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Civic Habits: A Predictive Model of Volunteer Behavior

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CIVIC HABITS: A PREDICTIVE MODEL OF VOLUNTEER BEHAVIOR

A dissertation submitted in partial fulfillment of the requirements for the degree of Doctor of Philosophy at Virginia Commonwealth University

By

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Abstract

The findings of this research indicate that volunteering is influenced by a number of factors, one of which is gender. The data used in this study reveal a different profile of the volunteer than is presented in much of the research on volunteering, which tends to profile the “most likely” volunteer as female, employed by the public sector, possessing a higher education and having children. The questions addressed in this research are: 1) What are the contextual effects of volunteering and 2) Is there a relationship of one or more of these effects to gender? The findings indicate men in this sample were not only more likely to volunteer, but were more likely to engage in volunteer activities that included political and civic roles. In addition, men were able to volunteer more hours as their family ties increased. The hours women volunteered were found to decrease as family ties increased. Women were less likely to volunteer for political and civic activities and more likely to volunteer for roles that included the care of children, elderly and family-oriented activities. These findings have implications for how volunteer activities contribute to the building of social and political resources for both men and women and bring to light how gendered definitions dominate patterns of civic engagement.
CHAPTER I

Introduction

The values, attitudes, and civic habits of volunteers characterize civic culture and volunteering and active participation in voluntary associations has long been considered key components of civil society. America’s rich heritage of volunteer activity and participation in voluntary associations can be traced back to the inception of the nation. Alexis de Tocqueville (1835), a French aristocrat, first pointed out that American democracy was supported by a rich tradition of civic life. Tocqueville noted these social associations developed citizen’s “habits of participation” through which they came to see the importance of a shared responsibility for ensuring the public good. The public good is defined as an acceptance and practice of identifying one’s own good with that of the common good. 1 In the tradition of American civic life, the common good has been ensured by a brisk voluntary participation in community life. Yet, little attention is given to how social context impacts the diversity and magnitude of voluntarism in America.

This research seeks to learn what factors contribute to predicting variations in volunteering in the public sector, which, research has documented has high rates of volunteering (Rotolo & Wilson, 2006). Frequently this is attributed to a public service ethos among those that enter public sector employment. Research also documents high rates of women employed by the public sector. In fact, David Houston (2005) who has argued that increased levels of volunteerism in the public sector were due to a “public

service ethos”, also portrayed the most likely person to volunteer for a charitable organization as “female, employed by the government or a non-profit, possessing high socio-economic status with children under the age of seventeen who attends church weekly.” This research examines the role of gender on volunteer behaviors with interesting results that contradict Houston’s work.

The findings of this research indicate that volunteering is influenced by a number of factors, one of which is gender. However, the data used in this study reveal a different profile from that in Houston’s research. Men in this sample were not only more likely to volunteer, but were more likely to engage in volunteer activities that included political and civic roles. In addition, men were able to volunteer more hours as their family ties increased. The hours women volunteered were found to decrease as family ties increased. Women were less likely to volunteer for political and civic activities and more likely to volunteer for roles that included the care of children, elderly and family-oriented activities. These findings have implications for how volunteer activities contribute to the building of social and political resources for both men and women and bring to light how gendered definitions dominate patterns of civic engagement.

The remainder of this chapter puts volunteering within the framework of its historical context and current importance. The intent is to bring into focus not only the types of activities that have been done through volunteer efforts, but also to highlight some of the disparity which has occurred in the retelling of historical accounts of
volunteering. Current concerns in the study of volunteerism are discussed including theories of volunteering and the public service ethos.

Following the introduction, the paper proceeds with a review of the literature (Chapter Two) which surveys relevant research that considers: 1) the interplay of volunteering, gender and social capital; 2) the public sector and volunteering; and 3) demographic correlates of volunteers, including the effect of gender on volunteer habits. A gendered perspective of volunteering must draw from the work being done on gendering social capital. In this manner, issues which impact women can be more readily discerned. Chapter Three contains the methodology for the research, the operationalization of variables and the hypotheses. Chapter Four correlates the findings of each research hypotheses with a discussion of the results as they are conducted. Finally, the conclusions and implications for future research are discussed in Chapter Five.

**Historical Overview of Volunteering**

Volunteering is so thoroughly interwoven into the history of America that it is easy to overlook the efforts of the multitudes that have shaped, and continue to shape, the way we understand the very meaning of “democracy.” While a thorough overview of the many roles and instances of volunteer activities that constitute America’s history are beyond the scope of this study, a review of the impact of volunteerism on the formation of American society will set the context for this research.
In *By The People: A History of Americans as Volunteers* (1990) Ellis & Noyes provide a useful framework for examining volunteering by clustering fields associated with the economic base of our society to volunteer activities. Using this framework, they are able to document the magnitude and diversity of volunteer activities over the course of American history. Their effort is one of the very few attempts to look at the formation of American society through the historical lens of volunteering. Beginning with the founding of the nation, the authors identify the volunteer element throughout American history in “rediscoveries of small aspects of our social history” to those major and familiar events that are rarely recognized as having been accomplished by volunteers—such as the Boston Tea Party, the Underground Railroad, and the child labor movement (p 15).

The early colonists faced not only a physical wilderness, but to some degree a social wilderness, in which familiar organizational structures no longer existed. Survival required mutuality. Neighboring farmers worked together to clear land, build houses and defend their families. A system of self-government evolved as towns became established, relying on the appointment of “volunteers” for duties ranging from administrative tasks to town-criers. In addition to the need to establish a structure for governing, came the recognition that there was a need for charity and although families bore the primary burden of aiding indigent relatives or friends, there were instances in which no such aid existed. In these instances a host family might be sought to assist the old and infirm; orphans and illegitimate children were apprenticed; almshouse were established for the
poor. Thus social welfare depended largely on volunteer efforts in communities. Besides the issues of survival, colonists were concerned about education. Schoolhouses were built through cooperative efforts and while the schoolmaster was paid by parents who could afford it, poorer children were allowed to attend for free.

These early examples give context to the developing spirit of “participation” and “civic engagement” that so characterizes American society. From the founding of the nation, through the pioneering of the west, the demands of the Civil War to the efforts to rebuild and forge a new future, volunteers have provided not only vision, but the blood, sweat and tears upon which many of our institutions have been built. Through the examination of voluntarism in American history, one discerns the emergence of a cyclical pattern. A pattern in which volunteerism is found to be both reactive and proactive. Frequently, volunteers are the first to identify a need or area of concern and become involved in a “cause” to address the need. As the authors point out, “Most of the societal institutions we take for granted—hospitals, colleges, town governments—had their roots in a small group of volunteers even if today volunteers have only a minimal role.” (p 358)

It would be remiss not to address the role volunteers have played in civil reform. The end of the nineteenth century ushered in the transition to an industrialized nation. Progressive social reform was marked by volunteer activities that made contributions to a diverse range of fields. Progressivism concerned itself with every area of American life: labor practices, education, conservation, banking, and food and drug control and child

---

2 The colonial period, dominated by the Puritan ethic, frequently shunned the needy believing poverty was a proof of failure to live correctly. Alms for individuals were viewed as a means of diverting capital to an unproductive portion of the community. (Ellis & Noyes, 1990: 22)
welfare. The Progressive movement “aroused the conscience of the middle class to the condition of the poor” creating large-scale changes in social welfare programs (p.170). Child welfare issues attracted many volunteers. The period saw the continuation of the struggle for women’s rights, involving the voluntary efforts of women, as well as supportive men. The NAACP (National Association for the Advancement of Colored People) formed and fought to equalize the position of black Americans. Goodwill Industries began in 1902 and advocated for the needs of the disabled. The National Easter Seal Society, Rotary Club, the YMCA, 4-H clubs, the National Safety Council, Red Cross, and Sierra Club, are but a small sample of the movements that began from volunteer efforts and have become a part of our civic landscape. In fact, the political rhetoric of the 1990’s gave recognition to this rich heritage and its continuing influence by frequent reference to Americans as a “nation of volunteers.” (Ellis & Noyes, 1990: 168-199)

**Volunteerism and Gender** Despite the complexity of modern volunteer roles, the view that volunteering is work done by un-trained persons, do-gooders, radicals, and even that it is “women’s work” is persistent. Ellis and Noyes (1990) challenge these stereotypes, as well as other assumptions and misinformation concerning volunteer activities. By drawing together isolated citations and historical documents to trace the work of volunteers in America over three centuries, the authors make salient points concerning the role of women as volunteers. Women have made vital contributions to every aspect of the nation’s growth. A closer look at history, however, reveals that women had a very
limited opportunity for impact except through volunteering. In fact, the authors find as they trace the history of volunteerism, that the very vocabulary of voluntary action contributes to misconceptions about women and men as volunteers:

Unpaid work done on behalf of social welfare has most often been labeled “volunteering” while unpaid work on behalf of political change has instead been called “activism,” “campaigning,” “advocacy,” or “community involvement.” The use of such terminology has fragmented people’s perceptions of voluntary action …This is also why it is sometimes assumed that men have not volunteered…volunteering became typed as “women’s work”…men were traditionally expected to assume civic responsibilities as part of their political or business functions. (Ellis & Noyes, 1990: 10)

Ellis and Noyes point out that in spite of such a clear division of volunteer roles between the sexes recorded by most histories, such a clear dichotomy rarely existed. Thousands of women were involved in local and national political movements and thousands of men took part in humanitarian relief efforts. The role of women as community activists who have significantly engaged in building community cohesion is well documented. Although denied voting rights and equal status in the political system, they were the foot soldiers in the local charity and temperance and settlement house movements of the turn of the century and were responsible for fundamental change in the approach to the problems of poverty (Gittel, et al, 1999).
Volunteering among Marginalized Populations Much of the present-day literature in which volunteering among marginalized groups is discussed tends to be focused on how to increase volunteering among these populations—drawing them into the traditional volunteer labor base. Little research has focused on the ways in which women and other marginalized groups already contribute to the civic culture. From an historic standpoint, however, it is clear that the volunteer ethic permeates these populations as clearly as those more “traditional” populations we frequently think of when discussing volunteerism. One of the earliest examples is seen in ethnic associations that formed in order to help immigrant populations find employment and aid their fellows transition into American society. These associations have a strong tradition of caring for those in need and preserving ethnic bonds. Some of these groups continue today and have become significant sources of philanthropy (e.g., Jewish Federation, Alianza-Hispano-Americana, Chinese Six Companies). The period between the two world wars saw the stirring of political awareness on a number of fronts wherein those who had been marginalized sought the benefits of mainstream American society. Mexican, Japanese, Chinese, Asian and Native Americans formed voluntary associations to work for inclusion into the mainstream. The Suffrage and Civil Rights movements were fueled by volunteers. Following World War II:

Volunteering during the 1950s and 1960s was often vocal and passionately political in nature. Causes such as civil rights, McCarthyism, and the Vietnam War were supported and opposed by innumerable groups, with tactics ranging
from research to violence. It was a period of movements, in actuality the collective impact of countless volunteers. (Ellis & Noyes, 1990: 262)

While much volunteerism was focused on social change, many forms of community action brought significant contributions to the fields of health, welfare, education, recreation and the arts, as well. Through the gay rights movement, beginning in the 1970s, volunteers fought discriminatory legislation and worked to gain acceptance into mainstream America. In the 1980s the AIDS crisis required new types of volunteer self-help. As it became clear that the AIDS crisis was not limited to the gay community, gay and straight volunteers found themselves working side-by-side, expressing a mutual grief and exhaustion as the epidemic raged.

Moving forward to the current day, we see that volunteering is a cornerstone of the American social experience. According to the recent U.S. Bureau of Labor report “Volunteering in America: State Trends and Rankings” (2006), Americans increased their volunteer activities significantly following the aftermath of the terrorist attack of September 11, 2001 and devastation of Hurricane Katrina four years later. During this period, volunteerism rose from 59.8 million Americans volunteering in 2002 to 65.4 million in 2005. The report lauds this upward trend in volunteering as a once-in-a-generation opportunity to tap into Americans’ ingenuity, civic mindedness and generosity to build powerful new solutions to old problems in our communities. Volunteering is no

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3 Even though the BLS reports an increase in volunteering between 2002 and 2005 following these national crises, the report goes on to say that in 2006 volunteering declined slightly to 61.2 million – a decrease of 2.1 percent over the previous three years. This report is available in full at http://www.nationalservice.org/about/volunteering/index.asp.
longer just nice to do. It is a necessary aspect of meeting the most pressing needs facing our nation: crime, gangs, poverty, disasters, illiteracy, homelessness and environmental crisis.

The welcome news of increasing volunteerism comes in the wake of concern about the decline of civic engagement and its dire implications for civic democracy. The publication of Robert Putnam’s *Bowling Alone: The collapse and revival of the American Community* (2000) created considerable academic and political debate over the condition of civic democracy and drew renewed attention to “civic engagement.” Much of that debate centered on how we measure and interpret “participatory” data. Putnam’s treatise on social change in America demonstrated that over a period of twenty-five years associational behaviors, which are considered a core attribute of American democracy, had declined sharply. Putnam used membership rosters and organizational records of clubs, civic community groups and professional associations to measure voluntary participation. Some of these records provided data from close to the turn of the century and continuing up until the late 1990’s. Even among the associations begun later in the 20th century a visible decline in memberships is apparent following the significant growth of civic and professional memberships that occurred mid-century.

Running concurrently to Putnam’s work, is another body of research that points out that since the data gathering began about a quarter of a century ago, volunteer rates have either remained stable or have risen slightly (Wilson, 2000). Wilson’s states that “volunteering and social activism” have much in common although the study of each has developed somewhat independently. In this statement Wilson alludes to the divergent
paths research on volunteering has taken – on the one hand we have a body of literature that studies voluntary associations as the “glue” of civic society and on the other volunteer behavior is addressed as a phenomena of a “culture of benevolence” or the caring work of society (Wuthnow, 1991; Daniels, 1988). This divergence of concepts may explain how one body of research finds a decline in civic participation measured by volunteer memberships and another body finds volunteer activities either remaining steady or increasing.

In summary of this section, research on volunteering frequently stresses the importance of voluntary civic associations to the maintenance of political democracy and references voluntary associations as a measure of civic engagement. Civic engagement is frequently cited as critical for political democracy. Civic engagement requires social cohesion and the development of trust and norms of reciprocity, or social capital. Societal change is frequently referenced to impact our levels of civic participation (Putnam, 2000; Lowndes, 2004; Eberly & Streeter, 2002).

In our times we have witnessed a great deal of social change. In just the past century we have moved from an industrial to a post-industrial society where social norms and structures have experienced tremendous shifts, redefining the very meaning of human connectedness. The convergence of globalization and technology, the changing demographics of the workforce due to aging and the entrance of women—who now provide up to half of the labor force—and the consequent strains on the family unit reverberate within American society and create social upheaval (Toffler, 1980; Bellah, et
al, 1985; Laudicina, 2005). The effects of social change and its implications on civic volunteerism continue to raise concerns for American democracy. These concerns have found voice in Habits of the Heart (1985), “One of the keys to survival of free institutions is the relationship between private and public life, the way in which citizens do or do not participate in the public sphere” (Bellah, et al, 1985). This research seeks to add to the knowledge of what motivates and constrains our civic habits—these “habits of the heart” manifested by volunteer behavior.

Volunteer Concepts, Definitions and Theories

The divergence of concepts surrounding volunteering – helping behaviors, civic associations, formal and informal activities, as well as social cohesion, social capital and political engagement – have resulted in the term “volunteer” being the generic label for a vast array of disparate activities (Wilson, 2000; Carson, 2000; Dekker & Halman, 2003; Ellis & Noyes, 1990). Research on volunteering is written in a tradition that is more specifically directed towards helping behavior, service delivery and unpaid work. While volunteering has long been considered a vital attribute of American civic culture, formal volunteer programs with trained leadership are more recent phenomena. Susan Ellis (1985) points out that “volunteers have largely been taken for granted” and as such not considered worthy of study.

Volunteer activities range from political activities designed to promote social justice and equity to providing basic care for others to ensuring the continuity of culture and art in a community. Volunteering may include activities for which a stipend is
received (e.g. AmeriCorps and VISTA volunteers) as well as those which involve no tangible benefit to the volunteer.

In addition to defining what constitutes “voluntary” activity, there remains the challenge of defining and testing what might be the ethos of the volunteer. Various theories explain volunteering by pointing to individual attributes, rational action and cost benefit analysis or the role of social resources, specifically as social ties and organizational activities. Support is found for each of these, although many questions remain unresolved. Studies that dig deeper into social patterns that constrain (or encourage) volunteer behavior are rare. Important differences in patterns of volunteering and contextual effects among various populations are difficult due to the habit of aggregating data (Dekker & Halman, 2003; Ellis, 1985; Wilson, 2000).

**Theories of Volunteering**

Research on volunteering has identified various variables affecting the incidence of volunteering. Socio-economic and demographic information have been collected in order to compile profiles of volunteers and their service activities. The voluntary sector, as opposed to scholarly study of the volunteer, has frequently been the engine driving research resulting in a number of professional articles that have been written about why people volunteer. The focus on volunteer motivation has been on altruism. In part this has been due to reasons people give for becoming involved with others which generally consist of difficult to measure concepts such as wanting to “do good” for their community or to “help others.” These unselfish actions reportedly made them either feel better about themselves, their fellow man or were motivated by religious values and
beliefs. Empirical studies on volunteer motivation have been lacking (Ellis, 1985; Wilson, 2000).

In the mid-1900’s other theories of behavior began to emerge and were applied to the study of volunteer motivation. Some of these employed a modern-psychoanalytic emphasis; others examine volunteering using economic models; while still others use the need paradigm. Wilson explains that two perspectives on volunteering predominate. “One assumes a complexity in the constitution of the individual while treating the context as background; the other treats the human actor as driven by fairly simple mechanisms while treating the context in which those mechanisms work as complex.” The first perspective is associated with more subjectivist approaches to sociological explanation and is dominated by a search for motives behind volunteering. The second is associated with a behaviorist explanation and assumes that actors are rational and that the decision to volunteer is based largely on a weighing of costs and benefits in the context of varying amounts of individual and social resources (Wilson, 2000). An overview of the most prevalent of these theories follows.

*Altruistic Personality:* Frequently research on prosocial behaviors, including volunteering has concluded that there is an “altruistic” personality; that is some people are inclined to be helpers because of their moral character, their capacity for empathy, and their particular personality traits. Experiments have revealed “other-oriented” traits based on psychological test scores (Eisenberg et al, 1989; Batson et al, 1986, 1988; Clary and Miller, 1986; Clary and Orenstein, 1993). Piliavin and Charng (1990) in a review of
research and theory on altruism conclude that there is a causal relationship between empathy and prosocial behavior. Salvoey and his co-authors (1991) suggest that people who are altruistic may have a “high emotional IQ.”

To accept that some people just have a more “altruistic” personality than others and therefore will volunteer seems too simplistic. After all, numerous surveys have shown that many more people believe they “should” volunteer than actually do (Clary and Snyder, 1991). The theory of “altruistic personality” removes the role of socialization and social structure from the discussion of volunteer motivations. It also suggests that helping (prosocial) behavior might be found equally across sectors of society. However, there is evidence of higher volunteerism across some sectors of society. Studies have shown that non-profit and public sector employees volunteer at consistently higher rates than the private sector (Rotolo & Wilson, 2006). Having a desire to “help” or do deeds that benefit the common welfare is insufficient if one does not also have the means by which to act. Thus a theory which can explain volunteering must incorporate access to resources as well.

**Human Capital Theory:** Individual-level theories of volunteering founded on behaviorist assumptions argue that the decision to volunteer is based on a rational weighing of its costs and benefits. The ability to work (volunteer) is determined by resources. “Human capital is shorthand for those resources attached to individuals that make productive activities possible” (Wilson & Musick, 1997). Individual attributes such as education, or wealth, become inputs that make it easier to volunteer. Research has
consistently shown a positive relationship between both education and income to volunteering (Clary & Snyder, 1991; Smith, 1994). Wilson and Musick recognized that the ability to volunteer required resources such as good health in the context of social exchange. They conceptualized functional health as a form of human capital. Whereas income and education are seen as indicators of socioeconomic status, good health is a result of rather than a part of other human capital attributes. In other words, health is an individual attribute, a resource, which depends on socioeconomic status. Volunteerism may also be a means by which one increases human capital in the forms of gaining skills, contacts and education. However, labeling human capital as a resource does not provide a mechanism to explain why individuals use these resources to volunteer. For that theories have developed to include explanations for why individuals trade their resources to provide “free” services to others.

**Exchange Theory:** Exchange theory suggests that people are rational actors who carefully weigh the costs and benefits of each transaction they make. It assumes human behavior is motivated by the pursuit of pleasure, by rational evaluations and by the promotion of self-interests. Wuthnow (1991: 89) argues that even the “good feelings” that come from helping behavior can be seen as a reward or compensation for the time and energy invested. Egocentrism is behind all behavior according to this perspective. When calculating costs some groups may pay a greater price to volunteer because of lack of resources. Therefore it may take more rewards to compensate for the increased costs. These rewards may be tangible or intangible. The greater weight of domestic chores
women bear may increase the costs of volunteering. Utility theory is closely related to exchange theory. Utility theory suggests resources will be allocated so that benefits will equal costs for maximum return; people spend an hour volunteering because they get the most satisfaction for that particular hour. Schram (1985) found that utility was not just for the individual personally but for the family as well and concluded that people seem to volunteer in order to “increase their individual or family utility.” Exchange theory assumes volunteer decisions are made in isolation. In reality people assess their environments and decide on courses of action in the context of formal and informal networks. The value of a resource like education capital is determined by the larger social context in which it is embedded. A theory of social resources can enrich our understanding of how human capital and exchange work together to increase the likelihood of volunteering (Wilson, 2000).

**Social Capital and Social Resources:** The mechanisms that link social resources to volunteering include concepts such as social connections which are defined as social networks or social ties. These concepts are only recently being investigated. One of the key elements of social resource theory is trust, the very same concept of trust that underlies much that has been written in the burgeoning literature on social capital and its sources: social networks, norms of reciprocity, mutual assistance and trustworthiness (Putnam & Feldstein, 2003). However, trust does not predict volunteering consistently. Findings from the 1995 *Independent Sector Survey of Giving and Volunteering* indicate volunteers are more trusting than non-volunteers, but other major studies find no
relationship to volunteering and either institutional or interpersonal trust when age, income and education are taken in to account. Social resources work in combination with human capital and help explain why people of higher socioeconomic status volunteer more (Kohut, 1998; Wilson, 2000).

Theories that draw on social capital and social resources reference how resources embody value. Individuals are depicted as either being able to volunteer because they possess resources or they volunteer in order to gain resources. Social capital is one term used to explain how a resource embodies value that allows it to be used in exchange. The concept of economic capital lends itself readily to understanding how society makes “exchanges” and is frequently used as a reference point in discussing the functions of capital, as Pierre Bourdieu (1986) explains:

Capital can present itself in three fundamental guises: as economic capital, which is immediately and directly convertible into money and may be institutionalized in the forms of property rights; as cultural capital, which is convertible, on certain conditions, into economic capital and may be institutionalized in the forms of educational qualifications; and as social capital, made up of social obligations (connections), which are convertible, in certain conditions, into economic capital and may be institutionalized in the forms of a title of nobility.

Each type of capital represents an allocation of resources to be used to create exchange value for its holder—whether an individual or a community.
In *Foundations of Social Theory* (1990), James Coleman explains *social systems* of behavior by developing an integrated metatheory of social systems. Coleman’s discussion of social capital argues that individuals do not act independently; rather, social organization constitutes what we now commonly refer to as “social capital.” “Social Capital is a concept defined by its function which is inhered in the structure of relations between and among persons. Social capital is productive, making possible the achievement of certain ends which would not be achievable in its absence.” (Coleman, 1990: 302-304)

In the volunteer literature we frequently see “social resources” and “social capital” interchanged freely with little concern for any strict theoretical differences between the terms. Another aspect of social capital/social resource research deals with the inequality of its distribution across social groups in a community or population. From the perspective of capital theories a capital (or resource) deficit is due to (a) differential investment or (b) differential opportunity. 4 This study explores volunteer behavior and its antecedents as well as ways in which social context impacts the dispersion of social capital resources among volunteers.

**Problem Statement**

Research frequently attributes volunteering to the altruism of individuals (Clary and Miller, 1986; Clary and Orenstein, 1993) and credits the phenomenon of volunteering

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to those possessing an altruistic personality. This aspect of human personality has also been studied in relation to why individuals choose public sector employment and has been identified as “public service motivation” or PSM (Blank, 1985; Piliavan, & Charng, 1990; Houston, 2005). Sociologists and economists have felt altruistic theory was much too simplistic and did not account for many of the social conditions that may influence the decision to volunteer (Wilson & Musick, 1997a; Wilson, 2000). Alternative hypotheses for volunteer motivation are those that attribute volunteer behavior to rational cost-benefit decisions and those that focus on theories of social networks, wherein volunteer behavior is likely to increase as one’s “networks” increase. Research has shown that social networks help explain the higher rate of volunteering among married people and parents (Wilson & Musick, 1997; Wilson, 2000). Public Service Motivation (PSM) may account for reasons that public sector workers choose to enter a field that is less lucrative than private sector employment opportunities and continue to find satisfaction with their jobs even under adverse conditions. There is a need to tease out the effects of familial and other social networks, gender constructs and socio-demographic characteristics among public sector volunteers as possible explanations for increased volunteering among this sector.

**Research Questions**

The following questions are addressed in this research: 1) What are the contextual effects of volunteering and 2) Is there a relationship of one or more of these effects to gender?
CHAPTER II

Review of the Literature

Introduction to the Literature Review

The literature review begins by discussing the relation of social capital to research on volunteering, including relevant research on gender. The review then narrows to studies that deal with the specific concepts used in this research: volunteer studies on public sector employees and studies dealing with the demographic correlates of volunteer behavior.

Volunteering, Gender and the Social Capital Connection

Research on volunteer activities has become intertwined with the literature on social capital. There is a strong link in the literature to advocacy for volunteering and building or re-building social capital. The rationale for linking capital resources to volunteer studies includes exploring situational factors that make volunteering possible. Research suggests that three types of capital provide critical resources that enhance the likelihood of volunteering. These are human capital (wealth, status and education), social capital (collectivism and liberal democracy) and cultural capital (religion, or moral values and beliefs) (Parboteeah, et al, 2004). Social ties formed through kin and work networks increase the chances of being asked to volunteer – people with lots of human capital in the form of social connections are more likely to volunteer – they have more social ties to expose them to being asked. Wuthnow (1991) argues that social interaction is an important part of helping behavior. Without personal relationships, individuals would
have less opportunity for being part of a network and be less likely to volunteer. Social networks help explain the higher rate of volunteering among married people and parents and why religious people volunteer more (Wuthnow, 1991).

Social capital is comprised of social resources found in these networks, norms and trust and refers to the features of social organization, such as networks, that facilitate coordination and cooperation for mutual benefit in pluralistic society (Lowndes, 2004). Social capital and its attributes are now recognized as a valuable resource for civic society, perhaps even the “missing link” needed to explain social phenomena. Research that explores this venue frequently references the fact that the inability to access different forms of capital to address social problems may be attributed to inequitable access to social resources (Kearns, 2004).

In Social Capital: A theory of social structure and action, Nan Lin (2001) places the importance of social connections and social relations in achieving goals into a theory of social structure and action. Lin both argues and demonstrates that it is not only who you know that counts, but it is also what you know that makes a difference in life and society. Embedded resources in social networks enhance outcomes by 1) facilitating the flow of information 2) exerting influence on critical decision-making agents 3) providing social credentials to network members and 4) providing reinforcements that recognize individual and group worthiness. Lin provides an action aspect to social resource allocation in which an individual’s relationships become “visible.” This visibility informs our understanding of how structures that form social capital can also create
constraints on who uses the inherent resources of social capital. Lin (2001: 244) refers to use of social capital as *expressive* when the expected response to the mobilization of capital is “acknowledging ego’s property rights or sharing ego’s sentiment.” Communication serves as both the means and goal in this instance. Lin differentiates this expressive use from the *instrumental* use of capital as invested for in order to gain (allocate) more resources to ego.\(^5\)

Changes in modern society have had an impact on women’s social capital, not the least of which has been their entry into the workplace in large numbers. Carol Gilligan’s influential study illuminated the biases of popular theories of human development by giving voice to women’s lives and experiences. The author challenged the premise of psychological and developmental theories in which man’s experience is the standard by which all of human experience is explained. Gilligan argues that by leaving out women’s voices, women were leaving themselves out – out of the process of dialogue and enquiry that could transform a patriarchal world.\(^6\) Similarly, there is a deficit in social capital theory which omits the feminine voice from the domains of debate (political, economic and social) robbing these processes of critical perspectives and resources to address public problems. Theorists are beginning to confront this dualism and address social capital issues through the lens of women’s experience, as are researchers. Of importance to political scientists and policy makers alike is identifying factors that trigger or suppress

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\(^5\) Instrumental use may also seek preserve resources in addition to gaining additional ones as discussed in Nan Lin, *Social Capital: A Theory of Social Structure and Action*, 2001.

the mobilization of women’s social capital and how the social capital resources of women impact their civic participation.

Women’s political behavior is explored by Vivien Lowndes (2004) in an article in which she considers the utility of the concept of social capital to explain differences in political participation among women in Britain. Lowndes discusses the “gender gap” in political participation which indicates that even though women may vote as frequently (if not slightly more) than men, they remain under-represented in the political processes. Lowndes argues that women do have as much social capital as men but it tends to be of a slightly different type. Women’s “social capital profile” is more strongly embedded in informal social networks. Lowndes asserts that women are more likely to use their capital as a resource for “getting by” which is to say for building networks that enhance the well-being of their primary social contacts (i.e. families, friends, communities, etc.) Lowndes goes on to explain men’s social capital is more likely to be invested in activities like politics. Lowndes further notes that whether social capital is used as a political resources depends on a variety of factors and proposes a research agenda which will: 1) Identify the factors that trigger or suppress the mobilization of social capital; 2) Identify how these factors work in relation to different groups in society and; 3) Identify how these factors can be influenced by policymakers in the service of good and equitable governance. These proposals very closely mirror the theory of social capital explicated by Nan Lin
(2001) and women’s use of social capital, historically, more closely follows Lin’s definition of the expressive use of social capital.

Deborah Warr (2006) further elucidates the ways in which social capital conceptions are constrained by socioeconomic and gender circumstances. Warr argues that “gendering social capital” requires an acknowledgement of the specific ways in which the benefits of social capital are realized among women within disadvantaged communities as well. Warr’s study highlighted how women in disadvantaged neighborhoods utilized the “art and craft of social capital” in ways that allowed the women to both “get by” and “get ahead.” Crafting horizontal and “strong” bonding networks provides sources of practical support for “getting by.” The art of social capital creates and utilizes social connections across heterogeneous and vertical dimensions and requires bold and deliberative action by women in order to “get ahead.” “Expectations within gender roles have inclined women to acquire interpersonal and social skills and to take responsibility for maintaining social relationships within families and communities.”

Claims that social capital is declining are questionable, in part, due to the critical gaps in conceptualizing the mechanisms for the creation and distribution of social capital such as class and gender which are explored by Warr.

Associational membership can be segmented both vertically and horizontally for men and women. Pippa Norris and Ronald Inglehart (2003) studied alternative explanations for these differences. *Structural* accounts for the way unequal distributions of civic resources are influenced by age, gender, and class. *Cultural* explanations

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emphasize the attitudes and values that men and women bring to social engagement. 

*Agency* accounts for the role of informal mobilizing mechanisms generated by family, friends and colleagues. They research used data from the fourth wave of the World Values Study (WVS) which allowed comparison of 50 societies. Care was taken to account for both structural and cultural dimensions of social capital simultaneously in order to develop a reliable and valid measure of social capital. The consistent linkage between the dimensions of the strength of social networks, cultural norms, formal membership, and activism were considered.

Norris and Inglehart’s primary findings reflected 1) participation in civic associations tend to be strongly sex-segregated horizontally 2) gender gaps in levels of associational memberships and social trust were small but significant across all societies measured and 3) multivariate analysis suggests that these phenomena largely reflect the way in which men and women differ in their informal social networks. Thus, the gender gap in associational life appears to be more strongly related to the agency-role of informal social networks rather than to the many well-established structural and cultural differences in men and women’s lives. Social capital (e.g. social networks or ties) has been shown to be critical for political engagement and the attainment of power. However, accessing the linkages among social relationships that translate in accessing these resources remains elusive for women. Again, Lin’s work suggests a research venue for how *choice* plays into the way men and women mobilize social capital and to what ends.

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Throughout history women have been major participants in community organizations and strong advocates for community control of local services and neighborhood preservation, as well as caring for others through acts of volunteering. Women have been purveyors of both bonding and bridging social capital and research has linked measures of women’s social capital to women’s status (Caiazza & Putnam, 2002; Gidengil, et al 2003; Reay, 2004; Muntaner & Lynch, 2002; Morrow, 2003; Norris & Inglehart, 2003; Warr, 2006). These studies find that there appears to be a positive relationship between higher levels of social capital and the overall status of women, however, they are unable to ascertain whether social capital affects women’s status or vice versa. It may be that where women’s status has been improved, there are overall greater resources of social capital. Although beyond the scope of this study, further research into the relationship of volunteering and social capital allocation could inform this concern.

The advocates of social capital claim that it has beneficial effects on political participation and democratic society. While history shows that women have done their share in the creation of social capital, their participation and impact in politics has been severely constrained. The implication is that not all community organization is equal with respect to its translation into politics. Lowndes research has indicated that women’s social capital differs somewhat from men’s and tends to be spent in ways that focus more on “care and community” and less on formal politics. Whether social capital is mobilized as a political resource depends on a variety of potential factors. Research is needed that
examines the relationship of volunteering to social capital through the lens of women’s experiences today.

Finally, Wilson and Musick (1997) brought together concerns of various forms of capital and constructed an integrated theory of volunteer work based on the following three premises: 1) volunteer work is productive work that requires human capital, 2) volunteer work is collective behavior that requires social capital, and 3) volunteer work is ethically guided work requiring cultural capital. Wilson and Musick’s work integrates a sociological perspective with an economic perspective to explain volunteer behavior using a structural equation model. While the objective of their research was to understand the ways in which formal and informal (helping) volunteer behaviors interacted, their findings are significant to this research. Among their conclusions were that the effects of social status (human capital variables-age, race and gender) are largely indirect. That is these variables determine how much of the capital important to volunteering one can collect. For instance, although formal volunteer work does not appear to be strongly gendered, the fact that women report helping at a higher rate than men do provides strong support that nurturance and caring for others is deeply embedded in sex-role definitions and supports that human capital variables are connected in complex ways. This research seeks to add to the understanding of the interplay between gender, social capital resources gained through social ties and the effects on volunteer behavior.

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9 The concept of cultural capital is not applied to this study; however, many studies use the concept to explain values and belief systems that underlie volunteering. For a discussion of cultural capital and its antecedents refer to Pierre Bourdieu, (1986) “The forms of Capital” in J. Richardson (Ed.) Handbook of Theory and Research for the Sociology of Education, (pp 241-58) New York: Greenwood.
This discussion has laid a theoretical foundation for understanding the dynamics of gender and social capital involved in the decision to volunteer. We turn now to studies on the volunteer behavior of public sector employees.

**The Public Sector and Volunteering**

Wilson (2000) discusses the connection between volunteering and employment by asking the question of whether it is the number of hours worked that correlates to volunteering or why people choose to work the hours they do. Do people choose part-time work (or work that is supportive) so that they can volunteer? A similar question is do people who are motivated to serve the public good choose public employment so that they can fulfill altruistic motives or do people who volunteer more choose work that supports their volunteer ethos? Few attempts have been made to explore these questions and one must look outside the usual “volunteer” studies to research on employee motivations to inform the dynamics of worker motivation. Research that has explored individual attributes of public and non-profit sector employees have concluded that these employees have more prosocial values than private sector employees (Houston, 2005).

Rebecca Blank (1985) analyzed workers’ choice between employment in the public and private sectors. Of interest was the extent that variables defining personal characteristics (e.g., experience, education, race, gender, veteran status, geographic location and occupation) might account for choice of employment sector. Using the May 1979 CPS data in a two-way probit model, Blank found public sector employment is preferred by the “protected” groups of nonwhite, veterans and women. More experienced
and highly educated persons were also found to be more likely to choose public sector employment. Certain occupational groups will be more or less likely to choose public or private sector employment as the demand for their skills varies significantly among sectors. Within the public sector, significant differences were found between choices at the federal and state and local levels. Blank found that women were more likely to be employed at the state level, while nonwhites and veterans were more likely to be employed at the federal level. In addition, within occupational choice categories (e.g. administrative and professional, clerical, service, and labor or operative) service workers were found to be more predominately employed at the state and local level than anywhere else in the economy. Although not among Blank’s research hypotheses, the implications are that highly educated and experienced women can be expected to be found predominately in service positions at the state level.

Rotolo and Wilson (2006) draw from Blank in their research and carry the analysis to its effect on the volunteer labor supply. The researchers examined how the employment sector in which workers are situated effects the likelihood of volunteering and the number of hours volunteered. Although previous research has demonstrated that public and non-profit sector workers have more prosocial values than private sector workers, sociologists attribute to social class many of the effects that mediate the level of civic engagement activities, such as volunteering and political participation. The authors sought to determine if jobs make a difference not only due to their rank or class effect (i.e. professional, managers, blue collar, technical, etc.) but also because of the sector in which they are located.
Rotolo and Wilson cite three reasons why public sector workers are more likely to volunteer than private sector workers: 1) public sector employees have different values and motivations for going to work than private sector employees, 2) public sector employees have a stronger vested interests in community activities intended to strengthen support for or complement the work of public institutions, 3) public sector employees are more likely to volunteer due to the social relations in which the job is embedded. The third reason cited is linked to the fact that public sector workers are more likely to encounter volunteers in the course of their work. Frequent interactions with volunteers increase the likelihood of gaining knowledge about volunteer opportunities and increase the chance of being asked to volunteer.\textsuperscript{10}

The analysis was conducted in two stages. The number of hours volunteered for all organizations was regressed on sector, and then the number of hours volunteered for specific types of volunteer organizations was regressed on sector. The researchers reasoned that volunteer work, like paid work, is a very heterogeneous category of productive labor. Therefore, if employment sector does represent a basic structural cleavage in society, it should not be too sensitive to the type of volunteer work being performed with. Using data from the 2002 Current Population Survey (CPS) Special Supplement on Volunteering, the researchers conducted a Tobit analysis to examine these relationships.

Control variables in the study were constructed for occupational status (professionals, administrators, others, with manual omitted); education (high school,  

\textsuperscript{10} The impact of organizational context such as work on volunteering has hardly been explored (Wilson, 2000; Wilson & Musick, 1997b).
some college but less than a B.A., bachelor’s degree, postgraduate, less than high school omitted); number of hours worked in primary job, number of hours worked in second job; number of jobs; race (coded as four dummy variables with “white” as the omitted category); gender, males=0, females=1; age, measured in years; self report=1 and proxy=0.

The researchers found that non-profit sector employees are the most likely to volunteer and volunteer the most hours, followed by the public, self-employed, and then the private sector employees. (Self-employed workers have rarely been used to discriminate among employed workers in the study of volunteering.) These findings were robust across sector and type of volunteer activity. The odds of a teacher volunteering are dependent on whether she works for a for-profit institution, a non-profit institution, a public institution or hires herself out as an independent piano teacher. This finding indicates that the institutional context of jobs cannot be ignored when considering the volunteer labor supply and that further research exploring the mechanisms linking sector and volunteering are needed. Preference for particular types of volunteer activity—particular issues and interests—might be influenced by employment sector.

Research has demonstrated that government workers do indeed possess attitudes consistent with a public service ethic and that this ethic is fairly widespread among public sector employees. Brewer (2003) developed a public service motivation (PSM) construct that suggests that public employees will engage in behavior consistent with community-oriented and altruistic motives. Brewer used cross-sectional data from the 1996 American National Election Study (NES) to measure civic attitudes and behaviors that were closely
related to social capital, using public sector employment as a selection variable. The attributes measured included social trust, social altruism, equality, tolerance, humanitarianism and civic participation. The index of social altruism was composed of five items: talking to neighbors regularly; being “happy” to serve on a jury if selected; becoming involved with a group to work on a community problem within the past twelve months; contributing money to a charity or church in the past twelve months; and volunteering in the past twelve months. Using multivariate analysis, Brewer found that in addition to their job roles, public servants also perform a variety of extra-role behaviors described as “civic engagement.”

David Houston’s (2005) research explored public service motivation (PSM) more explicitly. One form of civic activity is involvement in the political process. Although increased political behavior is suggested by the public service motive, involvement in political activities such as voting may be a function of self-interest. A public employee may vote for candidates supportive of policies that will assure that his or her livelihood is protected. Following on work by Brewer (2003), Houston argues a more substantial test of the public service motive relates to civic involvement beyond politics, motivation which is not easily explained by self-interest and asks the question, “do public service employees ‘walk the walk’ of public service activities?”

Houston analyzes whether this ethic is transferable to behavior in public sector workers.\textsuperscript{11} Data from the 2002 General Social Survey was used in a multivariate logistic

regression for this analysis. Houston examines civic participation by examining charitable acts which are consistent with altruistic and other-directed motives between public, private and non-profit employees. Ordinal response categories (donating blood, volunteering time to charitable organizations and making monetary contributions to charity) were collapsed to create dichotomous variables indicating that an individual either had or had not done each of these activities in the past year.

Testing the hypothesis related to volunteer activity implicit in PSM initially was performed in a bivariate analysis using cross-tabulations and chi-square test statistics. Additional analyses were performed using logistic regression models to control for the influence of sociodemographic variables found to be significant in previous research on volunteerism. The first logistic model used the dependent variable coded as “government employees and other” while the second model distinguished between “private, non-profit, and public employees.” The public employee variable was found to positive and statistically significant in both logistic models. However, the second model had more explanatory power (Nagelkerke Pseudo $R^2=0.180$ and $R^2=0.154$, respectively). Several other factors emerged in both models to help explain self-reported volunteering behavior. The sum of these findings indicate the profile of an individual most likely to volunteer for a charitable organization is a female who is employed by a public service organization (government or non-profit), possesses high socioeconomic status, has children under the age of seventeen in the household, and attends church at least once a week. These findings are actually supportive of social resource arguments for volunteer behavior.

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The current research will explore whether variables associated with theories that link social embeddedness (measured through social ties and networks) explains variations in volunteer behavior better than public service motivation. Testing of PSM as a hypothesis for volunteering among public sector employees has been inconclusive at best failing to explore other variables known to correlate with volunteer activity. Research that specifically measures the impact of social ties among public sector volunteers is lacking.

**Demographic Correlates of Volunteering**

In addition to human and social capital influences on the both the decision and the ability to volunteer, researchers are exploring the effects of demographic correlates such as age, race, and gender. Ecological changes in the workforce have threatened the supply of volunteer labor. Compared with the demographics of twenty years ago, more women and people of color now participate in the American workforce (Riccucci, 2002). Another demographic factor affecting the volunteer labor supply is aging. Comparative research that explores the changing nature of our workforce and informs its impact on volunteering is needed (Carson, 1993; Mesch, et al., 2006). The following section discusses the findings and methodology of the research that is examining how various demographic correlations impact volunteer behavior.

Researchers have sought to examine the effects of race, gender and marital status on philanthropic behavior. Frequently these studies examine giving as well as volunteering to study these effects. Mesch et al. (2006) used data from Indiana households in a multi-method, multi-group research design to compare giving and
volunteering across eight different survey methodologies. The researchers hypotheses were 1) expectation that those who are older, have higher income, more education and are married to engage in more giving and volunteering; 2) marital status is a form of social capital therefore differences between married and single men and women predicts differences in giving and volunteering and 3) differences in responses by gender and race will vary with survey methodology.

The researchers operationalized the dependent variable “volunteering” as number of hours volunteered per year. Formal volunteering (e.g. volunteering through a formal organizational structure) rather informal (or helping) activities were counted. Data on giving was grouped similarly, formal as opposed to informal and in total dollar amounts annually. The independent variables measured gender, race and marital status. The researchers included social capital variables as control measures. These were operationalized age of respondent, annual household income, education level. These variables have been found to be predictors of giving and volunteering in the literature in the field.

The data was examined for differences between race, gender and marital status on formal giving and volunteering using t tests. The authors then undertook a series of multivariate analyses to examine whether the differences were due to effects of variation in the sample characteristics or the effects of the module administered. Tobit and probit analyses were utilized due to truncation bias in the variables (dollar amounts and number of hours are never negative). Samples sizes for each of the eight modules ranged from 101 to 124. Sample sizes were further limited by the number of minority households in
each module therefore the survey modules were grouped three ways (short, medium and long) to simplify the analyses. The results of the volunteer analyses are of interest to this study.

The Tobit base model analyses suggest that, after controlling for differences in human capital and research methodologies, single females are 18% more likely to volunteer and to volunteer 146 more hours per year than single men, ceteris paribus. However, there was no difference in the fully interactive model. The findings of the study were consistent with early research that has found the probability of volunteering increases with level of education and income. These findings are consistent with human capital theory. The researchers point out that the higher volunteer rates among single women points to an alternative hypothesis that single women as a group may have less social and human capital (i.e., Lower incomes and occupational status and fewer social networks) and therefore may be more compelled to volunteer as a means to build or increase human and social capital resources.

Other research has focused on patterns of volunteering over the life cycle to understand how different mixes of social factors increase or diminish the likelihood that a person will volunteer. This research venue also considers the relationship between social connectivity and volunteering. Selbee & Reed (2001) uses multidimensional cross-tabulations and ANOVA to arrive at rates of volunteering for a sample of Canadians (N=18,301). The authors found that over the life-course distinct patterns of volunteering emerged. Getting married increased volunteering particularly between the ages 25 and 44. Singles volunteer at higher rates between ages 15 and 24. Becoming a parent had two
distinct effects on volunteering. Parents of children under the age of six volunteered at lower rates, while having children over age six increased the probability of volunteering. When the data is examined more closely, however, these patterns are not as clear, and age-related differences emerge. In the case of people without children marital status affects volunteering only for young adults and seniors. For those between the ages of 25 and 64 marital status has no effect on volunteering if there are no children in the home; if there are children over age 6, married individuals are more likely to volunteer than those who are not married (e.g. single parents). Selbee & Reed also constructed a variable of “social connectivity” that showed that among groups of people who are quite different demographically, higher rates of volunteering are fairly consistently associated with higher levels of connectivity. The social connectivity variable measured the scope and intensity of the ways people interact with other individuals and groups.

Although several studies emphasize the high rate of volunteering among women (Wilson & Musick, 1997; Wilson, 2000), there is no consensus in the literature on the effect of gender on volunteering. While Wilson (2000) shows that the reasons women are more involved in voluntary work include “higher scores on altruism and empathy” and “they are less active in the labor market allowing more free-time and flexibility” for volunteering, Dekker and van den Broek (1996) and Pearce (1993) report that men are more likely to volunteer. These studies cite better education, more resources to share, and a lack of responsibility for domestic chores as factors that contribute to men’s higher rates of volunteering.
Historically, much of the volunteer labor supply has come from women. Generally, this volunteer labor supply is attributed to traditional homemakers (Chambre, 1989). The recently released U.S. Bureau of Labor Statistics Report (2006) revealed that females volunteer at significantly higher rates than males do in every state in the U.S. The study also found that women with children under age 18 volunteer at a significantly higher rate (39.9%) than do women without young children (29%) and women who work volunteer at a significantly higher rate (36.1%) than women who do not work (27.2%).

The finding that women who work volunteer at higher rates than women who do not conflicts with popular reports that women entering the workforce are diminishing the volunteer labor supply. Studies do not account for how gender differences in volunteering reflects embedded social patterns. Research that takes a critical look at the nuances of volunteer behavior in light of gender effects is lacking.

This research examines gender effects on volunteer behavior as it relates to access to social capital resources. While social ties, as explained in the context of networks and social capital resources, help explain the higher rate of volunteering among married people and parents, it fails to explain how competing demands from work and family make it difficult for women to volunteer, or whether women are juggling family and work in addition to bearing the caring work for society through volunteering.

**Summary of the Literature Review**

It is evident that while much has been learned about the distribution and social correlates of volunteering, there remains a need for a richer contextual understanding of

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the volunteer. Volunteerism, under human capital theory, is regarded as means to increase one’s labor market value. Investment in human capital (e.g. skills and knowledge gained through volunteering) garners increased value to the individual which can be transferred into better jobs, and gains in social and political status. Volunteering also provides a way to increase social ties and networks, thereby creating social capital resources. The literature on volunteering is turning more frequently to the presence of social capital resources as an explanation for volunteer behavior.

Research has attributed volunteer behavior to altruism or public service motivation (PSM), the presence of social networks or ties that facilitate volunteer opportunities, and access to social capital resources that enable volunteering. The role of gender on volunteer behaviors is only beginning to be studied. Understanding these effects in public sector employees has important implications for the volunteer labor supply as well as public sector employee policy. This study further explores the contextual factors that contribute to volunteer habits by examining variations in volunteering in the public sector.
CHAPTER III

Research Methodology

Introduction

This chapter explains the design of the study, the operationalization of the variables, the selection of the sample and the general strategies used in the data collection, preparation and analysis. Issues of validity and reliability are presented as well as the limitations of the study.

Methodology

This is a cross-sectional study of a state-wide random sample of public employees and provides current sociodemographic information on public sector employees. The purpose of this study is to examine variations in volunteering behavior in the public sector. A cross-sectional design is appropriate for when researchers wish to carry out studies in natural, real-life settings using probability samples as in this research (Frankfort-Nachmias & Nachmias, 2000).

Volunteer behavior has been attributed both to public service motive (PSM) and to the density of social ties or networks, a factor endogenous to social resources in the literature (Clary and Miller, 1986; Clary and Orenstein, 1993; Wilson & Musick, 1997; Wilson, 2000; Houston, 2005). Public sector employees have been shown to have higher volunteer rates than private sector. Non-profit sector employees have been shown to have the highest rates (Houston, 2005; Rotolo & Wilson, 2006). This study builds upon the foundation of this research and examines how various factors contribute to the variation in volunteer behavior while exploring the effects of social roles and social ties (or
networks) on volunteering among public sector employees. The study also examines the role of gender on volunteer behaviors. The questions addressed in this research are: 1) What are the contextual effects of volunteering and 2) Is there a relationship of one or more of these effects to gender?

The answers to these questions have implications for how volunteer activities might be either constrained or fostered among public sector employees, as well as having implications for how they build of social and political resources. The remainder of this chapter will discuss the methodology of the research in the following order: data collection; the sampling strategy; characteristics of the sample; data preparation; the research hypotheses; the operationalization of the variables and how they will be used in the analyses. Finally, limitations of the study are discussed.

### Data Collection

The current study uses primary data that was collected by Hutchinson, Brock and White (2007) to elicit information concerning the relationship of stress levels and caregiving to work demands among Virginia public employees. The initial findings were provided to the Virginia Department of Human Resources (DHRM) in the report, “The intersection between caregiver responsibilities and work demands among public sector employees” (2007). The current research uses data collected on the volunteer habits of Virginia state employees which has not previously been analyzed. The study was exploratory and used a cross-sectional survey design to gather the public sector employee
data. The study employed a total design method (TDM) to collect the survey data.\textsuperscript{13} Surveys were mailed to state employees in three waves between April and July 2006 resulting in the return of 1,501 (60 percent) good surveys.

The survey instrument consisted of 155 items and gathered information both intrinsic and extrinsic to the job, including information about volunteer activity. The survey included items on job characteristics drawn from the Job Diagnostic Survey (JDS) (Hackman & Oldham, 1975) and measures of burnout drawn from the Copenhagen Burnout Inventory (CBI) (Kristensen, et al, 2005), as well as demographic indicators and indicators relating to child care, elder care and the ‘family friendly’ nature of the workplace were taken from the Survey of Federal Employees (SOFE).\textsuperscript{14} The SOFE was designed to provide policymakers with a comprehensive assessment of the factors that influence worker performance. The U.S. Office of Personnel Management administered the survey in November 1991 and February 1992 to over 55,000 employees. The SOFE features questions regarding employees’ personal situations, participation in family-friendly programs, and satisfaction with their work-family balance and with their jobs. The comprehensiveness of the survey is unmatched by more recent public and private workforce studies according to Saltzstein, Ting and Salztstein (2001) who used the 1991

\textsuperscript{13} Dillman, Donald. (1978). \textit{Mail and Telephone Surveys: The total design method}. New York: John Wiley & Sons, Inc.,

\textsuperscript{14} The scales used to measure job satisfaction and burnout were not utilized in this study. However, additional information for the reader may be found for each scale as follows: Hackman, J. Richard and Oldham, Greg R. (1975). Development of the Job Diagnostic Survey. \textit{Journal of Applied Psychology} (60):159-170 and Kristensen, Tage S., Marianne Borritz, Ebbe Villadsen, and Karl B. Christensen. (2005). The Copenhagen Burnout Inventory: A new tool for the assessment of burnout. \textit{Work & Stress} 19 (3): 192-207
SOFE to test a theoretical framework regarding relationships between work and family demands. The overall design of the survey captures a wide range of information that offers the opportunity for an in-depth exploration of the contextual factors of volunteer behavior among this sample of public sector employees. (The instrument is attached in Appendix I.)

**Sampling Strategy**

The study was exploratory and used a cross-sectional survey design to gather data. A stratified random sample (N=2,519) was drawn from the state’s employee database (approximately 72,000 names) using as the strata, eight of the nine pay bands that classify employees into broad salary categories. The ninth pay band was omitted because of its small size. Faculty members at state institutions and political appointees were also omitted since they are not categorized by pay band. Based on state data reported during the survey period, the resulting sample over-represents the white population, at the time the sample was drawn, by about seven percent; it under-represents the African American population by about twelve percent, and over-represents others and unknowns by about three percent. In the analysis, the under representation of race tends to cause “race” to disappear as a factor in this sample. The age distribution for respondents compared with the State’s data is similar although exact comparisons are not available since the state data uses broader range categories than were used in the sample. The respondent characteristics are reported in the following table of frequencies:
### Table 3.1.1: Respondent Characteristics (N=1451)

<table>
<thead>
<tr>
<th>Variables and their attributes</th>
<th>Male n (%)</th>
<th>Female n (%)</th>
<th>Total n (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Race/Ethnicity</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>White</td>
<td>603(78.3)</td>
<td>489(71.8)</td>
<td>1092(75.3)</td>
</tr>
<tr>
<td>Other</td>
<td>167(21.7)</td>
<td>192(28.2)</td>
<td>359(24.7)</td>
</tr>
<tr>
<td>Total</td>
<td>770(100.0)</td>
<td>681(100.0)</td>
<td>1451(100.0)</td>
</tr>
<tr>
<td><strong>Age</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>18-29</td>
<td>32(4.2)</td>
<td>44(6.5)</td>
<td>76(5.2)</td>
</tr>
<tr>
<td>30-39</td>
<td>107(13.9)</td>
<td>86(12.6)</td>
<td>193(13.3)</td>
</tr>
<tr>
<td>40-49</td>
<td>99(12.9)</td>
<td>99(14.5)</td>
<td>198(13.6)</td>
</tr>
<tr>
<td>50-59</td>
<td>262(34.0)</td>
<td>266(39.1)</td>
<td>528(36.4)</td>
</tr>
<tr>
<td>60+</td>
<td>270(35.1)</td>
<td>186(27.3)</td>
<td>456(31.4)</td>
</tr>
<tr>
<td>Total</td>
<td>770(100.0)</td>
<td>681(100.0)</td>
<td>1451(100.0)</td>
</tr>
<tr>
<td><strong>Family Income</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>25,999 or less</td>
<td>45(6.1)</td>
<td>85(13.1)</td>
<td>130(9.4)</td>
</tr>
<tr>
<td>26,000-50,999</td>
<td>155(21.0)</td>
<td>182(28.1)</td>
<td>337(24.3)</td>
</tr>
<tr>
<td>51,000-75,999</td>
<td>131(17.8)</td>
<td>116(17.9)</td>
<td>247(17.8)</td>
</tr>
<tr>
<td>76,000-100,000</td>
<td>183(24.8)</td>
<td>124(19.1)</td>
<td>307(22.2)</td>
</tr>
<tr>
<td>100,000 +</td>
<td>223(30.3)</td>
<td>141(21.8)</td>
<td>364(26.3)</td>
</tr>
<tr>
<td>Total</td>
<td>737(100.0)</td>
<td>648(100.0)</td>
<td>1385(100.0)</td>
</tr>
<tr>
<td><strong>Education</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>High School or less</td>
<td>144(18.7)</td>
<td>130(19.1)</td>
<td>274(18.9)</td>
</tr>
<tr>
<td>Some College</td>
<td>177(23.0)</td>
<td>252(37.0)</td>
<td>429(29.6)</td>
</tr>
<tr>
<td>College Degree</td>
<td>225(29.2)</td>
<td>168(24.7)</td>
<td>393(27.1)</td>
</tr>
<tr>
<td>Grad. or Prof Degree</td>
<td>224(29.1)</td>
<td>131(19.2)</td>
<td>355(24.5)</td>
</tr>
<tr>
<td>Total</td>
<td>770(100.0)</td>
<td>681(100.0)</td>
<td>1451(100.0)</td>
</tr>
<tr>
<td><strong>Years Employed State Govt.</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5 or fewer years</td>
<td>186(24.2)</td>
<td>183(26.9)</td>
<td>369(25.4)</td>
</tr>
<tr>
<td>6-10 years</td>
<td>136(17.7)</td>
<td>125(18.4)</td>
<td>261(18.0)</td>
</tr>
<tr>
<td>11-15 years</td>
<td>81(10.5)</td>
<td>77(11.3)</td>
<td>158(10.9)</td>
</tr>
<tr>
<td>16-20 years</td>
<td>120(15.6)</td>
<td>104(15.3)</td>
<td>224(15.4)</td>
</tr>
<tr>
<td>21-25 years</td>
<td>74(9.6)</td>
<td>75(11.0)</td>
<td>149(10.3)</td>
</tr>
<tr>
<td>26-30 years</td>
<td>76(9.9)</td>
<td>71(10.4)</td>
<td>147(10.1)</td>
</tr>
<tr>
<td>&gt;30 years</td>
<td>97(12.6)</td>
<td>45(6.6)</td>
<td>142(9.8)</td>
</tr>
<tr>
<td>Total</td>
<td>770(100.0)</td>
<td>680(100.0)</td>
<td>1450(100.0)</td>
</tr>
<tr>
<td><strong>Marital Status</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Married</td>
<td>617(81.0)</td>
<td>412(61.0)</td>
<td>1029(71.6)</td>
</tr>
<tr>
<td>Sep./Divorced/ Widowed</td>
<td>81(10.6)</td>
<td>172(25.5)</td>
<td>253(17.6)</td>
</tr>
<tr>
<td>Never Married</td>
<td>64(8.4)</td>
<td>91(13.5)</td>
<td>155(10.8)</td>
</tr>
<tr>
<td>Total</td>
<td>762(100.0)</td>
<td>675(100.0)</td>
<td>1437(100.0)</td>
</tr>
<tr>
<td><strong>Have Children</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>341(44.3)</td>
<td>306(44.9)</td>
<td>647(44.6)</td>
</tr>
<tr>
<td>No</td>
<td>429(55.7)</td>
<td>375(55.1)</td>
<td>804(55.4)</td>
</tr>
<tr>
<td>Total</td>
<td>770(100.0)</td>
<td>681(100.0)</td>
<td>1451(100.0)</td>
</tr>
<tr>
<td><strong>Volunteer in Community</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>427(55.5)</td>
<td>329(48.3)</td>
<td>756(52.1)</td>
</tr>
<tr>
<td>No</td>
<td>343(44.5)</td>
<td>352(51.7)</td>
<td>695(47.9)</td>
</tr>
<tr>
<td>Total</td>
<td>770(100.0)</td>
<td>681(100.0)</td>
<td>1451(100.0)</td>
</tr>
</tbody>
</table>
Data Preparation

The data required additional cleaning and coding to obtain the variables needed for use in the analysis. The methods used for coding these variables are discussed below and in relation to the hypotheses in which they will be used. Before constructing the variables, however, other data manipulations were required to prepare the data for analysis. Nine cases on the variable Vol_1 had indicated “don’t know” in response to the question “Do you volunteer in the community?” and were collapsed into the “no” response category before proceeding with creating the dependent variables. The data made possible several dependent variables that were discrete and one continuous dependent variable. These variables allow for regression techniques in addition to chi square techniques for analysis of the data.

Since two analyses chosen for this study include the use of regression techniques the data for these analyses were checked for multivariate normality and multicollinearity as well as missing value patterns. (Collinearity diagnostics are reported in chapter four findings, part II as they pertain directly to the Logistic Regression analyses.) SSPS MVA was run to detect missing data on gender, education, income, age, race and volunteering (Vol_1). The data was also inspected for outliers. The analyses revealed 50 cases in which data was missing on three or more of these variables. These were determined to problematic for the regression analyses and were therefore deleted leaving 1451 cases available for analysis. After missing values were deleted the cases were examined for outliers and no problem was found.
The continuous dependent variable Tvol_year required a logarithmic transformation for use in the regression analysis chosen for H4. Discussion of this transformation has been reserved for the findings for H4 in Chapter Four as its relevancy is more meaningful in that context.

**Research Hypotheses**

**H1: There is a relationship between volunteering and familial embeddedness among public sector employees.**

It has been shown in previous research that public sector employees volunteer at consistently high rates. Non-profit employees have been found to volunteer at the highest rates, with the public sector following a close second while the private sector employees have been found to have the lowest percentages of volunteering (Rotolo & Wilson, 2006). Some research accounts for the higher rates among non-profit and public sectors as being due to these sectors drawing employees with an altruistic personality, or public service motivation (PSM) (Houston, 2005). Alternative hypotheses for volunteering include those which explain motivation in terms of social networks, primarily those consisting of familial bonds, and defines “social networks” as an attribute of social embeddedness. Individuals who have more social networks or ties—through marriage and children relationships, will have more opportunity to volunteer (Selbee & Reed, 2001; Wilson & Musick, 1997; Wilson, 2000; Lin, 2001). This study uses a data population comprised completely of public employees. H1 tests for a significant bivariate relationship between volunteering and the density of family ties. A significant
relationship between volunteering and family density would support the alternative
theory of higher rates of volunteering associated with increased social ties through denser
family relationships. However, if no relationship is found it will lend support to the
theory of altruistic personality among public sector employees as the explanation of
increased volunteering among public sector employees.

**H2a: Social embeddedness as measured by family embeddedness, support systems or work associations predicts volunteering among public sector employees.**

**H2b: Including demographic characteristics improves prediction of volunteering among public sector employees.**

In the literature on volunteering, the presence of social networks is frequently
associated with an increase in volunteering (Wilson, 2000; Selbee & Reed, 2001). This
research primarily measures social networks by familial ties narrowly defined as having
children or not having children. Some researchers define these ties by marital status. This
approach neglects the effects of other types of social ties and networks on volunteer
behavior. In this analysis social ties are defined as familial embeddedness, social support
networks and work associations in order to provide a more nuanced analysis of how
different types of social ties may impact volunteering. It is predicted that individuals who
report denser social networks will be more likely to volunteer. Logistic regression
analysis is appropriate for exploring relationships among multiple discrete variables and
will be used to examine how well the variables of interest predict the likelihood of
volunteering for H2. The odds of being a volunteer will first be examined as a function of
the independent predictors (fam-emb; supp; and work_assoc) (H2a) and then socio-
demographic predictors will be added to the model to test their effect in obtaining the best predictive model (H2b).

**H3: The scope and type of volunteer activities vary by family density and gender.**

It is expected that variations in the number of activities (scope) and the type of activities volunteers engage in will vary by the density of family ties (embeddedness) and gender. Volunteers may limit their activities to a single activity or give time to multiple activities. It is expected that gender and family will influence the type of volunteer activities performed. Contingency tables and appropriate measures of magnitude are used to explore these relationships.

**H4: There is a difference in hours volunteered per year by men and women when the effects of family density are controlled.**

Finally, a regression analysis will test the significance of family ties on annual volunteer rates by gender. It is expected that family ties differentially impact the number of hours men and women volunteer. H4 is tested using a 2 by 2 between groups analysis of variance (ANOVA) to control for the effect of the density of family ties on male/female volunteer rates.

**Variables**

The dependent variables and predictors are operationalized in the following section. After the discussion the variables, hypotheses, and statistical methods are summarized in a tabular format.
**Dependent Variables**

Measures of volunteering in this study consist of responses to the following questions: Do you spend time volunteering in the community? (Yes/no) About how many hours do you typically volunteer? Respondents’ choices included: hours per week; hours per month; hours per quarter; hours per six months; and hours per year. In addition respondents were asked what type of volunteering they typically did. Eleven response categories were provided, including a write-in option if the volunteer activities participated in were not listed. The response to this question also allows a tabulation of the scope of activities of the respondents. These variables are consistent with measures of volunteering found in the literature in the field. These measures are used to construct the dependent variables needed for each analysis. The operationalization of the dependent variables to be used in the analyses is as follows:

**Volunteer:** A dichotomous variable (Vol_1) that indicates whether the respondent volunteers. (Coded as 0=no; 1=yes)

**Volunteer Scope:** A variable (Vol_scope) indicating the scope of volunteer activity was created by summing the range of types of volunteer activity each respondent participates in (coded as 1=1 activity; 2=2 activities; 3=3 or more activities).

**Type of Volunteer Activities:** A nominal variable (Vol_type) which groups activities according to the kind of returns identified with activity (1=instrumental; 2=expressive; 3=both). Lin (2001) argues for a model of social capital theory that explications how
activities generate returns or gains to individuals. “It should propose how one or more elements …directly or indirectly impact an individual’s economic, political, social capital (resources) or his or her physical, mental, and life-well-being.” A major premise of this study is that men and women mobilize their social ties and resources differentially. Activities were grouped according to those that provided “instrumental” returns—defined as obtaining economic, political, social returns for the individual (or his/her family) and activities that provided “expressive” gains—defined as maintaining resources. The principle underlying expressive actions is to mobilize resources in order preserve and protect existing resources. The types of returns for expressive actions are specified as maintaining physical, and mental health and life satisfaction (Lin, 2001: 244-247) Using the eleven response categories to “what type of volunteer activity do you typically do” this variable was constructed by grouping [civic, political, school, youth groups] into “instrumental” and [children’s activities, elder-related, family-oriented, and animal focus] into “expressive.” There is overlap in the response so that some respondents participate in “both” types of activities. Responses coded “religion” and “other” are not tabulated for this variable. Religious activities might be interpreted as either expressive or instrumental or both. Without additional information making this determination is not feasible.

Log Transformation of Annual Volunteer Hours: The final dependent variable used is a continuous dependent for a regression analysis. The original variable (Tvol-hours) was positively skewed. The variable was logarithmically transformed for use in the analysis. A more detailed account of the procedure follows in the data preparation section.
Independent Predictors

Social Network Indicators: The literature has found a positive relationship between volunteering and the presence of social ties as measured by individuals’ “networks” (Selbee & Reed, 2001; Wilson & Musick, 1997; Wilson, 2000). For this study the social ties are measured by three measures: familial embeddedness, social support networks, and work associations.

Family Embeddedness: Theories on social capital resource allocations argue that as familial social ties increase, so does the likelihood of volunteering (Wilson, 2000; Wilson & Musick, 1997). This variable (fam_emb) was constructed from two questions in the survey: “What is your marital status?” and “How many children under the age of 21 live with you at least half the time?” There are five possible responses to each of these questions. In order to create the variable needed for this analysis responses for each question were collapsed to provide a “married / not married” variable and a “have children / do not have children” variable. These were then summed. Some respondents indicated “not married with children” therefore the value schema is: 1= single, no children; 2=married, no children; 3= single, with children; 4=married, with children. This coding allows a more rigorous investigation of the effect of density of family ties on volunteer habits.
**Support networks** are identified by the response to the survey question “I have a strong social support network (relatives, friends, neighbors).” This question is answered on a 5-pt. Likert scale (5=strongly agree, 1=strongly disagree).

**Work Associations** are identified by the survey question “When given the opportunity, I have little association with my colleagues at work.” This variable is reverse coded with response of “strongly disagree” indicating a high level of association with colleagues when given the opportunity on a 5 pt. Likert scale (5=strongly disagree, 1=strongly agree).

Finally, sociodemographic variables include gender, income, age, and education. The effects of the sociodemographic variables will be explored and significant results reported. A summary of the dependent and independent variables, the associated hypotheses and the type of analysis that will be used to test the relationships is presented in Table 3.1.2 below.
Table 3.1.2 Table of Dependent and Independent Variables by Hypotheses

<table>
<thead>
<tr>
<th>Bivariate relationship</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>H1</strong>: There is a relationship between volunteering and familial embeddedness among public sector employees.</td>
</tr>
<tr>
<td><strong>DV</strong></td>
</tr>
<tr>
<td>Volunteer (Yes/No)</td>
</tr>
</tbody>
</table>

- 1=single, no children; 2=married no children; 3=single, with children; 4=married with children

<table>
<thead>
<tr>
<th>Logistic Regression Model</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>H2a</strong>: Social embeddedness as measured by density of family structure, support systems and work associations predict volunteering among public sector employees.</td>
</tr>
<tr>
<td>Develops a model of predicting volunteering based on social embeddedness (networks) and socio-demographic characteristics.</td>
</tr>
<tr>
<td><strong>H2b</strong>: Social embeddedness (as measured above) and socio-demographic characteristics predict volunteering among public sector employees.</td>
</tr>
<tr>
<td><strong>DV</strong></td>
</tr>
<tr>
<td>Volunteer (Yes/No)</td>
</tr>
</tbody>
</table>

1. Family Density (famEmbed)
2. Support systems (supp)
3. Associations with work colleagues (work_assoc)
Covariates: gender, income, education, race.

<table>
<thead>
<tr>
<th>Chi-Square Statistics</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>H3</strong>: The scope and type of volunteer activities vary by family density and gender. Analysis will be run for:</td>
</tr>
<tr>
<td>1) for range of activities</td>
</tr>
<tr>
<td>2) for type of activities</td>
</tr>
<tr>
<td><strong>DV</strong></td>
</tr>
<tr>
<td>Vol_scope (# of Activities)</td>
</tr>
</tbody>
</table>

0-1; 2; 3 or more

<table>
<thead>
<tr>
<th>Factorial ANOVA</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>H4</strong>: There is a difference in hours volunteered per year by men and women when the effects of family density are controlled.</td>
</tr>
<tr>
<td><strong>DV</strong></td>
</tr>
<tr>
<td>LG of Tvol_hours</td>
</tr>
</tbody>
</table>

Gender
Validity and Reliability Threats

The design of this study employs a number of ways of measuring complex concepts in order to create construct validity and increase reliability. Social ties are measured three ways in order to obtain a valid measurement, family density, support networks and work associations. The researcher used two measures, marital status and number of children to construct the family density variable and measure this concept. Volunteering measures may not accurately reflect all volunteering performed by the respondents. The survey questions did not distinguish between formal and informal volunteering and more specific questions may have produced different responses. The results of this research are specific to the sample population and may not be generalizable to other populations.

Ethical Concerns

This study uses primary data and the study design was approved by the Institutional Review Board (IRB). All participants were adults and could refuse to participate in the study. The information gathered has been aggregated and all identifying information purged. No additional data will gathered for this study.

Limitations

The data collected for this study is specific to Virginia state employees and therefore has limited generalizability. The data may be biased and not reflect the volunteer behavior of all public sector employees. This sample is largely white, married, and employed full-time; therefore, volunteer behaviors may not reflect the experiences of
single state-employees, state employees of color, or those who work less than a full-time week (40 hours). In addition, the system of coding for capturing family embeddedness captures social ties created by marriage and having at least one child. Therefore, interpretations using this variable as a measure of density of family ties are limited to the particular familial situation coded and do not represent embeddedness in which the respondents had more than one child. The design of the survey was hetero-normative and unable to capture data reflecting alternative lifestyles.
CHAPTER IV

Research Findings

Introduction

The analyses that follow are conducted in four parts. This research examines volunteering within the larger social context of the volunteer. Part one explores the bivariate relationship as stated in H1 “there is a relationship between the decision to volunteer and the density of family ties” and measures the impact of family density on the decision to volunteer in this sample.

Previous research argues that social networks may explain volunteering better than public service motivation (PSM) (Rotolo & Wilson, 2006; Mesch et al. 2006). In the second part of the analyses these arguments are tested H2a, which states social embeddedness as measured by social ties (e.g. work, family and support) predict volunteering among public sector employees. Measures of social embeddedness (fam_emb, supp, and work_assoc) are used as statistical predictors of volunteering in a Logistic Regression model. In addition to social resource theory which supports the density of social ties as predictors of volunteering, a number of studies have found that socio-demographic characteristics are positively related to predicting volunteering (Mesch et al 2006; Selbee & Reed, 2001; Wilson & Musick, 1997). In the second part of the analyses (H2b), socio-demographic variables will be included in the model to see if they improve predicting volunteering.

Part three examines those facets of volunteer behavior that have rarely been researched in relation to how these factors (social structures and socio-demographics)
explain variation in volunteer behavior. H3 states the scope and type of volunteer activities vary by family density and gender. Variation is measured by the range of activities volunteered for (1, 2, and 3 or more activities measured by vol_scope) and the type of activities (1=instrumental; 2=expressive; and 3=both types measured by vol_type). A premise of this research is that differences in volunteer behavior can be attributed to the social context and social constraints of the volunteer. These relationships are explored through the use of chi-square statistics and crosstabs.

Finally, part four tests the relationship between the density of family ties (fam_emb), gender and the total reported numbers of hours volunteered per year using analysis of variance (ANOVA). The researcher expects to find that family ties have different effects for men and women on the overall level of volunteering.

**Part I. Family Density and Volunteering**

The fundamental premise of this research is that volunteering is influenced by a number of social facts that give context to the lives of volunteers. These “facts” include characteristics of the social patterns of relationships individuals’ experience. Frequently research confines itself to easily measured socio-demographic characteristics (e.g., race, age, gender) in order to explore relationships and explain social phenomena. While the information gained from socio-demographic variables provides important insight into research questions, it is limited. The first analysis in this study explores the context of the volunteers’ patterns of relationships, measured by the degree of family embeddedness, and the decision to volunteer.
Houston (2005) and Brewer (2003) have argued that increased civic engagement (e.g., volunteering) among public employees is attributable to higher levels of public service motivation (PSM) as measured by indexes of social altruism, social trust, and civic participation. Alternative theories of volunteer motivation suggest that it is the number and density of social ties, particularly those of marriage and children, in volunteer’s lives that lead to increased volunteering. H1 tests for a significant bivariate relationship between volunteering and the density of family ties as measured marital status and having children. A significant relationship between volunteering and family embeddedness would support the alternative theory of higher rates of volunteering associated with increased social ties through denser family relationships. However, if no relationship is found it will lend support to the presence of social altruism among public sector employees as the explanation of increased volunteering in this sector.

The Chi-square statistic was used to examine bivariate relationships between the density of family ties and volunteering. The relationship was significant (N=1437, \( \chi^2 = 38.845 \), d.f.3, \( p=0.000 \), \( \gamma = .248 \)). Gamma is an appropriate measure of association for its proportional reduction in error (PRE) interpretation. The PRE signifies that the error in predicting volunteering when the density of the family structure is known is reduced by twenty-five percent (\( \gamma = .248 \)). Table 4.1.1 summarizes the percentages of volunteers first by gender and then by family density within this population:
The percentages of volunteering by family density and sex reveal that sixty-two percent of those public sector employees who are married and have children volunteer, while those with the fewest family ties (single with no children) volunteer at a rate of forty percent. The overall rate of volunteering for this population is fifty-two percent. Of those that volunteer among this population, forty-three percent are married and have children and thirty-four percent are married for a total of seventy-seven percent of those who volunteer demonstrating a greater density of family ties. The group of single parents has the lowest percentage of volunteering. This would seem to reflect the fact that even though children increase exposure to social connections, the limited human resources available to single parents managing a family deters volunteering. The make-up of the
public sector volunteers by percentage within each type of family structure is shown in Figure 4.1.1:

![Volunteers by Family Density](image)

**Figure 4.1.1 Percentage of Volunteers by Family Density**

The relationship was then examined controlling for the effects of gender. In this case the relationship was significant at p=.000 level for men (n=762, $\chi^2 = 28.707$, d.f.3, $p=0.000, \gamma = .314$) and p=.024 level for women (n=675, $\chi^2 = 9.384$, d.f.3, $p=0.025, \gamma = .170$). Knowing gender, in addition to the family density, reduced the error
of prediction of volunteering by thirty-one percent for males and seventeen percent for females.

Table 4.1.2 Percentage of Volunteers by Family Density with Gender

<table>
<thead>
<tr>
<th></th>
<th>Volunteers</th>
<th></th>
<th></th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>yes</td>
<td>no</td>
<td></td>
<td></td>
</tr>
<tr>
<td>male</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>single, no children</td>
<td>(46) 38.3%</td>
<td>(74) 61.7%</td>
<td>(120) 100.0%</td>
<td></td>
</tr>
<tr>
<td>married, no children</td>
<td>(157) 52.2%</td>
<td>(144) 47.8%</td>
<td>(301) 100.0%</td>
<td></td>
</tr>
<tr>
<td>single with children</td>
<td>(15) 60.0%</td>
<td>(10) 40.0%</td>
<td>(25) 100.0%</td>
<td></td>
</tr>
<tr>
<td>married with children</td>
<td>(207) 65.5%</td>
<td>(109) 34.5%</td>
<td>(316) 100.0%</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>(425) 55.8%</td>
<td>(337) 44.2%</td>
<td>(762) 100.0%</td>
<td></td>
</tr>
<tr>
<td>N=762</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

| female                 |       |       |       |        |
| single, no children    | (66) 40.7% | (96) 59.3% | (162) 100.0% |
| married, no children   | (97) 46.6%  | (111) 53.4%  | (208) 100.0%  |
| single with children   | (47) 46.5%  | (54) 53.5%  | (101) 100.0%  |
| married with children  | (115) 56.4% | (89) 43.6% | (204) 100.0% |
| Total                  | (325) 48.1% | (350) 51.9% | (675) 100.0% |
| N=675                  |       |       |       |        |

Total N=1437

The effects by gender are shown graphically in the Figure 4.1.2 and 4.1.3 below.
Figure 4.1.2 Percentages of Volunteering by Family Density with Female
Figure 4.1.3 Percentages of Volunteering by Family Density with Male

Marriage and family are positively related to an increase in volunteering; however, note that for women volunteering remains fairly consistent across family type without any great changes as the density of family ties vary. In other words, women appear to choose to volunteer at a fairly consistent rate, regardless of the type of family ties they have. For men denser family ties appear to positively increase their rates of volunteering. This finding supports H1 that higher rates of volunteering are associated with increased social
ties through denser family relationships as an alternative theory for PSM for volunteering by public sector employees in this sample.

II. Predicting Volunteering

In the previous analysis the relationship between the density of family ties and volunteering was explored. A positive and significant relationship was found between these two variables, a finding which lends support for theories of social ties or networks as predictors of volunteering (Mesch et al. 2006; Selbee & Reed, 2001; Wilson & Musick, 1997). The next analysis examines social ties in a broader context to see if the decision to volunteer is enhanced by other factors as well. Can the presence of different types of social networks (family, work, support) increase the ability to predict volunteering? For this analysis a series of logistic regression analyses has been chosen. Logistic regression is appropriate for predicting a discrete outcome such as group membership (volunteering=yes/no) from a set of variables that may be continuous, discrete, dichotomous or a mix of these (Tabachnick & Fidell, 2001).

The analysis is conducted in two sections in order to produce a more nuanced understanding of how social context influences volunteering. First, a model is constructed using the variables—fam_emb, work_assoc and support, to ascertain the predictive power of social ties alone on volunteering. The results of this analysis are then discussed. The final model includes the socio-demographic variables (gender, race, education and income) in which the variables are entered in a stepwise backwards conditional method. Stepwise methods refer to statistical methods in which the order of entry of the variables is based solely on statistical criteria and is useful to eliminate those variables that do not
add to the predictive equation (Tabachnick & Fidell, 2001:135) The results of these analyses follow.

Preceding the analyses, the data were checked for multivariate normality, outliers and missing data as reported in the methodology section. Data from 1451 cases are available for analysis. No significant problems remain that would deter regression techniques. Collinearity diagnostics were run on all the independent predictors to be used with vol_1 (0=no;1=yes) to detect multicollinearity. Multicollinearity occurs when any of the independent variables are too highly correlated, and thus are redundant (Tabachnick & Fidell, 2001: 82-85). Statistical problems occur with redundant variables because they inflate the size of error terms and weaken the analysis.

The test for detecting multicollinearity is when the tolerance (1-SMC) approaches zero, where \( SMC \) stands for Squared Multiple Correlation. Table 4.2.1 indicates that none of the variables tolerance approaches zero. This is further verified by an examination of the Collinearity diagnostics. When a dimension has a high condition index (>30) multicollinearity is likely and further analysis is required to detect the problematic variable(s). The condition index falls within the acceptable range at 18.886, therefore all the variables were retained for the analysis. Refer to Table 4.2.1 for the results of the Collinearity diagnostics.
### Table 4.2.1 SPSS Coefficients & Collinearity Diagnostics

#### Coefficients(a)

<table>
<thead>
<tr>
<th>Model</th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
<th>t</th>
<th>Sig.</th>
<th>Tolerance</th>
<th>VIF</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(Constant)</td>
<td>-.264</td>
<td>.085</td>
<td>-3.090</td>
<td>.002</td>
<td></td>
<td></td>
</tr>
<tr>
<td>work associations</td>
<td>-.004</td>
<td>.013</td>
<td>-.009</td>
<td>-.327</td>
<td>.744</td>
<td>.933</td>
</tr>
<tr>
<td>strong social support system</td>
<td>.105</td>
<td>.015</td>
<td>.187</td>
<td>7.156</td>
<td>.000</td>
<td>.974</td>
</tr>
<tr>
<td>family density</td>
<td>.062</td>
<td>.011</td>
<td>.146</td>
<td>5.513</td>
<td>.000</td>
<td>.955</td>
</tr>
<tr>
<td>gender</td>
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<td>.026</td>
<td>-.043</td>
<td>-1.627</td>
<td>.104</td>
<td>.963</td>
</tr>
<tr>
<td>race</td>
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<td>.031</td>
<td>-.011</td>
<td>-.403</td>
<td>.687</td>
<td>.942</td>
</tr>
<tr>
<td>level of education</td>
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<td>.015</td>
<td>.182</td>
<td>5.754</td>
<td>.000</td>
<td>.665</td>
</tr>
<tr>
<td>income</td>
<td>.009</td>
<td>.012</td>
<td>.025</td>
<td>.765</td>
<td>.445</td>
<td>.622</td>
</tr>
</tbody>
</table>

#### Collinearity Diagnostics(a)

<table>
<thead>
<tr>
<th>Model</th>
<th>Dimension</th>
<th>Eigenvalue</th>
<th>Condition Index</th>
<th>Variance Proportions</th>
<th>Work assoc.</th>
<th>support</th>
<th>Fam_emb</th>
<th>gender</th>
<th>race</th>
<th>education</th>
<th>income</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1</td>
<td>6.302</td>
<td>1.000</td>
<td></td>
<td>.00</td>
<td>.00</td>
<td>.00</td>
<td>.01</td>
<td>.01</td>
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<td>.00</td>
</tr>
<tr>
<td>2</td>
<td>2</td>
<td>.772</td>
<td>2.858</td>
<td></td>
<td>.00</td>
<td>.00</td>
<td>.00</td>
<td>.01</td>
<td>.83</td>
<td>.00</td>
<td>.00</td>
</tr>
<tr>
<td>3</td>
<td>3</td>
<td>.523</td>
<td>3.472</td>
<td></td>
<td>.00</td>
<td>.00</td>
<td>.01</td>
<td>.86</td>
<td>.06</td>
<td>.00</td>
<td>.00</td>
</tr>
<tr>
<td>4</td>
<td>4</td>
<td>.165</td>
<td>6.175</td>
<td></td>
<td>.00</td>
<td>.00</td>
<td>.59</td>
<td>.00</td>
<td>.02</td>
<td>.15</td>
<td>.05</td>
</tr>
<tr>
<td>5</td>
<td>5</td>
<td>.116</td>
<td>7.384</td>
<td></td>
<td>.11</td>
<td>.11</td>
<td>.25</td>
<td>.10</td>
<td>.02</td>
<td>.07</td>
<td>.12</td>
</tr>
<tr>
<td>6</td>
<td>6</td>
<td>.057</td>
<td>10.486</td>
<td></td>
<td>.01</td>
<td>.00</td>
<td>.06</td>
<td>.00</td>
<td>.01</td>
<td>.72</td>
<td>.80</td>
</tr>
<tr>
<td>7</td>
<td>7</td>
<td>.048</td>
<td>11.438</td>
<td></td>
<td>.71</td>
<td>.41</td>
<td>.02</td>
<td>.00</td>
<td>.01</td>
<td>.00</td>
<td>.02</td>
</tr>
<tr>
<td>8</td>
<td>8</td>
<td>.018</td>
<td>18.886</td>
<td></td>
<td>.17</td>
<td>.47</td>
<td>.07</td>
<td>.02</td>
<td>.03</td>
<td>.05</td>
<td>.01</td>
</tr>
</tbody>
</table>

*a Dependent Variable: volunteer in community*
Hypothesis 2a - Social embeddedness as measured by density of family structure, support systems and work associations predict volunteering among public sector employees.

A direct logistic regression analysis was performed in SPSS on volunteering as the dichotomous outcome with three social embeddedness predictors: density of family ties, work associations and support networks. Before the logistic regression was run the data on the predictor variable family density (fam_emb) was reference coded to distinguish between the types of family structure (Table 4.2.2). Note the reference category is “single, no children” for this analysis. The reference category is designated as the one the researcher is least interested in (Pallant, 2005: 162).

Table 4.2.2 Logistic Regression Codings (SPSS)

<table>
<thead>
<tr>
<th>Categorical Variables Codings</th>
<th>Parameter coding</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Frequency</td>
</tr>
<tr>
<td>family density</td>
<td></td>
</tr>
<tr>
<td>single, no kids</td>
<td>279</td>
</tr>
<tr>
<td>married, no kids</td>
<td>502</td>
</tr>
<tr>
<td>single with kids</td>
<td>124</td>
</tr>
<tr>
<td>married with kids</td>
<td>511</td>
</tr>
</tbody>
</table>

A test of the full model with all three predictors against a constant-only model was statistically reliable, \( \chi^2 = 86.123, (5, N=1416) \) at \( p < .001 \), indicating that as a set the predictors reliably distinguish between volunteering and not volunteering (Omnibus Tests of Model Coefficients, Table 4.2.3). The explanatory power of the model is poor, however, with a Nagelkerke \( R^2 = .079 \) (Model Summary, Table 4.2.4). The model is able
to classify volunteering from the sample data with a probability 75.2 percent for volunteering and 43.2 percent for not volunteering. The model is able to predict volunteering overall sixty percent of the time as indicated in the Classification Table (Table 4.2.5).

**Table 4.2.3 Omnibus Tests of Model Coefficients**

<table>
<thead>
<tr>
<th>Omnibus Tests of Model Coefficients</th>
</tr>
</thead>
<tbody>
<tr>
<td>Step 1 Step</td>
</tr>
<tr>
<td>Block</td>
</tr>
<tr>
<td>Model</td>
</tr>
</tbody>
</table>

**Table 4.2.4 Model Summary**

<table>
<thead>
<tr>
<th>Model Summary</th>
</tr>
</thead>
<tbody>
<tr>
<td>Step</td>
</tr>
<tr>
<td>1</td>
</tr>
</tbody>
</table>

a. Estimation terminated at iteration number 4 because parameter estimates changed by less than .001.
Table 4.2.5 Classification Table

<table>
<thead>
<tr>
<th>Observed</th>
<th>Predicted volunteer in community</th>
<th>Percentage Correct</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>no</td>
<td>yes</td>
</tr>
<tr>
<td>Step 1 Volunteer in</td>
<td>291</td>
<td>382</td>
</tr>
<tr>
<td>Community no</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Community yes</td>
<td>184</td>
<td>559</td>
</tr>
<tr>
<td>Overall Percentage</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*The cut value is .500*

The significance of the individual predictor variables is reported in Table 4.2.6 (Variables in the Equation). The unstandardized coefficients (B) are used to construct the model equation. The statistical significance is derived by the standardized Wald statistic and the degrees of freedom (df). A significant result indicates a predictor variable that is reliably associated with the outcome (Tabachnick & Fidell, 2001). Table 4.2.6 indicates married with children [fam_emb(3)] and support ties [supp] are the most significant predictors at p< .000. The column Exp(B) contains the “odds ratio” which tells the magnitude and impact of each predictor on the dependent variable. The Exp(B) statistic indicates that married with children has the greatest magnitude and impact on the probability of volunteering. When the variable is increased by one unit the magnitude of the change is 2.495 times or the odds of volunteering increase by a multiplicative factor of 2.495. For support ties the Exp(B) statistic indicates the probability of volunteering is increased by a magnitude 1.518 when increased by one unit. Married alone [fam_emb(1)] is significant at the p<.05 level with an Exp(B) of 1.459. Work associations do not significantly predict volunteering in this model.
Table 4.2.6 Logistic Regression – Model 1: Variables in the Equation

The second section of this analysis adds the socio-demographic characteristics of the respondents to the model. Based on the findings from the first model “work associations” is dropped as the variable did not contribute to the model.

**Hypothesis 2b - Social embeddedness and socio-demographic characteristics predict volunteering among public sector employees.**

In the previous analysis this research found that family density and the presence of support networks reliably predict volunteering. In the current analysis socio-demographic variables are added to the predictive model with the expectation that demographic factors will improve the ability to predict volunteering. Stepwise procedures are useful for purely predictive research and in exploratory research when the phenomena is so little studied that “theory” frequently involves empirically unsupported hunches.
(Menard, 2001). Stepwise methods are appropriate for the current research as it examines the effects of several of factors which the literature suggests contribute to volunteering.

A backwards conditional method was chosen because with backwards elimination there is less risk of eliminating variables due to suppressor effects. Suppressor effects occur when a variable may appear to have a statistically significant effect only when other variables are controlled or held constant (typical of forward stepwise methods) which results in the possible exclusion of variables involved in suppressor effects in the forward stepwise model. Therefore, a backwards conditional logistic regression analysis was chosen for this analysis and performed in SPSS. Volunteering was the dichotomous outcome used with two social embeddedness predictors (density of family ties, and support networks) and the socio-demographic variables gender, race, education and income in the model. Age was omitted to improve parsimony as it was found to add nothing to the model in preliminary analysis. In this sample eighty-one percent of the population is age forty or over and therefore age, as a variable, approaches constancy which explains its limited use in explaining variability in this sample (Nardi, 2006: 128).

Before the logistic regression was run the data on the predictor variables of interest were reference coded to distinguish between the characteristics of interest. The reference variables are coded “zero” with the level of interest in the category increasing as the coding increases. For example, levels of income are coded: 0=25,999 and below (the reference category); 1=26,000 – 50,999; 2=51,000 – 75,999; 3=76,000 – 100,000; and 4=100,000 and over. Gender was coded first with “male” as the reference category and then the analysis was run a second time with “female” as the reference category in
order to gain coefficients for each. The coding is shown in Table 4.2.7 with the corresponding “N” for each category. The number of cases included in the analysis is 1371. Eighty cases with missing data were not included in the analysis.
The Omnibus Tests of Model Coefficients, Table 4.2.8 shows the significance of the model at each step. The negative Chi-square values indicate that the Chi-square value has decreased from the previous step. If the step was to remove a variable the exclusion makes sense if the significance of the change is large (i.e., greater than 0.10) (Menard, 2001: 65-66). The Omnibus Table shows that at each step the removed variable was warranted to improve the model. In the final model the exclusion is large (p=.129); therefore, the model is statistically reliable.
Table 4.2.8 Backwards Conditional Logistic Regression Omnibus Tests

<table>
<thead>
<tr>
<th>Step 1</th>
<th>Step</th>
<th>Chi-square</th>
<th>df</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Block</td>
<td>159.482</td>
<td>16</td>
<td>.000</td>
<td></td>
</tr>
<tr>
<td>Model</td>
<td>159.482</td>
<td>16</td>
<td>.000</td>
<td></td>
</tr>
<tr>
<td>Step 2a</td>
<td>Step</td>
<td>-.156</td>
<td>1</td>
<td>.693</td>
</tr>
<tr>
<td>Block</td>
<td>159.326</td>
<td>15</td>
<td>.000</td>
<td></td>
</tr>
<tr>
<td>Model</td>
<td>159.326</td>
<td>15</td>
<td>.000</td>
<td></td>
</tr>
<tr>
<td>Step 3a</td>
<td>Step</td>
<td>-7.135</td>
<td>4</td>
<td>.129</td>
</tr>
<tr>
<td>Block</td>
<td>152.191</td>
<td>11</td>
<td>.000</td>
<td></td>
</tr>
<tr>
<td>Model</td>
<td>152.191</td>
<td>11</td>
<td>.000</td>
<td></td>
</tr>
</tbody>
</table>

- A negative Chi-squares value indicates that the Chi-squares value has decreased from the previous step.

The explanatory power of the final model is improved over the original model (nearly doubled from H2a) with Nagelkerke $R^2 = .140$ (Model Summary, Table 4.2.9). However, the improvement in classifying volunteering from the sample data changed very little—from sixty percent to sixty-three percent (Classification Table, Table 4.2.10).

Table 4.2.9 Backwards Conditional Logistic Regression Model Summary

<table>
<thead>
<tr>
<th>Step</th>
<th>-2 Log likelihood</th>
<th>Cox &amp; Snell R Square</th>
<th>Nagelkerke R Square</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1738.757a</td>
<td>.110</td>
<td>.147</td>
</tr>
<tr>
<td>2</td>
<td>1738.913a</td>
<td>.110</td>
<td>.146</td>
</tr>
<tr>
<td>3</td>
<td>1746.048a</td>
<td>.105</td>
<td>.140</td>
</tr>
</tbody>
</table>

- Estimation terminated at iteration number 4 because parameter estimates changed by less than .001.
### Table 4.2.10 Backwards Conditional Logistic Regression Classification Table

<table>
<thead>
<tr>
<th>Observed</th>
<th>Predicted</th>
<th>Percentage Correct</th>
</tr>
</thead>
<tbody>
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<td></td>
<td>no</td>
<td>yes</td>
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<tr>
<td><strong>Step 1</strong></td>
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<tr>
<td>volunteer in community</td>
<td>367</td>
<td>290</td>
</tr>
<tr>
<td>yes</td>
<td>217</td>
<td>497</td>
</tr>
<tr>
<td>Overall Percentage</td>
<td>55.9</td>
<td>69.6</td>
</tr>
<tr>
<td><strong>Step 2</strong></td>
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</tr>
<tr>
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<td>291</td>
</tr>
<tr>
<td>yes</td>
<td>220</td>
<td>494</td>
</tr>
<tr>
<td>Overall Percentage</td>
<td>55.7</td>
<td>69.2</td>
</tr>
<tr>
<td><strong>Step 3</strong></td>
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<td></td>
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<tr>
<td>volunteer in community</td>
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<td>305</td>
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<tr>
<td>yes</td>
<td>204</td>
<td>510</td>
</tr>
<tr>
<td>Overall Percentage</td>
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<td>71.4</td>
</tr>
</tbody>
</table>

a. The cut value is .500

Only the results from the final model are reported in the following discussion. The significance of the individual predictor variables are reported in Table 4.2.11 (Variables in the Equation). When socio-demographic factors are added, Table 4.2.11 married with children [fam_emb(3)] and education are the most significant predictors of volunteering at $p < .000$. The Exp(B), odds ratio, statistic indicates that married with children increases the impact on the probability of volunteering when increased by one unit by a multiplicative factor of 2.258. For education, the Exp(B) statistic indicates that the probability of volunteering increases with each level of higher education, with a graduate or professional degree having the greatest magnitude and impact on volunteering at $\text{Exp(B)}=4.134$. Significant results at the $p < .05$ level are also shown for having support networks “strongly agree” ($p=.015$, odds ratio=4.470); single with children ($p=.017$, odds ratio=1.736); and being male ($p=.037$, odds ratio=1.284).
### Table 4.2.11 Backwards Conditional Logistic Regression – Final Model

<table>
<thead>
<tr>
<th>Step 3(a)</th>
<th>Variables</th>
<th>B</th>
<th>S.E.</th>
<th>Wald</th>
<th>df</th>
<th>Sig.</th>
<th>Exp(B)</th>
<th>Lower</th>
<th>Upper</th>
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<tbody>
<tr>
<td></td>
<td>fam_embed</td>
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<td></td>
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<td>3</td>
<td>0.000</td>
<td>1.205</td>
<td>0.875</td>
<td>1.659</td>
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<td></td>
<td>fam_embed(1)</td>
<td>0.186</td>
<td>0.163</td>
<td>1.300</td>
<td>1</td>
<td>0.254</td>
<td>1.205</td>
<td>0.875</td>
<td>1.659</td>
</tr>
<tr>
<td></td>
<td>fam_embed(2)</td>
<td>0.552</td>
<td>0.232</td>
<td>5.651</td>
<td>1</td>
<td>0.017</td>
<td>1.736</td>
<td>1.102</td>
<td>2.736</td>
</tr>
<tr>
<td></td>
<td>fam_embed(3)</td>
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<td>0.164</td>
<td>24.805</td>
<td>1</td>
<td>0.000</td>
<td>2.258</td>
<td>1.639</td>
<td>3.111</td>
</tr>
<tr>
<td></td>
<td>Supp</td>
<td></td>
<td></td>
<td>52.046</td>
<td>4</td>
<td>0.000</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Supp(1)</td>
<td>0.252</td>
<td>0.639</td>
<td>0.156</td>
<td>1</td>
<td>0.693</td>
<td>1.287</td>
<td>0.368</td>
<td>4.503</td>
</tr>
<tr>
<td></td>
<td>Supp(2)</td>
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<td>0.617</td>
<td>0.471</td>
<td>1</td>
<td>0.492</td>
<td>1.527</td>
<td>0.456</td>
<td>5.112</td>
</tr>
<tr>
<td></td>
<td>Supp(3)</td>
<td>1.133</td>
<td>0.608</td>
<td>3.478</td>
<td>1</td>
<td>0.062</td>
<td>3.106</td>
<td>0.944</td>
<td>10.224</td>
</tr>
<tr>
<td></td>
<td>Supp(4)</td>
<td>1.497</td>
<td>0.614</td>
<td>5.938</td>
<td>1</td>
<td>0.015</td>
<td>4.470</td>
<td>1.341</td>
<td>14.907</td>
</tr>
<tr>
<td></td>
<td>Gender(female)</td>
<td>-0.250</td>
<td>0.120</td>
<td>4.363</td>
<td>1</td>
<td>0.037</td>
<td>0.779</td>
<td>0.616</td>
<td>0.985</td>
</tr>
<tr>
<td></td>
<td>Gender(male)</td>
<td>0.250</td>
<td>0.120</td>
<td>4.363</td>
<td>1</td>
<td>0.037</td>
<td>1.284</td>
<td>1.016</td>
<td>1.624</td>
</tr>
<tr>
<td></td>
<td>educ_cd</td>
<td>59.942</td>
<td>3</td>
<td>0.000</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>educ_cd(1)</td>
<td>0.894</td>
<td>0.176</td>
<td>25.821</td>
<td>1</td>
<td>0.000</td>
<td>2.444</td>
<td>1.732</td>
<td>3.451</td>
</tr>
<tr>
<td></td>
<td>educ_cd(2)</td>
<td>1.060</td>
<td>0.179</td>
<td>35.017</td>
<td>1</td>
<td>0.000</td>
<td>2.885</td>
<td>2.031</td>
<td>4.098</td>
</tr>
<tr>
<td></td>
<td>educ_cd(3)</td>
<td>1.419</td>
<td>0.187</td>
<td>57.531</td>
<td>1</td>
<td>0.000</td>
<td>4.134</td>
<td>2.865</td>
<td>5.966</td>
</tr>
<tr>
<td></td>
<td>Constant</td>
<td>-2.377</td>
<td>0.626</td>
<td>14.417</td>
<td>1</td>
<td>0.000</td>
<td>0.093</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

a. Variable(s) entered on step 1: fam_embed, Supp, Gender, Race_cd, educ_cd, Income_cd.

The unstandardized coefficients (B) are used to construct the model equation. The statistical significance is derived by the standardized Wald statistic and the degrees of freedom (df). A significant result indicates a predictor variable that is reliably associated with the outcome.

**Probability Calculations** Probabilities of specific observations are computed using the following equation:
Where \( a = \) constant, \( b_{1,2,3,...} = \) coefficients (B), and \( x_{1,2,3,...} = \) observed values of the variables (For (B) values refer to Table 4.2.12). For comparison purposes, probabilities are calculated for two observations: a married female with no support and some college and a married female with children, no support and some college. This holds constant support and education for illustrative purposes. Calculations using increased education, holding support and family density constant, yielded similar results. Only the last calculation step will be shown for each observation to obtain the probability statistic \( \hat{Y} \):

1. Observations for: female=1, supp=2, educ=2, fam_emb=2. The results of \( a + bx_1 + bx_2 + bx_3 + bx_4 = -2.377 + .186(2) + -.250(1) + .252(2) + .894(2) = 0.037976 \):

\[
\hat{Y} = \frac{e^{0.037976}}{1 + e^{0.037976}} = \frac{1.038707}{2.038707} = 0.509493
\]

The probability that a married female with no support and some college will volunteer is 51%. The probability that she will not volunteer is \( 1 - 0.509493 = 0.490507 \) or 49%.

2. Observations for: female=1, supp=2, educ=2, fam_emb=4. The results of \( a + bx_1 + bx_2 + bx_3 + bx_4 = -2.377 + .814(4) + -.250(1) + .252(2) + .894(2) = 2.922921 \):

\[
\hat{Y} = \frac{e^{2.922921}}{1 + e^{2.922921}} = \frac{18.59553}{19.59553} = 0.948968
\]

The probability that a married female with no support and some college will volunteer is 94.89%. The probability that she will not volunteer is \( 1 - 0.948968 = 0.051032 \) or 5.1%.
The probability that married female with children will volunteer is 95%. The probability that she will not volunteer is \(1 - 0.9489 = 0.0511\) or 5%.

**Summary of Part II.**

The predictors with the most statistically significant impact on volunteering are all values of education greater than high school \((p=0.000)\); and married with children \((p=0.000)\). Strong support networks \((p=0.015)\) and gender \((p=0.037)\) are also statistically significant predictors of volunteering. The odds ratio for gender (female) is 0.779. An odds ratio of less than 1 shows the decrease in odds of that outcome with a one-unit change (Tabachnick & Fidell, 2001). An odds ratio of 0.779 shows that an outcome of one (1) is seventy-eight percent as likely (or 22.1% less likely; \(1 - 0.779 = 0.221\)) with a one unit increase in the predictor. This means the odds of volunteering are decreased by 22.1% for being female.

The magnitude of the effect of education on volunteering increases with each level of increase in education with greatest magnitude on having a graduate or professional degree \((\text{Exp}(B)= 4.134)\). (Refer to Table 4.2.11). The magnitude of impact of married with children \((\text{Exp}(B)=2.258)\) makes the next most significant contribution to the power of the model. These findings support the hypothesis that social embeddedness as measured by family density and support ties predict volunteering. Work associations, however, was not a significant predictor of volunteering and was removed from the final model. Among the socio-demographic variables, gender and education contributed
significantly to the model. Race and income were removed from the model. It should be noted, however, that education and income are correlated in this sample. Previous research has shown that both income and education predict volunteering. By conducting the stepwise backwards conditional logistic regression, this model isolates education as the more significant predictor of volunteering.

In light of these findings increased volunteering due primarily to a public service motive associated with public sector employment is less tenable. I have shown that resources—both social capital (ties and networks) and human capital (education), are significant predictors of volunteering in the sample population. It appears that impact of these resources is interchangeable to some degree. That is, married with children, holding education constant predicts volunteering as significantly as the reverse situation (higher education holding family density constant). Support networks are also statistically significant and lend support to theories of social capital increasing the likelihood of volunteering. The effect of gender, while statistically significant in the predictive model is not well understood. The next section of the analysis will look more closely at the relationship of gender to volunteer behavior.

**Part III. Variation Patterns in Volunteer Behavior**

One of the characteristics of interest in this population is the high volunteer rates for male and female employees. This characteristic provides the opportunity to examine gender differences in volunteering for employed men and women. Earlier research on volunteering frequently underscores the fact that women’s volunteering has played a significant role in shaping civic society and institutions as we know them today. Much of
this influence is credited largely to the volunteer labor supply provided by stay-at-home moms and part-time working women. However, little research has considered how the increase of women in the workforce affects volunteering.

Among the findings of the previous analyses, some interesting gender patterns have emerged. The previous analyses found a positive relationship between family density and volunteering. The magnitude of the relationship was greater for males (31%) than for females (17%). In addition, predicting volunteering in this sample of public sector employees was reliably improved by knowing the family density, education, gender, and support network of the respondent. The current analysis builds on these findings and attempts to tease out any additional effects of gender on the types and ranges of volunteer activities. The final analysis (Part IV) considers whether these relationships effect of the number of hours volunteered.

**Number of Volunteer Activities** The relationship of gender to the number of activities volunteers participate in was examined controlling for family density and education. (These predictors were chosen based on their significance and magnitude in predicting volunteering in the previous analysis.) Multidimensional crosstabulations were used for the analysis as a method of elaboration appropriate for nominal and ordinal variables where the researcher wishes to extend the knowledge of how associations vary under different conditions (Nardi, 2006: 193)
Gender and Family Density with Number of Activities
Both gender ($\chi^2=7.673$, df 2, N=774, p=.022, $\gamma=.146$) and family density ($\chi^2=20.033$, df 6, p=.003, $\gamma=.152$) were found to be significantly related to the number of volunteer activities respondents engaged in bivariate analyses. However, when crosstabulated with family density and gender, the number of activities was found to be significant for males (p=.001) but not females (p=.089) in the full model (Refer to Table 4.3.1). In this situation specification is observed in which the original relationships (gender to # of activities; family density to # of activities) holds only for males in the full model.
### Table 4.3.1 Family Density with Number of Activities by Gender

<p>| Gender                      | family density | number of different volunteer activities | Total       |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th>1 activities</th>
<th>2 activities</th>
<th>3 or more</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>male</td>
<td>single, no children</td>
<td>(33) 66.0%</td>
<td>(10) 20.0%</td>
<td>(7) 14.0%</td>
<td>(50) 100.0%</td>
</tr>
<tr>
<td></td>
<td>married, no children</td>
<td>(96) 60.4%</td>
<td>(35) 22.0%</td>
<td>(28) 17.6%</td>
<td>(159) 100.0%</td>
</tr>
<tr>
<td></td>
<td>single with children</td>
<td>(8) 53.3%</td>
<td>(4) 26.7%</td>
<td>(3) 20.0%</td>
<td>(15) 100.0%</td>
</tr>
<tr>
<td></td>
<td>married with children</td>
<td>(82) 39.2%</td>
<td>(70) 33.5%</td>
<td>(57) 27.3%</td>
<td>(209) 100.0%</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>(219) 50.6%</td>
<td>(119) 27.5%</td>
<td>(95) 21.9%</td>
<td>(433) 100.0%</td>
</tr>
<tr>
<td>female</td>
<td>single, no children</td>
<td>(22) 31.4%</td>
<td>(26) 37.1%</td>
<td>(22) 31.4%</td>
<td>(70) 100.0%</td>
</tr>
<tr>
<td></td>
<td>married, no children</td>
<td>(49) 50.0%</td>
<td>(35) 35.7%</td>
<td>(14) 14.3%</td>
<td>(98) 100.0%</td>
</tr>
<tr>
<td></td>
<td>single with children</td>
<td>(20) 41.7%</td>
<td>(15) 31.3%</td>
<td>(13) 27.1%</td>
<td>(48) 100.0%</td>
</tr>
<tr>
<td></td>
<td>married with children</td>
<td>(45) 38.1%</td>
<td>(38) 32.2%</td>
<td>(35) 29.7%</td>
<td>(118) 100.0%</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>(136) 40.7%</td>
<td>(114) 34.1%</td>
<td>(84) 25.1%</td>
<td>(334) 100.0%</td>
</tr>
</tbody>
</table>

Charts were produced based on the percentages of respondents who volunteered for 1, 2, 3 or more activities by gender and family density. (See Figure 4.3.1 and 4.3.2).

Noteworthy patterns occur in the number of activities each sex engages in.
Figure 4.3.1 Percentages of Activities with Family Density by Male
Men are more likely to volunteer for only one activity (50.6 %) regardless of their family density. As family ties increase through marriage and children, both male and female percentages of activities in each group become more equally allocated. Women’s volunteering appears more evenly distributed across category and number of activities. Women are somewhat more likely to volunteer for two or more activities than men (59.2% and 49.4%, respectively). Crosstabulations with number of activities, gender and education did not produce any significant results.
**Type of Volunteer Activity** A major premise of this study is that men and women mobilize their social ties and resources differentially. To perform this analysis the eleven response categories to “what type of volunteer activity do you typically do” were coded into a variable with the values: 1=instrumental; 2=expressive; 3=both. This was done by grouping [civic, political, school, youth groups] into “instrumental” and [children’s activities, elder-related, family-oriented, and animal focus] into “expressive.” The rationale used to form the groupings was guided according to those activities that provided “instrumental” returns—defined as obtaining economic, political, social returns for the individual (or his/her family) and activities that provided “expressive” gains—defined as maintaining resources. The principle underlying expressive action is to mobilize resources in order preserve and protect existing resources. The types of returns for expressive actions are specified as maintaining physical and mental health and life satisfaction (Lin, 2001: 244-247). There is overlap in the responses so that some respondents participate in “both” types of activities. In addition, it should be noted that responses coded “religion” and “other” are not tabulated for this variable. Religious activities might be interpreted as either expressive or instrumental or both and without additional information making this determination was not feasible.

**Gender and Family Density with Type of Activity** The first relationship examined is that of gender and family density to the type of activity engaged in. This relationship was only significant for females ($\chi^2=15.962$, df 6, N=252, p=.014, $\gamma=.022$) and not for males ($\chi^2=10.776$, df 6, N=306, p=.096, $\gamma=.032$). Note that single women with children
are more likely to be involved in both types of activities (58.8%) than any other family type. (Figure 4.3.3 and 4.3.4) Males are more likely to engage in instrumental activities (52.6%) overall than expressive activities (17.0%). Females overall engagement is more evenly distributed across type of activity (38.1% instrumental; 24.2% expressive; 37.7% both). Refer to Table 4.3.2.

Table 4.3.2 Family Density with Type of Volunteer Activity by Gender

<table>
<thead>
<tr>
<th>Gender</th>
<th>type of volunteer activity</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>instrumental</td>
<td>expressive</td>
</tr>
<tr>
<td>male family density</td>
<td></td>
<td></td>
</tr>
<tr>
<td>single, no children</td>
<td>(13) 40.6%</td>
<td>(8) 25.0%</td>
</tr>
<tr>
<td>married, no children</td>
<td>(53) 57.0%</td>
<td>(21) 22.6%</td>
</tr>
<tr>
<td>single with children</td>
<td>(5) 45.5%</td>
<td>(2) 18.2%</td>
</tr>
<tr>
<td>married with children</td>
<td>(90) 52.9%</td>
<td>(21) 12.4%</td>
</tr>
<tr>
<td>female family density</td>
<td></td>
<td></td>
</tr>
<tr>
<td>single, no children</td>
<td>(16) 29.6%</td>
<td>(19) 35.2%</td>
</tr>
<tr>
<td>married, no children</td>
<td>(33) 50.0%</td>
<td>(15) 22.7%</td>
</tr>
<tr>
<td>single with children</td>
<td>(7) 20.6%</td>
<td>(7) 20.6%</td>
</tr>
<tr>
<td>married with children</td>
<td>(40) 40.8%</td>
<td>(20) 20.4%</td>
</tr>
<tr>
<td>Total</td>
<td>(161) 52.6%</td>
<td>(52) 17.0%</td>
</tr>
</tbody>
</table>

There are interesting patterns in the data and charts with this information are presented for comparison purposes with subsequent analyses (Figure 4.3.3 and 4.3.4.)
Figure 4.3.3 Percentages of Type of Activity with Family Density by Male
Figure 4.3.4 Percentages of Type of Activity with Family Density by Female

**Gender, Education and Income with Type of Activity** As the data were explored the interplay of effects on the type of activities performed became more complex for women. For men, the patterns of engagement for specific types of activities are consistent across income and education. The information for income is presented first.

Men in the lowest income category are the more likely to be engaged in expressive activities (36.4%) than in any other income category. Increases in women’s instrumental activities correspond to increases in income. Women earning $100,000 or more are more likely to be engaged in instrumental activities (49.2%) compared to
expressive activities (14.3%). For women, the relationship to type of activity and income is statistically significant ($\chi^2=15.604$, df 6, N=244, p=.048, $\gamma=-.145$). (Refer to Table 4.3.2)

Table 4.3.3 Income with Type of Volunteer Activity by Gender

<table>
<thead>
<tr>
<th>Gender</th>
<th>type of volunteer activity</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>instrumental</td>
<td>expressive</td>
</tr>
<tr>
<td>male</td>
<td></td>
<td></td>
</tr>
<tr>
<td>N=294</td>
<td></td>
<td></td>
</tr>
<tr>
<td>p=.102</td>
<td></td>
<td></td>
</tr>
<tr>
<td>$\gamma=.191$</td>
<td></td>
<td></td>
</tr>
<tr>
<td>level of income</td>
<td></td>
<td></td>
</tr>
<tr>
<td>25,999 and below</td>
<td>(4) 36.4%</td>
<td>(4) 36.4%</td>
</tr>
<tr>
<td>26,000-50,999</td>
<td>(19) 38.0%</td>
<td>(12) 24.0%</td>
</tr>
<tr>
<td>51,000-75,999</td>
<td>(27) 49.1%</td>
<td>(9) 16.4%</td>
</tr>
<tr>
<td>76,000-100,000</td>
<td>(36) 50.7%</td>
<td>(13) 18.3%</td>
</tr>
<tr>
<td>100,000 and over</td>
<td>(67) 62.6%</td>
<td>(11) 10.3%</td>
</tr>
<tr>
<td>female</td>
<td></td>
<td></td>
</tr>
<tr>
<td>N=244</td>
<td></td>
<td></td>
</tr>
<tr>
<td>p=.048</td>
<td></td>
<td></td>
</tr>
<tr>
<td>$\gamma=-.145$</td>
<td></td>
<td></td>
</tr>
<tr>
<td>level of income</td>
<td></td>
<td></td>
</tr>
<tr>
<td>25,999 and below</td>
<td>(4) 26.7%</td>
<td>(6) 40.0%</td>
</tr>
<tr>
<td>26,000-50,999</td>
<td>(18) 24.3%</td>
<td>(26) 35.1%</td>
</tr>
<tr>
<td>51,000-75,999</td>
<td>(19) 43.2%</td>
<td>(11) 25.0%</td>
</tr>
<tr>
<td>76,000-100,000</td>
<td>(21) 43.8%</td>
<td>(9) 18.8%</td>
</tr>
<tr>
<td>100,000 and over</td>
<td>(31) 49.2%</td>
<td>(9) 14.3%</td>
</tr>
<tr>
<td>Total</td>
<td>(93) 38.1%</td>
<td>(61) 25.0%</td>
</tr>
</tbody>
</table>
Figure 4.3.5 Percentages of Type of Activity with Income by Male
Figure 4.3.6 Percentages of Type of Activity with Income by Female

From an education standpoint, men with a high school education (29.7%) and men with some college (25.4%) are more likely to be engaged in expressive activities than men at either of the levels of higher education (10.9 and 12.7%, respectively) (Table 4.3.3). The relationship to education is statistically significant only for men ($\chi^2=21.250$, df 6, N=307, $p=.002$, $\gamma=-.255$). Higher levels of education for men correspond to increases in instrumental activities (Table 4.3.3).
### Table 4.3.4 Level of Education with Type of Activity by Gender

<table>
<thead>
<tr>
<th>Gender</th>
<th>Type of Volunteer Activity</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>instrumental</td>
<td>expressive</td>
</tr>
<tr>
<td>male N=307</td>
<td></td>
<td></td>
</tr>
<tr>
<td>level of</td>
<td>(11) 29.7%</td>
<td>(11) 29.7%</td>
</tr>
<tr>
<td>education</td>
<td></td>
<td></td>
</tr>
<tr>
<td>high school</td>
<td>(29) 43.3%</td>
<td>(17) 25.4%</td>
</tr>
<tr>
<td>or less</td>
<td></td>
<td></td>
</tr>
<tr>
<td>some college</td>
<td>(55) 54.5%</td>
<td>(11) 10.9%</td>
</tr>
<tr>
<td>college</td>
<td>(66) 64.7%</td>
<td>(13) 12.7%</td>
</tr>
<tr>
<td>degree</td>
<td></td>
<td></td>
</tr>
<tr>
<td>graduate or</td>
<td>(33) 32.7%</td>
<td>(32) 31.7%</td>
</tr>
<tr>
<td>prof. degree</td>
<td>(24) 33.8%</td>
<td>(15) 21.1%</td>
</tr>
<tr>
<td>Total</td>
<td>(161) 52.4%</td>
<td>(52) 16.9%</td>
</tr>
<tr>
<td>female N=256</td>
<td></td>
<td></td>
</tr>
<tr>
<td>level of</td>
<td>(11) 39.3%</td>
<td>(7) 25.0%</td>
</tr>
<tr>
<td>education</td>
<td></td>
<td></td>
</tr>
<tr>
<td>high school</td>
<td>(33) 32.7%</td>
<td>(32) 31.7%</td>
</tr>
<tr>
<td>or less</td>
<td></td>
<td></td>
</tr>
<tr>
<td>some college</td>
<td>(24) 33.8%</td>
<td>(15) 21.1%</td>
</tr>
<tr>
<td>college</td>
<td>(30) 53.6%</td>
<td>(7) 12.5%</td>
</tr>
<tr>
<td>degree</td>
<td></td>
<td></td>
</tr>
<tr>
<td>graduate or</td>
<td>(98) 38.3%</td>
<td>(61) 23.8%</td>
</tr>
<tr>
<td>prof. degree</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Women’s patterns of engagement by type of activity show more variation. Although expressive activities decrease as women’s social and financial status increase, women continue to report high levels of engagement in both types of activities. This is converse to men’s engagement patterns where we see as men’s social and financial status increases, engagement in expressive activities and “both” declines. Men’s volunteer activities are more likely to be instrumental with rising social and financial status. Refer to Figures 4.3.5 through 4.3.8 below for an illustration of these patterns.
Figure 4.3.7 Percentages of Type of Activity with Education by Male
In sum, the findings from this analysis support the hypothesis that there are significant effects for volunteer behavior by gender and family density. These effects are statistically significant for men where the error in predicting (PRE) the number of activities for men is reduced by thirty percent ($\gamma=.309$). The analysis also revealed that men are more likely to volunteer for only one activity (50.6%) whereas women are more likely to volunteer for two or more activities (59.2%). The relationship of education and number of activities found no significant results.

This analysis examined the type of volunteer activities engaged in as well as the number of activities. Based on earlier findings, the researcher decided to examine the
relationship of income as well as education and family density to the type of activity. First, the relationship of family density to type of activity was significant only for women (p=0.014) and not for men (p=0.096); the size of the effect was small (γ=0.022). The next model controlled for income and again found the relationship to type of activity was significant for women (p=0.048) but not for men (p=0.102). The magnitude of the effect for women was larger, however (γ=0.145). The final model looked at the impact of education, which has been shown to be a significant predictor of volunteering in previous analyses, and found the relationship was significant for men (p=0.002) but only marginally so for women (p=0.065). The magnitude of effect of education for men was larger (γ=-0.255) than for women (γ=-0.066) and signified an inverse relationship—as income increased the likelihood of engaging in expressive activities decreased. This effect was the same for men and women. The analysis showed consistent patterns for male and female engagement, with women (62 %) more likely to be engaged in expressive activities or both (expressive and instrumental) than men (48%) over all conditions.
Part IV. Volunteering and Time

So far, the findings have revealed a significant relationship between family density and volunteering and the magnitude of these effects are greater for males than females. In addition, predicting volunteering improves when we know the education level, level of family density, gender and support networks of respondents, and finally, variations in volunteer behavior are significantly related to gender, level of family density, education and income. The final analysis provides the most rigorous test of the effects of gender on volunteering in this population by testing for a mean difference in hours volunteered annually while controlling for family density.

Before analysis the dependent variable Tvol_year was logarithmically transformed to improve pairwise linearity and to reduce the extreme skewness and kurtosis of the distribution. With grouped data, the test of mean differences after the transformation approximates the differences between medians in the original data. Transformations are undertaken because the mean is not a good indicator of central tendency in skewed distributions; for skewed distributions the median is often a more appropriate measure of central tendency therefore the interpretation of differences in medians is appropriate (Tabachnick & Fidell, 2001: 81). The case summary, descriptives, and results of the transformation appear below. (Table 4.4.1 and Figure 4.4.1)
Table 4.4.1 Log Transformation of the Dependent Tvol_year – Case Processing and Descriptives

### Case Processing Summary

<table>
<thead>
<tr>
<th></th>
<th>Cases</th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Valid N</td>
<td>Percent</td>
<td>Missing N</td>
<td>Percent</td>
</tr>
<tr>
<td>LG10 transformation</td>
<td>735</td>
<td>50.7%</td>
<td>716</td>
<td>49.3%</td>
<td>1451</td>
</tr>
</tbody>
</table>

### Descriptives

<table>
<thead>
<tr>
<th></th>
<th>Statistic</th>
<th>Std. Error</th>
</tr>
</thead>
<tbody>
<tr>
<td>LG10 transformation</td>
<td>Mean</td>
<td>1.8610</td>
</tr>
<tr>
<td></td>
<td>95% Confidence Interval for Mean</td>
<td>Lower Bound</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Upper Bound</td>
</tr>
<tr>
<td></td>
<td>5% Trimmed Mean</td>
<td>1.8678</td>
</tr>
<tr>
<td></td>
<td>Median</td>
<td>1.9243</td>
</tr>
<tr>
<td></td>
<td>Variance</td>
<td>.248</td>
</tr>
<tr>
<td></td>
<td>Std. Deviation</td>
<td>.49804</td>
</tr>
<tr>
<td></td>
<td>Minimum</td>
<td>.30</td>
</tr>
<tr>
<td></td>
<td>Maximum</td>
<td>3.02</td>
</tr>
<tr>
<td></td>
<td>Range</td>
<td>2.72</td>
</tr>
<tr>
<td></td>
<td>Interquartile Range</td>
<td>.64</td>
</tr>
<tr>
<td></td>
<td>Skewness</td>
<td>-.214</td>
</tr>
<tr>
<td></td>
<td>Kurtosis</td>
<td>-.303</td>
</tr>
</tbody>
</table>
A two-way between groups analysis of variance (ANOVA) was conducted to explore the impact of gender and density of family ties (fam_emb) on hours volunteered annually. The fixed factors were gender (male=0; female=1) and responses to the type of family density (single=1; married=2; single with children=3; married with children=4). The dependent variable was the logarithmic transformation of total hours volunteered per year (Tvol_year). Factorial ANOVA can be used when groups are formed along more than one dimension (e.g., gender, family density). The analysis was performed in SPSS through GLM → Univariate, by designating the dependent variable (LGTvol_hours),
fixed factors (gender, & fam_emb). Main effects and interactions for gender and family density were run.

There was a statistically significant effect for the interaction between gender and family density $[F(3, 722)=3.252, p=.021]$; however, the effect size was small (partial eta squared=.013). The main effects for gender $[F(1, 722)=1.419, p=.234]$ and family density $[F(3, 722)=.172, p=.915]$ did not reach statistical significance. (See Table 4.4.2 below.)
Table 4.4.2 SPSS Two-way Between-groups ANOVA for Gender & Family Density

<table>
<thead>
<tr>
<th>Between-Subjects Factors</th>
<th>Value Label</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>family density</td>
<td>1 single, no children</td>
<td>108</td>
</tr>
<tr>
<td></td>
<td>2 married, no children</td>
<td>243</td>
</tr>
<tr>
<td></td>
<td>3 single with children</td>
<td>62</td>
</tr>
<tr>
<td></td>
<td>4 married with children</td>
<td>317</td>
</tr>
<tr>
<td>gender</td>
<td>0 male</td>
<td>412</td>
</tr>
<tr>
<td></td>
<td>1 female</td>
<td>318</td>
</tr>
</tbody>
</table>

**Descriptive Statistics**

Dependent Variable: LG10 of vol_hours

<table>
<thead>
<tr>
<th>family density</th>
<th>gender</th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>single, no children</td>
<td>male</td>
<td>1.7641</td>
<td>0.60246</td>
<td>43</td>
</tr>
<tr>
<td></td>
<td>female</td>
<td>1.8912</td>
<td>0.41686</td>
<td>65</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>1.8406</td>
<td>0.50032</td>
<td>108</td>
</tr>
<tr>
<td>married, no children</td>
<td>male</td>
<td>1.8950</td>
<td>0.41201</td>
<td>152</td>
</tr>
<tr>
<td></td>
<td>female</td>
<td>1.8250</td>
<td>0.53584</td>
<td>91</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>1.8688</td>
<td>0.46244</td>
<td>243</td>
</tr>
<tr>
<td>single with children</td>
<td>male</td>
<td>1.8861</td>
<td>0.56615</td>
<td>15</td>
</tr>
<tr>
<td></td>
<td>female</td>
<td>1.8114</td>
<td>0.45505</td>
<td>47</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>1.8295</td>
<td>0.48037</td>
<td>62</td>
</tr>
<tr>
<td>married with children</td>
<td>male</td>
<td>1.9401</td>
<td>0.53684</td>
<td>202</td>
</tr>
<tr>
<td></td>
<td>female</td>
<td>1.7241</td>
<td>0.47831</td>
<td>115</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>1.8617</td>
<td>0.52599</td>
<td>317</td>
</tr>
<tr>
<td>Total</td>
<td>male</td>
<td>1.9031</td>
<td>0.50403</td>
<td>412</td>
</tr>
<tr>
<td></td>
<td>female</td>
<td>1.8000</td>
<td>0.48261</td>
<td>318</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>1.8582</td>
<td>0.49712</td>
<td>730</td>
</tr>
</tbody>
</table>

**Levene's Test of Equality of Error Variances(a)**

Dependent Variable: LG10 of vol hours

<table>
<thead>
<tr>
<th>F</th>
<th>df1</th>
<th>df2</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>3.757</td>
<td>7</td>
<td>722</td>
<td>0.001</td>
</tr>
</tbody>
</table>

Tests the null hypothesis that the error variance of the dependent variable is equal across groups.

a. Design: Intercept+fam_embed+Gender+fam_embed * Gender
The Levene’s statistic (p=.001) reported in Table 4.4.2 indicates that the assumption of equal variances was not met for this population. Groups formed by the categories of the independent(s) should be equal or similar in sample size. The more similar the groups are in size the more robust ANOVA will be with respect to violations of the assumptions of normality and homogeneity of variance. Equalizing cell sizes by deletion of cases (one option for handling unequal distributions) was undesirable in this sample as it would lead to the loss of important information (e.g., single with children). SPSS uses the Type III method as the default for calculating sum of squares. Type III adjusts for balanced and unbalanced models as well as models used in Type I and Type II calculations. Type III is the most conservative method and significant results obtained by Type III are reliable for this population (Tabachnick & Fidell, 2001: 296-297).

Figure 4.4.2 graphically portrays the interaction effect of gender and family density on total hours volunteered annually.
Figure 4.4.2 Graph of Est. Mean of Annual Volunteer Hours with Gender and Family Density

This figure shows that, for this population, family density is positively related to an increase in volunteer hours for men and a decrease in volunteer hours for women and provides support for H4 that there is a relationship between number of hours volunteered and gender and family density. The conclusion of this paper draws together the findings of these analyses to explore the cumulative inferences for volunteer behavior.
CHAPTER V

Conclusions

Volunteering is a complex social phenomenon. The introduction of this paper focused on the importance of volunteering to the structure of civic society in America. The historical context of volunteering was juxtaposed within the current concerns about decreasing civic engagement. Relevant to these concerns, the changing position of women—both as volunteers and as a mainstay of the labor force, was explored. Through this method a more holistic approach to examining how various social factors impact volunteering could be undertaken. Earlier research has argued causal effects ranging from public service motivation (PSM) to social networks to access to human capital resources as the “reason” people volunteer (Rotolo & Wilson, 2006; Mesch et al, 2006; Houston, 2005; Wilson, 2000). In addition, research points to higher volunteer rates among the public sector but has neglected to integrate the complexity of individuals’ social realities into volunteer phenomena.

The objectives of this research were two-fold: 1) to examine what factors contributed to variation in predicting volunteering, and 2) to explore the relationship of gender to volunteer habits. First, the findings of this research indicate that predicting volunteering is predicated on a number of factors. The methodology included testing a “predictive” model constructed using logistic regression techniques. This allowed the research to test for the main effects of the variables of interest. Social ties, as measured by family density do significantly predict volunteering. However, other factors have an impact as well—education, gender and support networks were all significant predictors of
volunteering in the logistic regression model. These findings suggest that volunteering as a result of “altruism” is a simplistic assumption at best and that other social factors are important to the decision to volunteer in this population. These findings lend support to social capital, human capital and resource theories of volunteering. More importantly, however, they suggest that isolating a single “cause” of volunteer motivation is unlikely.

In terms of predicting volunteering, another interesting finding emerged for this population. Both the chi-square, two-way test for family density with gender and the full logistic predictive model indicate that, for this population, being male is more significantly related to volunteering. In addition, the magnitude of the effect for being male was greater in both analyses ($\gamma=.317$ and $\text{Exp}(B)=1.284$ for males; $\gamma=.170$ and $\text{Exp}(B)=.779$ for females). This finding runs counter to other research. Houston (2005) portrayed the most likely volunteer as being female. Houston’s study, which operationalizes charitable activity by aggregating “time, blood and money,” is hardly designed to consider that men—whose volunteering is likely to be counted/reported by other types of activities, might actually volunteer at higher rates. Likewise, Rotolo & Wilson (2006) only reported mean differences in population sector while controlling for gender (e.g., results are the mean average for males). Rotolo & Wilson controlled for being female because “Women are more likely to volunteer and to work for the government than men.” Therefore, assuming women volunteered more, the mean differences between men and women were not considered, only the differences by employment sector (p.27).
In addition to understanding what factors predict volunteering, this research sought to examine how various social conditions might have an impact on variation in volunteer behavior. Volunteer research generally focuses on the “why” of volunteering and in the process tells us “who” volunteers—giving us a socio-demographic profile of the volunteer. This approach is narrow in its conceptualization and is unable to give insight into the more contextual information that might suggest how much people volunteer and for what kind of activities. In particular, I wanted to explore generalizations about the types of volunteer activities that have been viewed as “women’s work” and those that are usually described as being within the domain of men, such as political and civic activities. This was accomplished in an elementary though effective manner by examining the frequencies for the types of activities survey respondents reported. Using this method, and controlling for the predictors of significance previously identified, allowed a more thorough exploration of the volunteer habits of this population.

First, the results from examining the number of volunteer activities in which men and women engage, controlling for family density, revealed that, overall, women are more likely to be involved in two or more volunteer activities (59.2%) whereas men are less likely (49.4%) to be involved in two or more activities. This effect is greatest for both genders when they are married with children. That is to say increased family density is related to increases in the number of activities for both men and women. However, the overall finding indicates, that, in this sample, women are more likely to be engaged in multiple volunteer roles within the context of family ties. The second part of this analysis concerned the types of activities volunteers engage in. This is based on the premise,
established in the research on social capital, that men and women utilize their social ties and resources differently.

Research that has explored the nature of these phenomena focuses on the production and use of social capital—including its often inequitable distribution. Vivian Lowndes’s (2004) research has documented how women’s social capital differs somewhat from men’s. Women tend to spend their social resources in ways that focus more on “care and community” and less on formal politics. Lin (2001) has described this differential use in terms of expressive and instrumental activities. Norris and Inglehart (2003) found that although social capital has been shown to be critical for political engagement and the attainment of power, the linkages that translate into accessing these resources remain elusive for women. Lowndes (2004) has pointed out how women remain under represented in political processes (though they vote as frequently as men) and argued this may be due to the way women utilize their social resources. The findings of this research into volunteer habits lend support to these arguments.

For this analysis volunteer activities were coded into categories that reflected the nature of the activity: instrumental=civic, political, school, and youth; expressive=children’s activities, elder-related, animal rescue, and family-oriented; or both=participated in both types of activities. The findings reveal that overall men are more likely to be engaged in instrumental activities, regardless of family density, income or education (52% across categories). Men consistently reported low levels of expressive engagement (16 to 17%) across family density, income and education categories. The analysis of the patterns of men’s engagement reveals that lower income men are as likely
to engage in expressive (36.4%) as instrumental (36.4%) activities. As men’s income increases, their involvement in expressive activities decreases. A similar pattern occurs for education levels (higher education = increased instrumental activities). In the highest levels of income (76,000 or higher) and education (college degree or higher) men are least likely to engage in either expressive activities or both types of activities. In other words, as men’s financial and social status increase they are the most likely to engage in instrumental activities—those activities which are most likely to be political or civic in nature.

For women patterns of engagement revealed more diversity. First, when controlling for family density, women who were married and had no children were more likely to engage in instrumental activities than expressive (50% and 22.7% respectively). Among each of the other categories (single, single with children, and married with children) there was a more equal dispersion between instrumental and expressive types of engagement. Single women with children reported the highest level of engagement in “both” activities (58.8%). For women the relationship of family density to type of activity was significant and the variation reveals that family structure does impact the types of activities women will engage in. The findings indicate that married women without children may be able to dedicate more resources to instrumental pursuits (e.g., politics) but as family demands increase, women allocate their resources across the different types of activities. Single women with children dedicate much of their resources to both types of activities. This may reflect their need to gain both instrumental and expressive benefits for their families.
The relationship to income and education for women was similar to that of men, showing that as women’s financial and social status increased so did their instrumental activities. Likewise, in the highest income and education levels, women’s percentages of expressive activities decreased, just as men’s did. However, women were more likely to increase their engagement in both activities whereas men were not. The findings that women are more likely to be involved in a greater number of activities across a broader spectrum of activities stands out in this population. An equally significant effect is seen for men in that the findings suggest that, for this population of public sector employees, men are more likely to volunteer (male=55.5%; female=48.3%); more likely to volunteer for one activity (male=61.6%; female=38.4%); and are more likely to engage in instrumental activities (male=62.2%; female=37.8%).\footnote{Based on total population counts.} While the literature on volunteering frequently “profiles” the most likely volunteers as female, employed by the government or a non-profit, possessing high socio-economic status, having children under the age of seventeen, and attending church weekly” (Houston, 2005); the results of this research, at least for this population of public sector volunteers, finds a different image of the most likely volunteer. The last finding deals with the number of hours volunteered in this population.

An analysis of variance (ANOVA) revealed that family density did impact the number of hours volunteered by gender. Men’s volunteer hours were found to increase as family density increased. Women’s hours decreased as family density increased. Although results from national survey data and bivariate analysis show that women
volunteer more than men, Mesch et al (2006: 568) reports that these results may depend on how the variable is being measured and how responses to survey questions are interpreted. The study suggests that gender issues are relevant to the methodology and interpretation of survey data. In the current study considering the impact of family density on the volunteer behavior of men and women, the findings confirm the need to apply a gendered lens in order to better understand how context impacts volunteering.

Finally, the ability to work (volunteer) is determined by resources. “Human capital is shorthand for those resources attached to individuals that make productive activities possible” (Wilson & Musick, 1997). Individual attributes such as education, or wealth, become inputs that make it easier to volunteer and to choose the type of volunteer activity. Research has consistently shown a positive relationship between both education and income to volunteering (Clary & Snyder, 1991; Smith, 1994). This research confirms that access to resources have an impact on volunteering and, consequently, links gender to access to resources and volunteer behavior.

**Recommendations**

Volunteering, in academic research, is notable for its limited dichotomous conceptualizations. On the one hand, volunteerism is portrayed as a mainstay of civic society, ensuring engagement in the political and civic processes vital to democracy; on the other volunteerism is portrayed as a manifestation of a “culture of benevolence”—providing the caring work of society (Wilson, 2000; Wuthnow, 1991). As Ellis & Noyes (1990) have pointed out: “Unpaid work done on behalf of social welfare has most often
been labeled “volunteering” while unpaid work on behalf of political change has instead been called “activism, campaigning, advocacy, or community involvement.” Upon reflection, this research gives insight into some of the underlying social mechanisms that contribute to this dichotomous situation. It is not surprising to see that the gender dualism which has influenced the formation of civic institutions and policy (Stivers, 2000) should manifest as clearly in the volunteer roles of men and women employed in the public sector.

By integrating the image of volunteering as “women’s work” and political and civic roles as the domain of men, this research challenges some long-held stereotypes and raises the question of what is unique about this population of Virginia state employees? Perhaps, nothing—the findings may only reflect a different way of “counting” the data and therefore similar results might be found using the methodology with other groups of public sector employees. On the other hand, the findings may point to a strongly embedded culture of men gaining political and civic experience through instrumental volunteer roles and thus fulfilling civic duty, while women devote their resources and efforts across a broader spectrum of social concerns that include expressive as well as instrumental activities, thus fulfilling a differently defined civic need.

The findings of this research are limited to Virginia state employees and therefore may not be generalizable to other populations. Future research should consider public sector employees in other locations. A comparison of the results could prove informative to differences that may be due to regional influences. While this study showed that there
were differences in volunteer behavior by gender the addition of a mixed-methods or an ethnographic approach could provide a richer understanding of volunteer behavior.
References


Gittel, M. et.al. (1999) Women creating social capital and social change: A study of women-led Community Development Organizations (CDCs) Howard Samuels State and Management Policy Center, CUNY


Appendix

[Copy of Survey Instrument is a separate file]
VITA

SUSAN WHITE
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Richmond, VA 23226
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Education

Ph. D in Community Development, Virginia Commonwealth University 2008

M.B.A., University of Arkansas, Little Rock (UALR) 2005

B.A., Sociology, summa cum laude, Arkansas Tech University (ATU) 2000

Research Experience

2007-current Research Associate at the Survey and Evaluation Research Laboratory (SERL), Center for Public Policy, Virginia Commonwealth University.

2005-2007 Graduate Assistant in the L. Douglas Wilder School of Government & Public Policy

2004-2005 Online Education Support Specialist, University of Arkansas, Little Rock

Management Experience

2000-2003 Assistant Director, Community Service, Inc., Russellville, AR. Responsibilities: Administration of programs and supervision of staff providing direct services to adjudicated youth and their families. Programs include: Counseling, Therapeutic Foster Care, Case Management, Supervised Restitution, Aftercare, Day Treatment


Recognition / Awards/Presentations:

2008 Member Pi Alpha Alpha, National Honor Society for Public Affairs and Administration
2007  Recipient of the Leigh E. Grosenick Award for best PhD Student Paper, “Gender, Voice, Justice and Men of Reason”

2006  Presented paper entitled “The intersection between caregiver responsibilities and work demands among public sector employees" at the APPAM 2006 Conference (co-authored by Janet Hutchinson, Ph. D. and Deborah Brock, Ph. D.)

2004-2005  W.H. McLean Scholarship, UALR

2003  National Who’s Who in Executive and Professionals

2000  Member Alpha Chi, National College Honor Scholarship Society

1989  Texas Department of Human Services, For Services to Children and Families


**Professional Volunteer Experience**

2002-2003  CASA 5\(^{th}\) Judicial District, Arkansas, Board Member, 2003 Treasurer

1999-2003  River Valley Violence and Substance Abuse Prevention Task Force, Russellville, AR, Vice President

1997-2001  Cross Training Event Coordinator, Fellowship of Christians, Russellville, AR

1992-1994  4-H Youth Leader, Dallam County Texas

1989-1993  Dallam County Child Welfare Board, Dalhart, Texas, Secretary, Treasurer

1987-1992  Dalhart Youth Center, Board of Directors, Secretary

1987-1990  Home Economics Advisory Council, Dallam County Texas, President

1986-1987  CASA Volunteer/Advocate for abused and neglected children CASA 69\(^{th}\) Judicial District, Texas