance of calorie intake and expenditure, is affected by any number of complicated factors: a built environment that discourages walking and bicycling, the relatively higher costs and lack of availability of healthy foods in many areas, the reduction in the number of physical education classes taught in schools, the sale of junk food in school cafeterias and a growing reliance on restaurant foods in working families. These distal causes of obesity are systemic, making obesity a public health - and a political – problem (Brownell 2005, Kimbro and Rigby 2010, Lakdawalla 2004, Monsivais 2007, Powell 2007).

An appreciation of the seriousness of the issue is evident throughout both the DHHS and the United States Department of Agriculture and the two departments' sub-agencies, institutes and offices. However, each approaches obesity from its own organizational perspective and objectives. The potential for duplication of efforts is very real in this scenario. James Wilson (1989) noted that the public's negative images of bureaucracy often arise from the perception of the bureaucracy as ponderous and process-driven. Inefficiencies result from 'overlap' (the duplication of responsibilities) and 'fragmentation' (the spread of responsibilities across multiple areas). Under these conditions, communication issues and a frequently balkanized structure often

stymie coordination of efforts (GAO 2002) and produce "…tension between institutional fragmentation and policy coordination in the U.S. bureaucracy…" (Thomas 2003). In complex environments, teamwork is often valued for its contribution to a division of labor – or expertise – that can attenuate these problems and improve productivity.

This is not to say that inter-bureaucratic cooperation does not exist but rather to point to the challenges that such collaboration faces from an institutional perspective. Given the breadth of authority inherent in the executive branch and its wide discretion in policymaking, knowing more about cooperative efforts between and among government organizations is important. A healthy literature analyzes networking among government and non-government groups and in such substantive areas as human relations and social and health groups (Hill and Lynn 2003, Hudson 1999, Huxham 2000). Less is understood about the interactions of various departments, agencies and offices within the federal government who share responsibility for anti-obesity efforts. Do these agencies work together to share resources and information, pooling their efforts to resolve the problem? Do they collaborate across different organizations to jointly address this public health problem? If they do, what factors predict cooperation among them?

In this chapter, I examine collaboration among federal agencies that share a commitment to finding a solution to obesity, asking the following: *what is the nature of bureaucrats' experience of interdepartmental and interagency collaboration in anti-obesity measures? What factors promote or inhibit such cooperation?*

To answer these questions, I draw upon the Institutional Rational Choice/Institutional Analysis and Development (IAD) framework conceptualized by Elinor Ostrom in her work on common-pool resources (see Figure 1) that suggests key characteristics of interagency

collaboration (Ostrom 2007). I conduct a series of semi-structured interviews with policy elites within the DHHS, as well as a review of existing documentation of these groups' strategic plans and performance reports. The IAD suggests that three categories of variables - community attributes, bureaucratic conditions and rules-in-use – will affect how individuals and groups work together to achieve common objectives. I use this framework to structure interviews with policymakers and researchers.

[Figure 1 about here]

I approach the chapter in the following manner. Section II outlines the IAD framework and introduces several theories that suggest collaboration-encouraging factors. These variables provide the foundation for the interviews and subsequent document analysis. Section III presents the methodological approach, offering details of how the evidence is collected as well as the challenges of such a technique. Section IV discusses the results of the investigation, highlighting patterns and anomalies. My conclusions follow in the final section.

SECTION II: THEORETICAL CONTEXT

Two broad categories of agency theory inform an understanding of why groups might cooperate. The first is rational choice. With roots in economic theory and a strong presence across the social sciences, rational choice theory is widely used. It presupposes that human beings maximize individual utility and that economic considerations guide their decisions. In this case, incentives or coercion can be required to induce desired behaviors. The second category of theories, socialized choice, does not assume that economic interests always predominate decision making. Some individual and organizational activity is purposive in nature and groups often default to cooperative behavior because of an inherent desire to meet shared organizational goals.

Bureaucrats' motivations are assumed to be aligned to their organization's missions (Lasker et al. 2001).

Institutional Analysis and Design

The IAD construction incorporates elements from both theories. This framework stipulates more than strictly economic incentives. Ostrom's model of the individual comports well with organizational theory: she proves through extensive game theory experiments that participants are not single-minded seekers of economic advantage but rather have mixed preferences. Bureaucrats, after all, can be expected to respond to such non-economic incentives as working and producing within a team, contributing to public service or caring passionately about their organization's mission (Downs 1967, Wilson 1989). Individuals are thus 'boundedly rational' in their behavior (Ostrom et al. 2002, Ostrom 2007).

Institutions play an important role in guiding bureaucratic and individual behaviors by structuring work rules and incentives that affect interactions among those in the bureaucracy, itself a formal and protocol-driven body (Wilson 1989). IAD facilitates a nuanced view of the individual and speaks more fully to a bureaucratic setting as these participants create and abide by rules that direct their activities (Ostrom 2007). The physical context, internal and external determinants within the policy community and the rules that guide behavior all bear on what happens in an 'action arena'. For the purposes of this work, the action arena is assumed to be at the 'operational' level in which bureaucrats on the ground produce 'patterns of interactions' that may be construed as conflict or collaboration.

IAD details a comprehensive set of categorical explanatory factors for bureaucratic behaviors within a decision-making system: *bureaucratic conditions* (the context), *community*

attributes (internal characteristics of the policy community), and *rules-in-use* (the rules that guide behavior). These factors guide the research in this chapter.

Bureaucratic Conditions

Bureaucratic conditions shape cooperation. For example, resource dependence theory implies that organizations can reduce uncertainty by accessing other groups and their assets (including knowledge, data, reputation, influence and other intangible resources (Hill and Lynn 2003, Huang and Provan 2007, Weiss 1987)). Lasker et al. (2001) build upon this theory by noting that adequate resources are a necessary contribution to 'synergy', or successful collaboration. In this chapter, I consider both tangible resources (financial), and intangible resources (expertise and training).

Community Attributes

A key attribute in successful working relationships is reciprocal trust among individuals and groups. Without trust, interactions (if they take place at all) are likely to be marked by destructive behaviors such as the withholding of information or unwillingness to contribute. Ostrom agrees on the importance of trust, which she depicts as one of several valuable "norms of behavior" (2007, 43) and notes further that mistrust makes consensus about the rules of engagement even more difficult. Lasker et al. fold this into their theory of synergy, predicting that those who share a mutual trust (among other attributes) are more likely to be successful collaborators (2001).

Strong leadership, in the form of an entrepreneurial figure who models and drives collaboration, will draw others to such interactions. Bardach's craftsmanship theory terms such a figure "critical" (2001, 157) in setting the stage for successful interagency collaboration. My

interviews explore the extent to which such an individual instigated formal collaboration, and without whom it might not take place.

Rules-in-use

Finally, the rules that govern interactions within and between agencies structure interactions in "social dilemmas" and collective action problems (Ostrom 1999). Groups and group members are more likely to work together productively if formal directives exist to compel cooperation. For example, rules can take the form of incentives, such as financial rewards to encourage desired outcomes (Hill and Lynn 2003), or oversight, such as mandates and directives for cooperation. Incentives and oversight formalize performance objectives among staff and groups, and act as 'rules-in-use' that can promote and even automate cooperative actions and activities (Ostrom 2002, 2007). I investigate the presence and possible effect of these rules in the interviews and documents.

Figure 2 builds upon the IAD framework by inserting these variables of interest. Those depicted in bold font are the subjects of this research.

[Figure 2 about here]

SECTION III: METHODS AND DATA

In depth qualitative research methods are appropriate for this investigation because there is a dearth of existing data focused on obesity-related interagency collaboration. And while sophisticated quantitative methods provide important predictive value to researchers, "Relatively little can be learned about public organizations through numbers, data sets and equations…if we want to understand agency behavior more broadly we have to go well beyond existing or manufactured data sets" (Thomas 2003, 281). Before the value of quantitative analyses can be

realized, the dimensions and exact processes (of what is, not what is supposed to be) must be precisely understood (Murphy et al. 2003, Thomas 2003).

Semi-structured interviews occupy a middle ground between unstructured interviews, in which interviewers know little of a topic and ask broad questions to define the contours of a problem, and surveys, which feature closed-ended questions created after significant previous research has taken place (Leech 2002, Murphy et al. 2003). The semi-structured interview is designed to elicit information, in this case about collaboration from organizational elites, experts in their field whose experience can be tapped for insight into how cooperation does – or does not – work (Aberbach and Rockman 2002).

While semi-structured interviewing offers important potential for scholarship, it has weaknesses. Open-ended questions can potentially lead an interview in unexpected directions. Such variability can be positive or negative, but reliability and validity may suffer. The more flexible and open-ended the interviewing, the larger the risk that its results will not be generalizable across interviews (Berry 2002, Goldstein 2002, Leech 2002). The skills of the interviewer are necessarily variable: some will be talented at building rapport and probing, able to manage the interview process, while others may be less intuitive and less capable of garnering valuable information. Access to the ideal informants, question type and order, voice-recording versus note-taking, obstacles to neutrality and other technical issues all present challenges that require diligent planning to overcome successfully (Delaney 2007, Dexter 1970, Hammer and Wildavsky 1989, Peabody et al 1990).

Interview Guide

I rely upon both traditional (Aberbach et al. 1975, Dexter 1970, Kingdon 1989, Merton 1956, Wildavsky 1989) and contemporary experts (Agranoff 2007, Cassell and Symon 2004, Delaney 2007, Leech 2002, Murphy et al. 2003) to develop the interview questions. The *Interview Guide* (see Appendix A) features a letter of introduction and a list of probes designed to elicit in-depth information about policy elites' experience with inter-agency cooperation. Specifically, I ask about bureaucratic conditions (budgets and training), community characteristics (reciprocal trust and the presence of an entrepreneurial leader), and rules (mandates and rewards for collaborative behaviors). At the same time, I was open to the possibility that these interviews would yield unexpected information that would enhance my understanding of both obesity policymaking and bureaucratic dynamics.

The Human Subjects Committee of Lawrence (Kansas) approved this research on January 23, 2009 (see Appendix B), after which I conducted interviews between February and September 2009. The sessions typically lasted from 30 to 45 minutes, though several participants were willing to talk as long as an hour to an hour and a half. I spoke with them in person whenever possible; telephone conversations were necessary for half of the interviews. No voice recordings were possible as participants expressed discomfort with this approach. I transcribed interview notes to electronic word-processing files generally within 48 hours and all files and the computer are secure and password-protected. There are no references to individuals' names and titles in this chapter.

Sampling

The sample frame consists of staff from four organizations within DHHS that share an objective to reduce obesity rates: the Food and Drug Administration (FDA), the National

Institutes of Health (NIH), the Centers for Disease Control and Prevention (CDC) and the Office of the Surgeon General. Interviewing employees in these four organizations permits an investigation of cooperation across agency boundaries. Sampling is opportunistic; given limited resources in time and travel funds, snowball sampling quickly became necessary.

Access

The literature on interviewing recommends a strong introductory letter to prospective targets. My letter clearly outlines the goals of the research, how it would be used, the amount of time necessary, promises of confidentiality, the mechanics of how information would be captured, my full contact information and that of my advisor (Goldstein 2002; see the Interview Guide in Appendix A for the letter's text). One week after anticipated receipt of my letter, I sent an electronic mail message or telephoned the target to request a formal date for the interview. Recognizing that it might require more than one contact to gain a commitment, I demonstrated polite but steady persistence. In all, I approached 68 potential interviewees and conducted 12 interviews. This lower than expected response rate may be due to the economic recession and its accompanying pressures, as well as recent changes in executive leadership. Moreover, these organizations are shallow; once I had contacted one individual, his or her peers often redirected me to their supervisor. Despite these limitations, the interviews yield rich information and interesting results.

Documentary Evidence

To augment the interview results, I also examine documentary evidence from the relevant organizations. This effort to triangulate types of evidence is valuable in most other qualitative research, and I follow this lead in analyzing public documents for references to obesity and

collaboration (Karch 2007). Using organizational charts, I listed the agencies from which I drew interviewees, then added the formal groups within DHHS and USDA involved in anti-obesity policy work, either from references from the interviews or from the individual websites. I searched for the following documents: mission and vision statements, strategic plans and performance reports (sometimes called reports to stakeholders or other variations on the title). To analyze the documents, I read each, then counted the meaningful mentions of the terms 'collaboration' and 'obesity,' defining as meaningful those references to collaboration with other federal groups, not simply generic mentions of collaboration or those that noted work with outside groups (usually corporate and nonprofit organizations).

SECTION IV: RESULTS

Interviewee Characteristics

The agency associated with the highest number of responses (nine) is the National Institutes for Health (NIH). Four of the nine NIH respondents work with the National Cancer Institute (NCI), three with the National Institute for Diabetes Digestive and Kidney (NIDDK), one from the Centers for Disease Control and Prevention (CDC) and one from the National Heart Lung and Blood Institute (NHLBI). The remaining participants are from the Food and Drug Administration (FDA). Most hold senior level positions at the director level and above. Two are executives and four are staff level researchers and analysts. All have earned advanced degrees: six doctors of philosophy (PhD), one medical doctor (MD), three MD/PhDs, one PhD/registered dietician and one Master of Science/registered dietician. Table 1 summarizes the interviewee characteristics.

[Table 1 about here]

The interviews and documents offer valuable insights into federal agency collaboration. Collaboration is clearly an integral part of the policy community dedicated to obesity reduction efforts within the NIH and FDA. It is not only an accepted, but also a welcome element of these interviewees' jobs, something that they do because it is "second nature" to them.

Before discussing the factors associated with cooperation (bureaucratic conditions, community attributes and rules-in-use), I provide a summary of the positive responses in Table 2 (see the Interview Guide in Appendix A for question wording). Overall, there is considerable alignment and consistency among the interviewees. Senior staff with leadership responsibilities are no more enthusiastic about collaboration than those with less authority (though the latter believe that resources are generally insufficient). Nor is there much variation across agencies; NIH respondents express perhaps more appreciation for cooperation than those in the FDA, possibly because they are a larger organization and more of their work is about obesity. Table 3 presents the documentary evidence.

[Table 2 about here]

[Table 3 about here]

Bureaucratic Conditions: Financial Resources

Resources are a key requirement for successful collaboration, and all respondents agree that they cannot do their jobs well without adequate funding. However, they are split along leadership/staff lines in their response to the question of financial and personnel resources. While staffers are more comfortable with what they have been allocated, department directors and managers are unanimous in their conviction that obesity research is under funded, both on an

individual agency budget level and from a systemic perspective. Two interviewees indicate that the amount of funding for obesity research is disproportionate to obesity's costs to the system.

But more than budgetary pressures compel cooperation. While all of the responses citing insufficient money and staff are consistent with resource dependence theory and its tenet that organizations cooperate to gain access to others' assets, several of those in leadership positions indicate that such a view is too simplistic, for two reasons. First, in addition to the need for adequate funding and staff, there is a persistent need for information and knowledge. Money can of course purchase resources like population level data. However, it is more productive to invite epidemiologists from organizations like the National Center for Health Statistics (NCHS) to participate directly in research projects, with the understanding that "more heads are better than a few." Data, methodological expertise and analytical skills are valued across all organizational boundaries and are an attractive asset when seeking research partners. Several responses indicate that cooperation with other teams is necessary as the agencies are encouraged to be ever more creative in the design and conduct of novel research methods and studies: NIH is increasingly de-emphasizing original clinical research in favor of population level work to investigate obesogenic behaviors. Without support from other teams, e.g., the National Center for Health Statistics (NCHS), who compile individual level data on health conditions and on whom many researchers are "totally dependent," such research would not be successful.

Second, resources provide a more subtle advantage. While these bureaucrats need to be able to "demonstrate broad support – political support" by obtaining "more views, more support, more buy-in" to gain resources, this need is more complex. Larger budgets are not valuable just for getting work done. Resources buy potential collaborators a right to participate in important

projects and teams. Adequate resources "credential" one's group so that it "earns a place at the table." If a group is poorly funded, it comes to a partnership – if it is invited at all – from a position of weakness. Having "something to share is what allows these conversations to take place" is how one manager described this dynamic. Resources yield leverage. Thus, while resource dependence theory posits that groups collaborate because they need more resources, the distinction is more complex: some level of resources is necessary in order to participate at all. No one would argue that groups collaborate in order to maximize output by sharing inputs. However, while means-testing does not appear to be explicit, a prerequisite of capital is essential.

Bureaucratic Conditions: Experience and Training

Experience with teamwork can lead to greater collateral achievements; when individuals and groups have participated in team projects before, their skills improve (Bardach 2001, Daley 2008, Lasker et al. 2001). I find no evidence in the interviews or documents of formal training on how to successfully collaborate with other federal agencies on anti-obesity research or programs. The government offers professional development classes designed to enhance teamwork and facilitate productive group work, but none is specifically geared toward multi-agency work and this training pales beside the wealth of science and technical classes. The FDA appears to have more formal processes in place to encourage such efforts. Its 'Staff College' offers a variety of skills training, but teamwork training appears to be focused within a traditional management training curriculum. Most respondents count on collaborative skills being "hired in" and assume that it is required of job candidates. All new employees are expected to share this value and this ability; most have a demonstrated track record of doing so, and the attrition process is expected to take care of those who are unwilling or unable to work together productively. One interviewee

reports that as public health professionals, they are automatically both adept and comfortable with cooperation in the workplace, as this norm is part of their training. Public health curricula reflect the value of trans-disciplinary approaches in scientific research, leading one respondent to note that for researchers at her professional level, cooperation is "who they are…second nature."

A review of the selected documents reflects no support for the existence of formal training. While none of the reports features plans or specific requirements for training programs, the many references to inter-agency collaboration confirm that the trait of collaboration is likely considered in the recruitment process. Experience is integral; however, formal training is not.

Finally, while this research is not directed at structural determinants of collaboration, some interviewees cite institutional pressures on collaboration. Groups working on obesity issues tend to be small and numerous, and widely distributed across DHHS. This broad but shallow structure suggests that groups will routinely look to others for data, expertise, co-authors and work partners, prompting one interviewee to remark, "…you have to be a connector to work in obesity policy." No one team enjoys the luxury of having a complete set of research skills spanning the continuum from basic science through program implementation. This finding from the interviews is consistent with Ostrom and others who study the effects of institutional and structural determinants on behavior and decision making (Ostrom 2007, Wilson 1989).

Community Attributes: Trust

Collaboration is more than simply a successful technique or job skill: it is a part of the culture and something these employees value per se, even enjoy. The phrases "passion" and "culture of cooperation" frequently describe experience with interagency cooperation. "The majority of people want to do the right thing" is a sentiment that describes many interviewees'

dedication and almost all are thoroughly dedicated to the goal of improving the nation's health. While several participants report that working together is not always problem-free, all agree that cooperation is integral, competition with other groups is not necessary or tolerated, and trust and reciprocity are endemic, both among individuals and groups.

In the interviews, I ask separate questions about trust and reciprocity. The responses complement one another, often triggering a thoughtful pause followed by enthusiastic discussion. Trust as a characteristic of both the inter-group relationships and as an individual trait is expected and valued. As noted earlier, those trained in public health suggest that collaboration is "built into" their education. Two participants extend this reasoning, reporting that public health professionals typically demonstrate trust because their career success is predicated upon their ability to pull data and resources from related health and academic fields. Additionally, in order to demonstrate successful outcomes among the public – improved health, reduced disease burden – they rely upon many other organizations, public and private, to disseminate their interventions and educate the public.

When trust flourishes, it is at least in part due to both sides' willingness to share credit for projects, work and success. Most interview responses indicate scrupulous attention to full attribution and recognition for joint work. Since many of these research projects are co-funded, omitting proper credit would be detrimental to future efforts. In fact, according to one analyst, they actively seek out opportunities to highlight others' contributions; "it is the future." All staffers are encouraged to "try really hard" to ensure that all reports are consensus documents. As one leader comments, "There is seldom one author on anything that goes out of here." This commitment to apportioning credit properly and publicly – indeed spotlighting others'

contributions – extends to public presentations and project implementation, and is considered both the right thing to do as well as a tool to encourage reciprocal credit-giving. Such ingrained behavior indicates that this skill may have acquired the status of a professional norm, a rule whose violation might hinder professional development.

More pragmatically, those in leadership positions specify that in order to "build collaboration in" it must be part of all planning processes. Even the most cynical staff-level participant agrees that if the rules of engagement are written clearly enough and the distribution of responsibility explicit, trust is enhanced because there is less room for misinterpretation. The FDA formalizes trust-building even further by requiring that each of its centers create and use a formal 'dispute resolution strategy.' This is not unexpected given that the FDA's regulatory function compels the development of formal processes. I am unable to discern through the interviews and documents review if the FDA intentionally builds trust through its adherence to process and procedures or if it is a side effect, but FDA interviewees imply that it is very real.

Under certain conditions, reciprocal trust is diminished. There is relatively less trust working across departments, e.g., between DHHS and USDA, than within them, probably because larger organizational boundaries are more difficult to span. Respondents also speculate that different cultures and missions drive interests and work products. Skepticism, even sabotage, are not unknown but the three references to it concede that these are exceptional cases, not the rule, especially within one's own agency and among peers. Such violations, all agree, are generally the result of individual actions and reciprocal inter-agency trust is not permanently damaged.

Community Attributes: Leadership

Two individuals self-identify as leaders, and these are closely related to the entrepreneurial types theorized by Mintrom (1997) and Mintrom and Norman (2009): visionaries who perceived the depth and consequences of the obesity epidemic in its early days, and who demonstrated extraordinary energy and support for action. Both have decades of experience that dates to a time before obesity appeared as a public health issue and both successfully built early coalitions and made significant research contributions. One brought four NIH institutes together in 1998 to develop the Clinical Guidelines for Overweight and Obesity that established the Body Mass Index (BMI) measure, without which the research community could not have made the progress demonstrated to date. The other entrepreneurial spirit describes his work as entirely collaborative: his job function, highly placed in the Office of the Surgeon General, is to bring groups together and lead trans-agency teams. He "directs traffic," as he describes it, assigning objectives to the appropriate teams and encouraging a "tradition of cooperation." Two others also identify this gentleman as an early leader in the obesity reduction movement.

Others are unable to name a person who currently fits this role, though one interviewee notes that it is possible that someone of such stature might have preceded her tenure. "Opinion leaders" do exist, those with the institutional memory and knowledge to discern how best to get something done, though the only name that emerges is that of a department manager who routinely emphasizes the importance of cooperation. The absence of an over-arching figure may also explain why document review neither confirms nor contradicts these findings. The reports and strategic plans tend to be general and contemporary, reflecting little history.

Rules in Use: Mandates

Little about collaboration on obesity work is formalized within these teams and scant need is expressed for greater explicitness in objective setting, formal mandates or incentives, leading me to conclude that while cooperation is assumed and necessary to meet broader objectives, it does not occupy a formally stated role in the employment process or records. Most interview participants are very happy with their work and the component of collaboration inherent in it. It appears to be "built in" to job responsibilities, so integral to their objectives that two participants express surprise that it is an interview question. Collaboration is "informal but very real," but does not appear on performance objectives or evaluation documents. In many cases, it has grown and matured organically, as part of the expansion of the obesity-reduction federal effort. It is "understood," and a result of "shared passion" for the issue. Many of the interviewees are driven by purposive benefits, referring frequently to a shared commitment to their jobs and to their anti-obesity mission.

The absence of explicit performance directives notwithstanding, formal programs often precipitate increased collaboration and could be considered a type of mandate. Document analysis provides evidence of several large-scale initiatives. For example, DHHS issued a call to action entitled the *Obesity Initiative* five years ago, specifying the creation of an inter-agency working group for planning purposes. Another example is the *Healthy People* program: *Healthy People 2000, 2010* and *2020* are iterations of a formal federal effort co-sponsored by the FDA and the NIH. The *NIH Obesity Taskforce* institutionalized cooperation into NIDDK's and NHLBI's *Child Health Initiative*. It is possible that the top-down pressures of these programs drive collaboration. Certainly the interviews yield evidence that collaboration is politically expedient in these highly visible programs.

One executive is participating in a growing movement to help design federal legislation with collaboration language 'mandated' into it. One example of this trend is the state children's health insurance (SCHIP) renewal bill of 2009 that calls for NIH, CDC and others to work together in its implementation. Noting that opportunities to influence language in bills is growing in other health policy areas, this interviewee expresses hope that as legislation to fight obesity emerges, bureaucrats charged with administering these laws will be able to contribute to strong terms that will result in more effective implementation.

Rules in Use: Incentives

The IAD framework suggests that individuals respond to financial incentives. As mentioned in Section II, however, the model for the individual in IAD is boundedly rational, and assumes that other rewards will encourage collaborative behavior. To be as precise as possible in the interviews, I ask participants if they receive financial incentives, such as salary increases or bonuses predicated upon collaborative activity with other federal groups. There are no programs or contests, ad hoc or perennial, to 'pay for performance' in cooperating with others. Other sorts of recognition are common, particularly team recognition at staff meetings and annual ceremonies but collaboration of itself is not rewarded by money, promotions or career advancement. Rather, collaboration is necessary to meet goals and objectives and thus its practice is assumed to be part of every day work. Anti-obesity researchers, as one individual expresses it, "share the goal of improving the nation's health and partner to leverage more actions…and will succeed if we integrate our actions and initiatives." These non-monetary awards do not drive behavior, according to the managers among the interviewees, but do reward

it. Money plays a role, as I mention earlier, but only as a means to earn participation rights, not in a manner designed to induce desirable cooperative behaviors.

Not unexpectedly, the documents do not refer to bonuses or financial rewards for collaboration. No mention of these tactics appears in any of the plans or reports, though they, like the interviewees, reflect an appreciation and an expectation for collaboration.

SECTION V: CONCLUSIONS

Policy implementation within the federal bureaucracy has been the subject of much research, political debate and occasional public derision. The branch of government charged with executing legislative action, presidential directives and bureaucratic rules does its work under challenging conditions: budgets are tight, uncertainty is high, and political pressures are burdensome. The bureaucracy's sprawling nature and broad responsibilities often result in duplication and fragmentation that confer added tensions to a complex system.

Given these pressures and the need for more resources and ever-greater expertise, groups within the bureaucracy turn routinely to collaborative efforts with others who might share their mission. This chapter finds that collaboration is not only alive and well among federal bureaucrats who analyze, study and implement anti-obesity policy, it is such an integral part of daily functioning that it is no longer explicitly considered; it is simply assumed. Every interview and most documents indicate that collaboration is entrenched in the way these groups and individuals conduct their anti-obesity work. While there are clear boundaries between agencies and groups, the image of government silos populated by task-oriented, disinterested bureaucrats is not wholly accurate, at least not within DHHS's anti-obesity community.

From a theoretical perspective, this research highlights the usefulness of the IAD framework as an organizational instrument. Its expansive, category-oriented structure easily accommodates organizational theories and offers direction for the research itself. Drawing upon such theories as resource dependence and synergy theory, I explored two bureaucratic conditions (resources, training and expertise), two community attributes (trust and leadership) and two rules-in-use (mandates and financial incentives).

Clearly, resources are necessary for collaboration to occur; however, they serve more than an operational purpose. The groups with more resources have a better chance to be "in on the important projects" and teams, their resources having earned them the credibility and credentials necessary for inclusion. The more a group brings to the table, the greater its potential leverage over the work and results. Training and expertise in cooperative behaviors are instrumental in encouraging a collaborative working environment, but there is little evidence to support the contention that formal training programs are necessary. Rather, most confirm that, as public health researchers, they have already been trained to those skills during their educational programs. New recruits are expected to bring that training with them and so teamwork is "hired in," reflecting its potential status as a professional norm and expectation.

Mutual trust is part of the bureaucratic culture among obesity researchers and analysts. A healthy culture, as many organizational theorists confirm, is central to organizational performance success (Downs 1967, Wilson 1989, Bardach 2001). Trust, all interview participants agree, is a fundamental component of collaboration, and most feel that it is evident in their work. Since the production of research and knowledge is a common goal, the sharing of credit is an important contributor to mutual trust. Co-authorship and credit-giving do more than

demonstrate good faith, of course. The reciprocal trust they engender ensures that when others' skills or data or knowledge are needed in the future, they will be available, as synergy and other organizational theory suggests (Bardach 2001, Lasker et al. 2001, Ostrom 2007). Leadership appears to be important in a historical sense. Entrepreneurial figures may well have been important instigators in the early days of bureaucratic obesity research; however, with the exception of the two who self-identify as leaders, most responses indicate that the role of senior leadership in their agencies is more of maintenance than of crusading. Perhaps collaboration in so ingrained at this point that such a presence is no longer necessary.

I expected to find that competition among researchers, for funding and for recognition, drives the need for explicit rules and mandates requiring cooperation, but the results do not bear out this assumption. This is surprising, given that the bureaucracy tends to be a process-driven body, and its functionality is perceived to be a result of clearly stated and oft-repeated policies and procedures. On the other hand, it is possible that previous investment in collaboration has created an ingrained culture of cooperation, in which such behaviors are second nature. These results suggest that rules governing individual interactions have gained the status of norms whose existence and value are no longer questioned. On the other hand, large-scale cross-agency programs such as *Healthy People 2020* indicate that a broader interpretation of rules and mandates might be helpful.

Not all respondents express unanimity about the depth of collaboration. One director notes that less cooperation exists *across* agencies and much more *within* them. A mid-level staffer discloses that there is a great deal more discussion about collaboration than actual

collaboration, and while his attitude is more wry than negative, it highlights the potential for a mismatch between intentions and reality.

Collaboration theory assumes that coordination of efforts is a constructive phenomenon that yields positive results. Although scholarship is rich with descriptive analysis and framework building (Bardach 2001, Hill and Lynn 2001, Lasker et al. 2001, Weiss 1987), few studies have taken the analysis a step further to test whether collaboration actually improves outcomes (Lasker et al 2001). Certainly this is in part due to the difficulties of determining both the exact nature of collaboration or ultimate success; however, it is a logical next step for future research to look past cooperation to outcomes.

The application of formal network theory may also provide better understanding of how collaboration works with obesity. As Agranoff (2007) and others conclude, policymaking and programming are increasingly a result of public-private partnerships composed of federal bureaucrats, non-profit organizations and corporations. It would be interesting to know if these networks are becoming more formalized. Several interviewee participants direct me to expand my future research to include corporate and 'think tank' non-profit organizations.

The results of this research are preliminary, but suggest that collaborative behaviors are entrenched in the obesity research bureaucracy. If formal rules and mandates are not necessary, and a strong leader no longer apparent, if these skills are 'hired in' and not mandated, other questions emerge. For example, how did these collaborative working relationships evolve over time? Will organizational boundaries separating groups blur to accommodate this trend? How will formal structures change in response to these organic pressures for more interagency work? Like much qualitative and quantitative research, this work raises more questions than it answers.

Hopefully, in the pursuit of answers to questions about the bureaucracy, scholars can also make real progress to learn more about obesity.

APPENDIX A: Human Subjects Review documentation

Human Subjects Review

I submitted the proposal to the Human Subjects Committee of Lawrence (HSCL) for approval. The HSCL handbook reveals that the conduct of interviews is not exempt from HSCL review. However, it may be considered 'No risk research" and thus may qualify for expedited review: 45 CFR 46.101(b)(2) identifies "No Risk Research" as "...involving the use of educational tests (cognitive, diagnostic, aptitude, achievement), survey procedures, interview procedures or observation of public behavior….unless…the human subjects can be identified, directly or through identifiers linked to the subject…."

The HSCL approved this research via email on January 23, 2009. Its approval was renewed upon completion of an email update in February 2010.

Appendix A (continued): Human Subject Committee approval letter

KU RESEARCH & GRADUATE STUDIES
The University of Kansas

1/23/2009
HSCL #17793

Gail Rodriguez
8052 Hall St.
Lenexa, KS 66219

The Human Subjects Committee, Lawrence Campus (HSCL) has received your response to its expedited review of your research project

17793 Rodriguez/Daley (POL SCI) Bureaucratic Cooperation and Collaboration in Anti-Obesity Policy

and approved this project under the expedited procedure provided in 45 CFR 46.110 (f) (7) Research on individual or group characteristics or behavior (including, but not limited to, research on perception, cognition, motivation, identity, language, communication, cultural beliefs or practices, and social behavior) or research employing survey, interview, oral history, focus group, program evaluation, human factors evaluation, or quality assurance methodologies. As described, the project complies with all the requirements and policies established by the University for protection of human subjects in research. Unless renewed, approval lapses one year after approval date.

Since your research presents no risk to participants and involves no procedures for which written consent is normally required outside of the research context HSCL may waive the requirement for a signed consent form (45 CFR 46.117 (c) (2). Your information statement meets HSCL requirements. The Office for Human Research Protections requires that your information statement must include the note of HSCL approval and expiration date, which has been entered on the form sent back to you with this approval.

1. At designated intervals until the project is completed, a Project Status Report must be returned to the HSCL office.
2. Any significant change in the experimental procedure as described should be reviewed by this Committee prior to altering the project.
3. Notify HSCL about any new investigators not named in original application. Note that new investigators must take the online tutorial at http://www.rcr.ku.edu/hscl/hsp_tutorial/000.shtml.
4. Any injury to a subject because of the research procedure must be reported to the Committee immediately.
5. When signed consent documents are required, the primary investigator must retain the signed consent documents for at least three years past completion of the research activity. If you use a signed consent form, provide a copy of the consent form to subjects at the time of consent.
6. If this is a funded project, keep a copy of this approval letter with your proposal/grant file.

Please inform HSCL when this project is terminated. You must also provide HSCL with an annual status report to maintain HSCL approval. Unless renewed, approval lapses one year after approval date. If your project receives funding which requests an annual update approval, you must request this from HSCL one month prior to the annual update. Thanks for your cooperation. If you have any questions, please contact me.

Sincerely,

David Hann
Coordinator
Human Subjects Committee Lawrence

cc: Dorothy Daley

Human Subjects Committee Lawrence
Youngberg Hall | 2385 Irving Hill Road | Lawrence, KS 66045 | (785) 864-7429 | Fax (785) 864-5049 | www.rcr.ku.edu/hscl

APPENDIX B Interview Guide

Cooperation and Collaboration in Anti-Obesity Policymaking: Interview Guide

Gail Rodriguez
gmrodrig@ku.edu

Part 1: Letter of Request to Participate in Interview

Dear Sir or Madam,

My name is Gail Rodriguez and I am a PhD candidate at the University of Kansas. I am studying Health Policy with an emphasis on anti-obesity policy. My doctoral research examines bureaucratic efforts to reduce obesity levels. I am particularly interested in understanding how different agencies and groups within the federal bureaucracy coordinate their efforts when they share policy objectives.

Though many agencies are charged with the goal of reducing obesity, little is known about how public servants cooperate across agency or departmental boundaries when they share such a common goal. In my research I investigate such cooperative efforts: what is the nature of collaboration and what are the factors that promote or inhibit it?

I am writing to ask that you participate in an interview with me so that I might gain such knowledge. This interview will ask questions about your experience with cooperation with other organizations in the federal bureaucracy to reduce obesity levels. It will take no more than 30 – 45 minutes and can be scheduled at your office or at a location convenient to you. Since I do not live in [Atlanta, Washington DC], I ask only that I be able to meet with you during one of two weeks that I shall be in town [name dates].

This information is for research purposes only and your full confidentiality and anonymity are assured. At its conclusion, I shall share with you its results as well as any future publications that might arise from it. If you would like to see references I am happy to provide them; additionally, you may write to my advisor to gain more information if you desire:

Dorothy Daley, Associate Professor
University of Kansas Department of Political Science

1541 Lilac Lane 504 Blake Hall
Lawrence, KS 66044
785.864.9839
daley@ku.edu

If you have any questions about your rights as a research participant you may contact the Human Subjects Committee Lawrence Campus (HSCL) office at 864-7429 or 864-7385 or write the Human Subjects Committee Lawrence Campus (HSCL), University of Kansas, 2385 Irving Hill Road, Lawrence, Kansas 66045-7563, email dhann@ku.edu or mdenning@ku.edu.

I thank you very much in advance for your help as I continue my study of this very important policy domain. In the next few days, I shall send to you an email or telephone your office to follow up on a possible meeting time.

Sincerely,

Gail Rodriguez

PhD Candidate
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Part 2: Script for the Interview Introduction

Thank you very much for taking the time to participate in this interview. Your responses will contribute to important research that will help identify the factors that lead to or encourage cooperation among groups who work together for common goals.

Interview purpose
Specifically, this research will explore your experience of cooperation with individuals in other agencies and organizations in your work to develop anti-obesity policy and programs. Several questions will ask you to think about your interactions with other groups or teams within the federal bureaucracy who share a common goal to reduce obesity.

Your role
Please consider the work you do with other groups that is intended to help reduce obesity levels among Americans. Your job no doubt features far more than obesity-reduction efforts; however, I ask that you only think about inter-group collaboration on programs designed to address overweight and obesity in America. With your permission your responses will be audio-recorded.

Confidentiality
Please know that your responses will be held in complete confidence. No one except myself will be able to connect your name and contact information to your responses. No one will share or sell your email address or contact information to anyone else.

Regulations
All the appropriate state of Kansas and University of Kansas regulations regarding study design and administration have been meticulously followed.

Time
A trial run of this interview indicated that it should take approximately 30 – 45 minutes to complete.

Part 3: Interview Questions

1. For the part of your job that involves obesity reduction efforts, do you ever work, formally or informally, with individuals and/or groups from other agencies or organizations?

2. If so, what does that joint work consist of?

3. Does your organization require cooperative efforts with other groups? If so, how much of your day-to-day work involves such cooperation?

4. Does your performance review evaluate formal or informal cooperation on shared obesity-reducing objectives and if so how is cooperation judged in your job performance?

5. What standard operating procedures are in place to ensure and formalize cooperation?

6. What sorts of incentives are you offered to for cooperating with other agencies on anti-obesity programs or for meeting shared goals?

7. What prior experience do you have in formal or informal cooperation with other groups? What training have you received that is designed to encourage cooperation with other groups?

8. Can you identify an individual or individuals, within your or your cooperating agency partner, who served as a leader or champion of cooperation with the other agency or group? Was it a formal or informal, assigned or voluntary appointment? What was he or she like?

9. In working with this cooperative partner agency or group, how would you evaluate the overall level of trust among individuals for those in the other agency or group? Do you sense that the members of the other group share that trust?

10. Do you think that your partner agency or group contributes equally, more or less to your shared objectives?

11. How much is your organization's annual budget? Is it sufficient to meet your goals of cooperating with other groups? Do you have enough staff to meet these objectives?

12. How important do you personally consider such inter-group cooperation to be to the successful achievement of the shared objective(s)?

13. How would you characterize the cultural support – the mood, positivism and general attitude and enthusiasm for cooperation - within your organization for these joint initiatives?

14. Is there anything else you can tell me that I have forgotten to ask?

Interview considerations

- Recognizing the many pitfalls that await interviewers (Berry 2002, Goldstein 2002, Hammer and Wildavsky 1989, Peabody et al 1990, Delaney 2007, Dexter 1970, Kingdon 1989, Cassell and Symon 2004, Merton 1956, Aberbach et al. 1975, Leech 2002, Murphy et al. 2003). I shall follow their lead in addressing the following issues.

- I shall formulate and ask questions in as unbiased and objective manner as possible, grounded in IRC/IAD theory, and taking care not to lead the informants or otherwise 'put words in their mouths.' While I shall do my best to induce candor among the participants, I shall nonetheless be cognizant of interviewer effects such as reflexivity and attempt to minimize them.

- In my interactions with the informants as well as any analysis of the results, I shall strive to communicate in a clear and transparent manner, so that both participants and consumers of this research will be able to judge the quality of its outcomes.

- I shall actively seek out any contradictions to my hypotheses or unexpected results. As my purpose is to gain knowledge rather than to prove or disprove a hypothesis, I shall enjoy the luxury of an agenda with few preconceived conclusions.

- Probing well and listening actively are important skills to be practiced before the first interview takes place.

- Interview notes will be completed, documented and transcribed within 48 hours of each interview and sooner if no recording is captured.

WORKS CITED

Aberbach, Joel D., James D. Chesney, and Bert A. Rockman. "Exploring Elite Political Attitudes: Some Methodological Lessons." *Political Methodology* 2 (1975): 1-27.

Aberbach, Joel, and Bert A. Rockman. "Conducting and Coding Elite Interviews." *PSOnline* (2002): 673-6.

Agranoff, Robert. *Managing within Networks: Adding Value to Public Organizations*. Washington DC: Georgetown University Press, 2007.

Bardach, Eugene. "Developmental Dynamics: Interagency Collaboration as an Emergent Phenomenon." *Journal of Public Administration Research and Theory* 11, no. 2 (2001): 149-64.

Berry, Jeffrey M. "Validity and Reliability Issues in Elite Interviewing." *PSOnline* (2002): 679-82.

Brownell, Kelly D. "The Chronicling of Obesity: Growing Awareness of Its Social, Economic, and Political Contexts." *Journal of Health, Politics, Policy and Law* 30, no. 5 (2005): 955-64.

Cassell, Catherine, and Gillian Symon. *Essential Guide to Qualitative Methods in Organizational Research*. Thousand Oaks, CA: Sage Publications, Inc., 2004.

CDC. "Health, United States, 2009: In Brief." Atlanta GA: National Center for Health Statistics, 2009b.

———. "Obesity - at a Glance." Atlanta: Centers for Disease Control and Prevention, 2009a.

Delaney, Kevin J. "Methodological Dilemmas and Opportunities in Interviewing Organizational Elites." *Sociology Compass* 1, no. 1 (2007): 208-21.

Dexter, Lewis Anthony. *Elite and Specialized Interviewing*. Evanston, IN: Northwestern University Press, 1970.

DHHS. "HHS: What We Do." Department of Health and Human Services, http://www.hhs.gov/about/whatwedo.html.

Downs, Anthony. *Inside Bureaucracy*. Boston: Little, Brown and Company, 1967.

Finkelstein, Eric A., Justin G. Trogdon, Joel W. Cohen, and William Dietz. "Annual Medical Spending Attributable to Obesity: Payer- and Service-Specific Estimates." *Health Affairs* 28, no. 5 (2009): w822-w31.

GAO. "Results-Oriented Management: Agency Crosscutting Actions and Plans in Drug Control, Family Poverty, Financial Institution Regulation, and Public Health Systems." edited by United States General Accounting Office. Washington DC, 2002.

Goldstein, Kenneth. "Getting in the Door: Sampling and Completing Elite Interviews." *PSOnline* (2002): 669-72.

Hammer, Dean, and Aaron Wildavsky. "The Open-Ended, Semistructured Interview: An (Almost) Operational Guide." In *Craftways*, edited by Aaron Wildavsky. New Brunswick, NJ: Transaction Publishers, 1989.

Hill, Carolyn J., and Laurence E. Lynn. "Producing Human Services." *Public Management* 5, no. 1 (2003): 63-81.

Huang, Kun, and Keith Provan. "Resource Tangibility and Patterns of Interaction in a Publicly Funded Health and Human Services Network." *Journal of Public Administration Research and Theory* 17, no. 3 (2007): 435-54.

Hudson, Bob, Brian Hardy, Melanie Henwood, and Gerald Wistow. "In Pursuit of Inter-Agency Collaboration in the Public Sector." *Public Management* 1, no. 2 (1999): 235-60.

Huxham, Chris. "The Challenge of Collaborative Governance." *Public Management* 2, no. 3 (2000): 337-57.

Karch, Andrew. *Democratic Laboratories: Policy Diffusion among the American States*. Ann Arbor: University of Michigan Press, 2007.

Kaufman, Herbert. *The Forest Ranger: A Study in Administrative Behavior*. Washington DC: RFF Press, 2006.

Kimbro, Rachel Tolbert, and Elizabeth Rigby. "Federal Food Policy and Childhood Obesity: A Solution or Part of the Problem?" *Health Affairs* 29, no. 3 (2010): 411-8.

Lakdawalla, Darius, and Tomas Philipson. "The Growth in Obesity and Technological Change." In *2003 Economics of Obesity Workshop*, 6-13. Washington DC: Economic Research Service, United States Department of Agriculture, 2004.

Lasker, Roz D., Elisa S. Weiss, and Rebecca Miller. "Partnership Synergy: A Practical Framework for Studying and Strengthening the Collaborative Advantage." *The Milbank Quarterly* 79, no. 2 (2001).

Leech, Beth L. "Asking Questions: Techniques for Semistructured Interviews." *PSOnline* (2002): 665-8.

Merton, Robert K. *The Focused Interview: A Manual of Problems and Procedures*. New York: The Free Press, 1956.

Mintrom, Michael. "Policy Entrepreneurs and the Diffusion of Innovation." *American Journal of Political Science* 41, no. 3 (1997): 738-70.

Mintrom, Michael, and Phillipa Norman. "Policy Entrepreneurship and Policy Change." *Policy Studies Journal* 37, no. 4 (2009): 649-67.

Monsivais, Pablo, and Adam Drewnowski. "The Rising Cost of Low-Energy-Density Foods." *Journal of the American Dietetic Association* 107, no. 12 (2007): 2071-76.

Murphy, Elizabeth, and Robert Dingwall. *Qualitative Methods and Health Policy Research*. Hawthorne, NY: Aldine de Gruyter, 2003.

Ostrom, Elinor. "Coping with the Tragedies of the Common." *Annual Review of Political Science* 2 (1999): 493-535.

———. "Institutional Rational Choice: An Assessment of the Institutional Analysis and Development Framework." In *Theories of the Policy Process*, edited by Paul A. Sabatier. Boulder: Westview Press, 2007.

Ostrom, Elinor, Roy Gardner, and James Walker. *Rules, Games, & Common-Pool Resources*. Ann Arbor: University of Michigan Press, 2002.

Peabody, Robert L., Susan Webb Hammond, Jean Torcom, Lynne P. Brown, Carolyn Thompson, and Robin Kolodny. "Interviewing Political Elites." *PS: Political Science and Politics* (1990): 451-5.

Powell, L.M., M.C. Auld, F.J. Chaloupka, P.M. O'Malley, and L.D. Johnston. "Association between Access to Food Stores and Adolescent Body Mass Index." *American Journal of Preventive Medicine* 33, no. 4S (2007): S301-7.

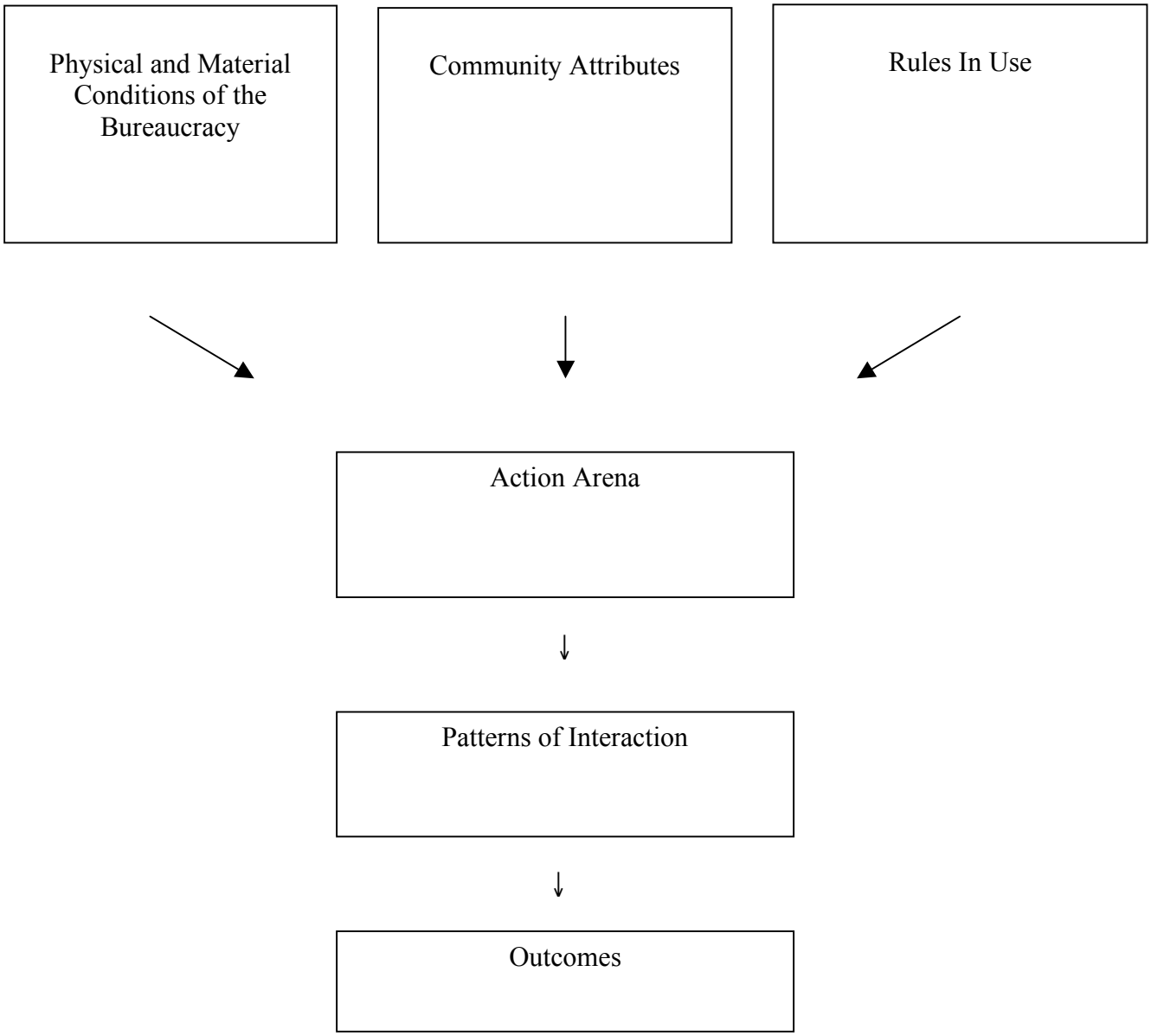
Satcher, David. "The Surgeon General's Call to Action to Prevent and Decrease Overweight and Obesity." edited by Department of Health and Human Services. Washington, DC: U.S. Government Printing Office, 2001.

Thomas, Craig W. *Bureaucratic Landscapes: Interagency Cooperation and the Preservation of Biodiversity*. Cambridge, MA: The IMT Press, 2003.

Weiss, Janet A. "Pathways to Cooperation among Public Agencies." *Journal of Policy Analysis and Management* 7, no. 1 (1987): 94-117.

Wilson, James Q. *Bureaucracy: What Government Agencies Do and Why They Do It*: Basic Books, 1989.

Figure 1: IAD Framework



Adapted from Ostrom 2007 in Paul Sabatier's *Theories of the Policy Process*

Figure 2: Potential independent variables using IRC/IAD framework

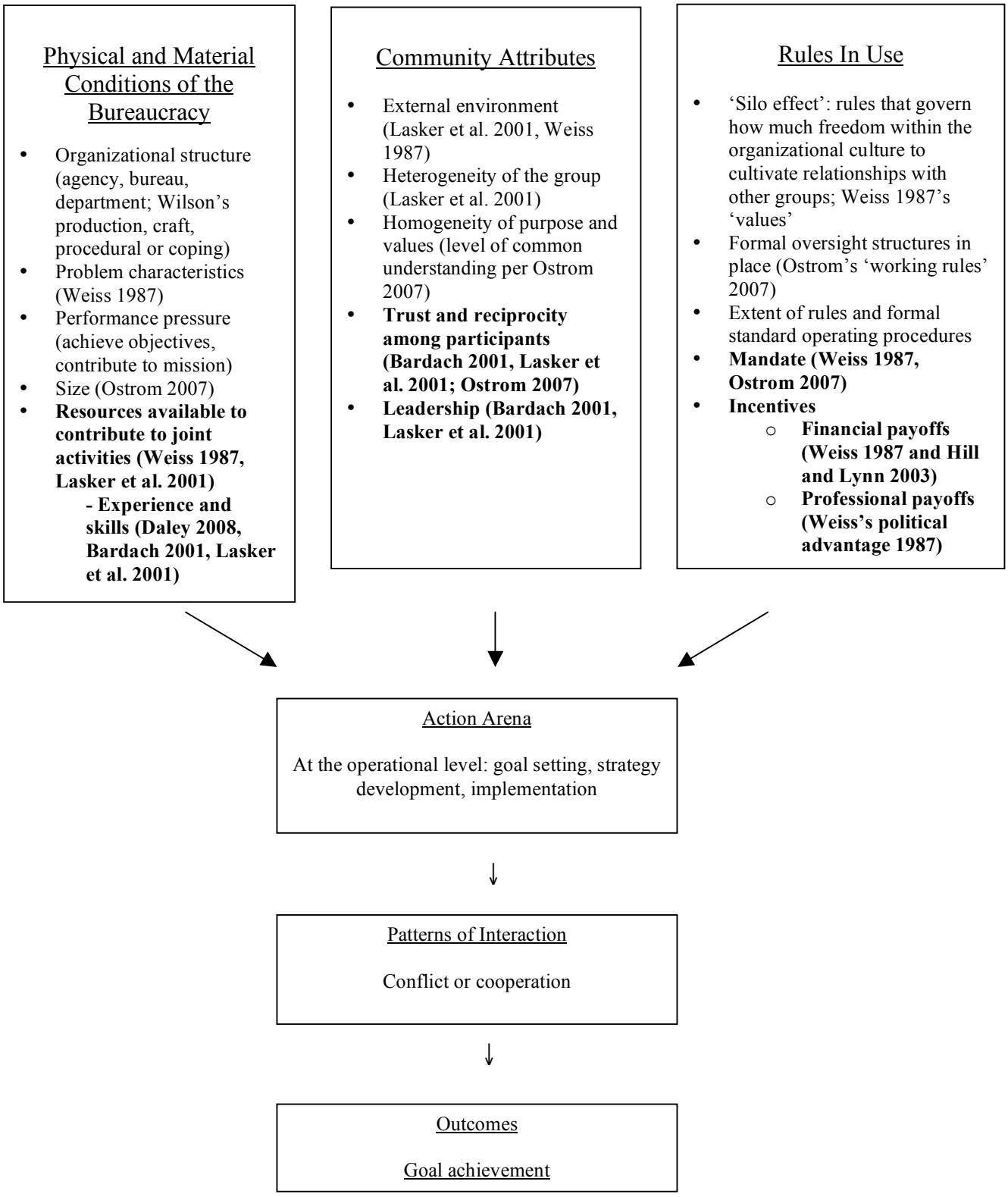


Table 1 **Interviewee Characteristics**

Name	Degree	Function	Agency	Position
BM5	PhD	Surveillance, consumer research, labeling	FDA/CFSAN	Scientist, food safety
QS2	PhD	Review health claims of products/labels	FDA	Supervisor, nutrition and labeling
TZ4	MD	Clinical liaison for NIDDK, manage clinical research	NIH/NIDDK	Leader, research office
XE8	MD/PhD	Leads state obesity reduction efforts	CDC/NPAO	Executive
LE7	SM/RD	Coordinating, administering	NHLBI/NIDDK/NIH	Coordinator, research office
WI10	MD/PhD	Leadership, coordination of cooperation across agencies	Office of the Surgeon General and NIH/NIDDK	Executive
XK11	PhD/RD	Nutrition advisor, speaker, grant administrator	NIH/NIDDK	Policy advisor
SC9	MD/MPH	Leadership, manage cancer prevention research	NCI/DCCPS/Applied Research/Leadership	Leader, research office
SN12	PhD	Policy and economics of obesity research	NCI	Policy advisor
TT1	PhD	Surveillance and research on nutrition related to cancer	NCI	Leader, research office
SU3	PhD	Epidemiology, physical activity research, work with NHANES	NCI/NCCPS/Risk Factor Monitoring and Methods	Scientist, methods
CT6	PhD	Leadership, obesity regulations related to labeling, supplements	FDA/CFSAN	Leader, nutrition and labeling

Table 2

Summary of Interview Responses

	Number of positive responses	Percentage of positive responses
Bureaucratic Conditions		
Resources	7	63%
Training/expertise	10	83%
Community Attributes		
Trust	11	100%
Leadership	5	45%
Rules-in-use		
Mandate	2	17%
Incentives	3	33%

Interviewees: 12
Not all interviewees
responded to all questions

Question summary:

1. Are resources sufficient?
   Is training for collaborative behaviors provided?
2. Is there a high level of reciprocal trust among agencies working together?
3. Was there an entrepreneurial leader who launched explicit inter-agency collaboration?
4. Are there specific rules mandating collaboration with others?
5. Are there financial incentives for such collaboration?

Question wording and probes are found in the Interview Guide in Appendix B

Table 3

Agency/ Dept	Type of document	Name of Document	Obesity ref-erences	Collabor-ation references*	Notes	URL
CDC	Annual report	Annual Perfor-mance Report	14	3 of 6		www.hhs.gov/ budget/FY08_ CDC_Annual_ Performance_ Report.pdf
CDC NCCDPHP NPAO	NCCDPHP's mission statements	Mission Statements	16	5 of 6	Mission statements are full objectives, 4-5 pp per agency in NCCDPHP	www.cdc.gov/ mab_charts_ CIO.htm
CDC NCCDPHP HDSP	NCCDPHP's mission statements	Mission Statements	0			www.cdc.gov/ mab_charts_ CIO.htm
CDC NCCDPHP DASH	NCCDPHP's mission statements	Mission Statements	0		I have seen references to collaborative obesity efforts in other documents	www.cdc.gov/ mab_charts_ CIO.htm
CDC NCHS	Mission statement	Mission	0		Provides surveillance/NHA NES	www.cdc.gov/ about/mission
FDA CFSAN	Dashboard	FDA-Track CFSAN	0		Nutrition labeling projects did not make the dashboard	www.fda.gov/ AboutFDA/ WhatWeDo/track/ucm2062 08.htm
FDA CFSAN	Report excerpt Part III Nutrition and Labeling	CFSAN FY2007 Report to Stake-holders	1	1	Shared objective with USDA: 'Determine percent…aware of U.S. Dietary Guidelines'	www.fda.gov/ AboutFDA/CentersOffices/ CFSAN/ReportsBudgets/uc m112674.htm
FDA CFSAN	Report excerpt Part III Nutrition and Labeling	CFSAN FY2006 Program Priority Accomplishmen ts (nos 19-21)	4		Refers to FDA's Obesity Working Group's Keystone Report	www.fda.gov/ AboutFDA/CentersOffices/ CFSAN/ReportsBudgets/uc m112674.htm
FDA CFSAN OWG	Report	Calories Count: Report of the Working Group on Obesity	Numer-ous	2 of 6 recommen-ded action items are directed at federal partnerships 6 of 9 refs are meaningful	3 levels of participation: WG –all FDA Adjunct – all FDA Liaison – NIH, NHLBI, CDC	www.fda.gov/ Food/LabelingNutrition/Re portsResearch/ucm081696. htm

DHHS OPHS ODPHP	Report	Healthy People 2010 and 2020	2 of 4 retained, 3 of 10 modified, 3 of 6 new objec-tives directed related to obesity	13 federal agencies and departments: AHRQ, CDC, FD, USDA, HRSA, HIS, NIH, ODPHP, President's Council, ATSDR, USDE, OPA, SAMHSA		www.healthypeople.gov/Implementation/fedagencies.htm and www.healthypeople.gov/hp2020/Objectives/TopicArea.aspx?ide=35&TopicArea=Nutrition+and+Weight+Status
DHHS HRSA	Strategic Plan	Strategic Plan	0	0	Plan is abbreviated	www.hrsa.gov/about/strategicplan.html
NIH	Strategic Plan	Strategic Plan for NIH Obesity Research	Numer-ous	Numerous	One section devoted to federal cooperation, lists 24 agencies/groups participating	www.obesityresearch.nih.gov/About/strategic-plan.htm
NIH NIDDK	Report excerpt ("Obesity")	NIDDK Recent Advances & Emerging Opportuni-ties	Numer-ous	Numerous	List of research projects	
NIH NIDDK	Mission	Mission	1	0	(classifies obesity as a disease it researches)	www.nih.gov/about/almanac/organization/index/htm
NIH NIDDK NHLBI	Strategic Plan	NHLBI Strategic Plan	1	1 of 8 meaningful	In the 20 page brochure, 1 mention of obesity and none of collaboration	http://www.nhlbi.nih.gov/about/strategicplan/publications.htm
NIH NCI	Strategic plan	The NCI Strategic Plan for Leading the Nation	6	0 of 14 meaningful	Obesity mentioned in 3 of 8 substrategies	http://strategicplan.nci.nih.gov/
NIH NCI DCCPS	Report	Division of Cancer Control and Population Sciences 2007 Overview and Highlights	22	8 of 15 meaningful	Lists 17 federal partners (and many private) along with logos	http://cancercontrol.cancer.gov/bb
NIH NCI DCCPS ARP	Report	Applied Research Program	2	0	Only a two-page abbreviated plan found	Http://appliedresearch.cancer.gov/about

USDA	Strategic plan	USDA Strategic Plan	2	4 of 9 meaningful	Objective 5.2	www.ocfo.usda.gov/usdasp/usdasp.htm
USDA FNCS	Strategic plan	FNCS IT Strategic Plan RY 2007-2011	0	0 of 32 meaningful	USDA emphasizes data and IT	www.fns.usda.gov/fns/menu/it_strategic_plan.pdf
USDA FNCS FNS	Strategic plan	No name	2 (inferred from USDA Strategic Plan above)	4 of 9 meaningful (see above)	FNS appears not to have written a separate plan, but rather to have extracted objective 5.2	www.fns.usda.gov/ora/menu/gpra/StrategicPlan.htm
USDA FNCS CNPP	Strategic plan	Strategic Plan FY 2005-2010	1	1 of 4 meaningful	Dietary Guidelines Food Pyramid	www.cnpp.usda.gov/Publications/misc/CNPPStrategicPlan.pdf
USDA NIFA	Report	USDA Awards Grants to Develop Obesity Prevention Programs	Numer-ous	1 meaningful (link)	$11 million in grants awarded to prevent obesity	http://www.research.gov/rgov/anonymous.portal?_nfpb=true&_pageLabel=page_latest_news&_nfls=false&nodePath=%2FBEA+Repository%2Fnews%2Fitems%2F1271432972540

CONCLUSION

In less than a generation, the prevalence of obesity has doubled among Americans (CDC 2009b). This chronic condition and its constellation of co-morbidities is a complex problem for which solutions are elusive. Most experts agree that placing blame solely on over-eating is simplistic and does not reflect the social realities that contribute to an imbalance of consumption and activity. Desk-bound jobs, junk food sales in schools, fewer physical education classes, busy families' reliance on fast food meals, inexpensive processed foods and a built environment that discourages walking are all factors that contribute to this imbalance. Obesity thus defies simple answers and easy comparisons to other health issues. It is unlikely, for example, that new regulations or taxes on unhealthy foods similar to those on tobacco will yield a dramatic reduction in the rates of obesity among American adults and children.

The medical and social costs of obesity compel an understanding of its political aspects. Given the rapid growth in policymaking activities among states and the rising expenditures at all levels of government, political science has a strong interest in understanding problem solving and decision making surrounding obesity. As science and medicine collaborate to learn more about the causes and solutions to the obesity epidemic, the political system is preparing to be a partner in these efforts.

This dissertation approaches the emerging politics of obesity from three perspectives. The first of these is individual. While health conditions that appear to be a result of poor individual behavior are traditionally not candidates for government action, policymakers and the American public are beginning to recognize obesity as more than a problem of personal irresponsibility. Using public opinion survey data, chapter one investigates how the American public views

obesity and examines the factors that predict individuals' acceptance of government interventions to resolve it. My analysis offers support for attitude formation and opinion theory, confirming that, as with other policy types, awareness and socio-demographic characteristics – income, age, race and gender in particular - exert a strong effect on preferences for a public policy solution. Results also suggest that childhood obesity is viewed differently from adult obesity and point to an increased tolerance for child-directed policies. This difference may stem from the fact that childhood obesity is a newer phenomenon, or from the uncertainty Americans feel about a demographic group perceived as less culpable for their condition.

State governments are pivotal actors in obesity politics and have become increasingly active in drafting and adopting laws designed to reduce its burden. Chapter 2 investigates the factors that encourage states to pursue measures to combat obesity. I first evaluate policy consideration in an effort to understand why states place obesity on the policy agenda. As agenda setting theory suggests, media attention encourages the proposal of anti-obesity legislation. Diffusion theory is equally valuable; political factors and other states' obesity reduction efforts also determine the consideration of these laws. On the other hand, with the exception of Democratic legislatures, neither political elements, salience nor diffusion are helpful in predicting actual adoption. Political factors are influential in the agenda setting stage but less so in the passage stage of anti-obesity legislation.

Chapter 3 presents insights into federal bureaucratic activities to reduce obesity. The executive branch does not make laws per se, but rather implements legislative decisions and publishes rules and regulations. Federal bureaucrats also influence public policy by conducting research and supporting programs and demonstration projects among the many agencies

dedicated to helping Americans lose weight. In this chapter, I examine how federal agencies cooperate to forge solutions to the obesity epidemic. Elinor Ostrom's Institutional Analysis and Design framework (2007) guides this qualitative research, which consists of semi-structured interviews augmented by documents review. Results indicate that collaboration among federal agencies is accepted and valued despite the dearth of formal rules-in-use mandating cooperative behaviors or offering financial incentives to do so. Trust is common and reciprocated, but the absence of an entrepreneurial leadership figure and formal training suggests that cooperation has become so central to job function that it is seldom consciously considered and is rather just assumed. Of equal interest is the concept of resources. According to resource dependence theory, groups seek to cooperate to gain resources they do not possess; collaboration follows when agencies need to combine financial assets, skills and knowledge. Those who work together on obesity issues told a more nuanced story in the interviews: a certain level of resources or ability to access them is a prerequisite to be able to collaborate in the first place. Resources "buy a seat at the table" to work with other agencies.

While this dissertation contributes to obesity policymaking scholarship, it could be improved in several significant ways. Data, as always, could be of higher quantity and quality. For example, public opinion research could be enhanced in future surveys by the addition of questions measuring other variables of theoretical interest, e.g., partisanship and ideology. The inclusion of these political factors will enrich the study of public opinion and obesity policy preferences.

State level scholarship faces data challenges of a different nature. The number of anti-obesity policies proposed and adopted by states to date is relatively small. As legislative activity

increases, it will be possible to learn more about the conduct of such policymaking. Scholars will also be able to differentiate between regulatory type policies (e.g., junk food taxes or prohibition of fast or competitive foods in schools) and non-regulatory policies (those that encourage healthy eating or fund research). A study of the distinctions between these policy types will yield a more precise understanding of state level policymaking.

In addition, the conceptualization of interest group influence as public health employment is a fairly blunt measure. As pressure groups begin to form around anti-obesity policies, the identification of these coalitions and their influence will become more straightforward. The increasingly visible and organized food manufacturing and restaurant industries are one example. Examining state level organizational activity and expenditures of these groups and their industry associations will provide an interesting look at the influences on obesity decision making.

Areas for future research into the increasingly important politics of obesity should include an expanded focus on agenda setting, at different levels of government. For example, a number of local governments have been surprisingly successful at adopting laws that regulate consumption and the provision of nutrition information. What are the factors that lead to local governments' interest in obesity reduction measures? Urban politics will generate interesting insights into anti-obesity policy activity.

Research into policy implementation and analysis will also be timely and valuable as this issue matures. A number of obesity reduction programs and community projects have been identified in the medical and public health literatures, and a logical next step is to explore how they are implemented and if they are successful. Knowing what programs work to reduce obesity

levels will offer immediate benefits to both policymakers and the overweight and could speed progress to comprehensive solutions.

Traditional political science theory has been under-utilized in health policy in general and in anti-obesity policymaking in particular. This dissertation begins to fill this gap but much more research is needed to understand the political aspects of a chronic health problem that will have implications for individuals and governance every level. As decision making in this policy area improves, so too will policy scholarship and our citizens' health.

WORKS CITED

CDC. "Health, United States, 2009: In Brief." Atlanta GA: National Center for Health Statistics, 2009b.

Ostrom, Elinor. "Institutional Rational Choice: An Assessment of the Institutional Analysis and Development Framework." In *Theories of the Policy Process*, edited by Paul A. Sabatier. Boulder: Westview Press, 2007.