CHOOSING TO SERVE: MODELING ANTECEDENTS OF PUBLIC SERVICE MOTIVATION IN UNDERGRADUATE STUDENTS

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ABSTRACT

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This research builds upon the public service literature to better understand the distinctive nature of motivations associated with pursuing careers in the public sector. Previous research has shown that a wide variety of socialization experiences help to develop one's public service motivation (PSM). However, the research has fallen short of providing a comprehensive explanation. Additionally, a majority of the research focuses on those already employed in the public sector, with a dearth of exploration into students' preferences. This study utilized Perry's (1996) original survey instrument to measure PSM scores (both composite and dimensions) in college students, those who we must understand in order to attract and maintain vibrant public administrators with a public service ethos. Sixteen hypotheses were testing using bivariate analysis and a modified version of Perry's (1997) antecedent model, including the introduction of an educational socialization, was examined through multivariate regression and structural equation modeling (SEM) in order to ascertain which antecedent factors were most influential in students' PSM levels.

The study confirmed Perry's (1996) PSM construct by applying it to a group of undergraduate students. The findings on the effects of parental modeling of altruism and closeness to God on PSM levels in students support Perry's (1997) results. Additionally, several other variables, including a liberal political ideology and student volunteerism

emerged as important antecedents. The modified political ideology construct had two variables with significant relationships with overall PSM level in both bivariate and multiple regression analysis – being liberal and having trust in government were positively related with overall PSM level and several of the dimensions. Being more liberal was also found to be significant in the SEM analysis. The new educational socialization construct was also supported through bivariate, multivariate, and SEM analysis. Hypotheses testing revealed that students who majored in the humanities or social sciences, who indicated a preference towards finding employment in the public sector, who had participated in a service learning experience, and who participated in extra-curricular activities and volunteered (within or outside of their university experience) had higher mean PSM scores than those students who didn't.

Overall, the findings of this study support Perry's (1996, 1997) construct of PSM and his findings on several antecedent variables while expanding the knowledge of the effects of the educational socialization process on students, thus providing another avenue for future inquiry into the motivations of our future public leaders.

DEDICATION

To Michael Greentree, who constantly inspires me to believe in the very best in human nature and to MJ and Walker, my precious little men who missed many readings of *The Lorax* so that I could write late into the night.

And, to my grandmother,
Roberta Harmon Walker,
a true Roosevelt Democrat
1921-2011

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CHAPTER 1
INTRODUCTION

The 2008 presidential election was replete with appeals for civic engagement and a recommitment to old-school, perhaps even passé, American values of duty and personal sacrifice for the public interest. Interestingly, this appeal came from the candidates of both parties. Renewed interest in civic engagement, in the idea that there is such a thing as a public interest that public service itself, is valuable, can be seen to be a backlash against the push for deregulation and privatization of traditionally governmental areas of service as well as the idolization of market forces which, according to public opinion, has culminated in the United States current economic crisis and the public's increasing distrust of our nation's leaders (Jones, 2008). The 2008 annual Gallup poll, which assesses perceptions of governance, conveyed an eight-year trend in the decline of public confidence in U.S. government institutions. Only 26 percent of Americans said they were satisfied with how the nation was being governed, which ties 1973 as the lowest reading on record (Jones, 2008). Furthermore, only 42 percent of Americans said they had "a great deal or fair amount of trust" in the executive branch, with the legislative branch garnering just 47 percent of agreement for the same question (Jones, 2008).

This renewed interest in a national dialogue about an engaged citizenry and perceptions of the roles, responsibilities, and motivations of both our nation's citizens and their governmental leaders and administrators is a topic of interest to the field of public administration, for matters both practical and academic. In a recent issue of *PA Times*, Boardman and Ponomariov (2008) reflect on an increase of "sector switchers who increasingly characterize the public service workforce" and who choose to work in the public sector for non-monetary reasons related to a "general motive to do good for

society" (p. 3). In their article, the authors discuss the importance of understanding worker motivation and the need for theory to catch up to practice in order to recruit and retain public sector employees.

Additionally, prominent scholars in public administration continuously debate normative questions to articulate the heart and soul of the field. They query what values, if any, should be encouraged in our public servants and organizations to reflect the principles of our democratic society. These scholars tease out the nuances of discretion and the effect it has in the policy-making process as well as question what measures determine success in the public sector. New Public Management's heavy dependence on what Haque (2001) deems a "market-driven mode of governance" and its corresponding encouragement of privatization, competition, and market values is profoundly at odds with Denhardt and Denhardt's (2003, xi) concept of New Public Service, of which they state, "Public servants do not deliver customer service; they deliver democracy". To Denhardt and Denhardt, public service has to be based upon intrinsic values of democracy, citizenship, and the public interest in order to serve the public good.

So, with the public sector facing severe obstacles in recruiting, retaining, and motivating high-performing employees, it is of no surprise that the topics of public service ethics and Public Service Motivation (PSM) have seen an increase in both academic and real world attention. The Obama Administration has emphasized service opportunities through organizations like Service Nation and events such as National Service Day, as well as a variety of citizen-led volunteer activities. Additionally, in academia, there is a growing body of literature on PSM that can provide an insightful foundation for the current national discussion on what influences a person to want to go

into public service and how we can, as a nation, foster a culture that encourages that calling and sense of community commitment in our youth.

This dissertation will support and extend earlier public administration research that has sought to explain the attraction to employment in the public sector. Given that democratic governance rests in large part on the availability and willingness to serve of citizens with both desire and competence for public service, understanding motivation is critical to recruitment of new public administration professionals.

Statement of the Problem and Research Purpose

In order to have the ability to make public sector professions attractive to dedicated, capable people, we must first seek to understand their motivations and the experiences that help produce those motivations. Uncovering the 'hows' and 'whys' of what attracts certain individuals to public service is a vital area of research to the field of public administration. The contribution of this study in the area of PSM and to the field of public administration will be in the promotion, generation, and expansion of empirical research in the antecedents and effects of the motivations of potential public service professionals as well as emphasis on understanding public service ethos.

The purpose of this survey study is to advance the understanding of the dimensions of PSM by exploring its development and effect upon student PSM levels. Based on previous research on PSM, we arrive at the following research question:

1. What are the antecedents to public service motivation in college juniors and seniors?

From this core research question, we can also identify two sub questions of interest:

1. Does a replication of Perry's (1996) original index of PSM provide explanatory power when applied to a sample of college students?

2. Are there antecedent factors, in addition to those originally identified by Perry (1996), which can help explain differing levels of PSM in individuals?

Therefore, this research is focused on examining the levels of PSM in a sample of college juniors and seniors and then attempting to determine which antecedents most clearly help to explain their differing levels of PSM. Perry's (1997) original antecedents focused on parental socialization, religious socialization, professional identification, political ideology, and individual demographics. This model will modify his variables of parental socialization, religious socialization, political ideology, and individual demographics. Additionally, I will substitute the variable of professional identification with educational socialization because of the use of college juniors and seniors sample data vice public administration professionals.

Simply put, my research questions seek to understand the distinctive character of motivations associated with pursuing careers in the public sector as well as what life experiences help to develop this motivation.

Background

Citing challenges to the influence of the public service ethic as a result of the rise of the public choice movement and the popularity of monetary incentive systems within governmental organizations, Perry and Wise (1990) sought to understand the motives of public servants and provide a heuristic for future research into the question of why people are motivated to work in the public sector, naming their construct Public Service Motivation (PSM). Noting the complex nature of the concept of PSM, they set about to identify a typology of motives associated with a willingness to participate in the public service sector, defining PSM as, "an individual's predisposition to respond to motives grounded primarily or uniquely in public institutions and organizations" (p. 368).

Relying on Knoke and Wright-Isak's (1982) sociological research, they put forth three theoretical bases of motives for PSM: rational, norm-based, and affective. Rational motives are based in personal utility maximization and can be seen in someone who enjoys participating in policy formation or who has a personal affiliation with a particular interest or policy and would like to be an advocate for that interest. Norm-based motives drive one to want to serve the public interest and include valuation of concepts like duty, patriotism, social equity, and loyalty to the government. Due to the difficulty in defining public interest, Downs (1967) classified the desire to serve the public interest as norm-based even if conceived as an individual's personal opinion. Finally, affective motives are rooted in human emotion and include altruism, empathy, and conviction about the importance of a program and its benefit to society.

Perry and Wise (1990) pointed out that their categories were to be seen as a theoretical framework for comprehending PSM but that the motives that drive one to

participate in public service can, and often do, shift over time as well as existing simultaneously. They are dependent on personal and environmental factors and cannot be assumed to exist in a vacuum. Perry and Wise's (1990) original conception of PSM was focused on its influence on an individual's job choice, job performance, and overall organizational effectiveness. Their hypotheses on the significance of PSM were that people with high PSM are more likely than others to choose government jobs, people with high PSM are likely to perform better on the job, and that people with high PSM respond more to non-utilitarian incentives once they are in government service.

Later, in an attempt to close the gap between research and theory, Perry (1996) expanded his original concept of PSM by translating his theory into a measurement scale wherein he tested added dimensions of PSM in order to operationalize his theoretical concept and provide a systematic approach for future research. Through confirmatory factor analysis attraction to public policy making, commitment to the public interest, compassion, and self-sacrifice were confirmed as factors of PSM. Perry also accomplished what had been missing from previous analyses of the motivational basis for public service – a means of accurately measuring PSM empirically by assessing the level of attraction one has towards public service work. Prior to Perry's (1996) 24-question scale, researchers looking to assess attraction towards work in the public sector had utilized indirect methods with ambiguous results (Rainey, 1982; Bright, 2005).

Perry then went on to explore the antecedents of PSM by investigating its link to factors like parental socialization, religious socialization, professional identification, political ideology, and individual demographic characteristics (Perry, 1997). He found that his model fell short of providing a comprehensive explanation but that an

individual's PSM develops from a variety of exposures to different experiences from childhood, religion, and their professional life. He noted several interesting results involving religion and degree of wealth and their impact on PSM. Both church involvement and income were negatively associated with PSM, prompting Perry to encourage further in-depth research of antecedents beyond the variables studied and to promote the importance of formative experiences in inculcating one's development of PSM.

Brewer et al. (2000) cite Buchanan's (1975) study on public service ethics as one of the first forays into study on the differences between public and private sector employees. Since then, they posit, the majority of research in this area has fit into two categories. One approach has been to examine differences between private and public sector employees through the lens of PSM effects like job satisfaction and reward preferences (e.g., Rainey, 1982) while the other approach has endeavored to accurately capture and convey the "multifaceted dimensions" of PSM (e.g., Perry, 1996; Perry, 1997; Houston, 2000; Coursey and Pandey, 2007) (Brewer et al., 2000). Several others have produced thorough literature reviews on PSM (Perry, 2000; Perry and Hondeghem, 2008).

Significance of Public Service Motivation to Public Administration

Fundamentally, PSM contributes to the public interest and our society because the strength of our communities, of our political processes, and our government's ability to carry out the will of the people each rely upon the development of the moral and civic

character of each citizen. Individuals make the decisions and individuals implement them. In fact, the civic humanist perspective measures the success of a government by examining the extent to which it promotes the civic character in its citizens (Hart, 1989). When he made a case for a civic humanist interpretation of the obligations of public servants in our country, Hart (1989) wrote that his argument was obviously idealistic but that this country and our democratic government began with a commitment to several ideals – the ideal of superior moral character in its citizens, and idealist belief in the core values of public service, social and civic responsibility, the public interest, and self-sacrifice. These principles of democracy inherently assume a special relationship between citizens and their public servants.

The motivational basis of public service is interesting to academics and practitioners alike for several important reasons. The study of PSM and the strong feelings and emotions that drive people to participate in public service provides a keen insight into a host of other issues that are integral to public administration. Brewer et al. (2000) posit that these issues include individual work motivation and productivity in the public sector, improved management practice in public organizations, enhanced political accountability of the bureaucracy, and greater citizen trust in our democratic government.

There is no question that American democracy's success, as well as its legitimacy, is dependent upon the level of participation and support from her nation's citizens. Active, engaged citizens contribute to a healthy democracy (Bekkers, 2005). It also stands to reason that a competent, capable, civically literate engaged citizenry is a vital national resource in both human and social capital. The communitarian view of society posits that the cultivation of character and virtue contributes to a stronger polis, or

community, for its citizens to live and grow within. Consequently, this approach is in conflict with the self-interest that categorizes public choice theory because, in the communitarian view, being part of a community and having relationships with others is a precondition for happiness and human life rather than the self-centered rationality of the public choice view (Miller and Fox, 2007). PSM's implication for civic participation and pro-social behavior are well documented as are public servants' higher levels of empathy and altruistic values (Perry and Hondeghem, 2008). Bright (2005) opines that one of the most important features of those with high levels of PSM is their "driving need" to contribute meaningfully to the public good. Perry and Hondeghem argue that, "as civically active citizens, public employees are in a prime position to be catalysts for the formation of social capital" (2008, p. 194).

A holistic view of society could easily emphasize that the interactions, networks, and socialization of pro-social and altruistic behaviors serve to fortify a culture which values relationships, cooperation, caring, and trust towards fellow citizens. Additionally, Putnam (1993) found that social capital is related to public administrative performance. Public servants become better at what they do by being civically engaged and practicing the pro-social behaviors that surround social capital: social trust, social altruism, equality, tolerance, and civic participation (Brewer, 2003). It is encouraging then, that Brewer (2003), in a study comparing social capital attributes between public servants and other citizens, found public servants to be far more active in civic affairs than other citizens and that they scored statistically significantly higher on social altruism, equality, and humanitarianism indices than other citizens.

Haque finds throughout his research that empirical studies, surveys, and opinion polls that find a weakening of trust in public service coincide with those countries' "market-led public service reforms" (1996, p. 74). He also notes Bledsoe's findings (1983), which indicate that public confidence, an important indicator of public sector legitimacy, had declined in many Western countries under the pro-market atmosphere. This decrease in trust for the government could be in part attributed to a reshaping of public attitudes towards public service as a result of the attacks on the public sector inherent in the endorsement of private enterprise polices. Haque (1996) makes mention of The Volker Commission's findings on "bureaucratic bashing" and its negative effect on public perception of public service. The Commission discloses, "...when the president and members of Congress denigrate the federal workforce, they reinforce the public's inherent distrust of it" (1990, p. 66). Staats (1988) discussed the pejorative use of the term "bureaucrat" and the idea that, "these "bureaucrats" have somehow come to be thought responsible for the growth of government, increased taxes, and oppressive regulation of our daily lives" (p. 602). He quotes the infamous line by then President Reagan as a prime example when Reagan said, "In this present crisis, government is not the solution to our problem. Government is the problem" (p. 602). While the idea of the unresponsive bureaucrat makes an easy and abstract target for political blame games, there is very real damage done to the legitimacy and functionality of our civil servants by such grandstanding.

The cost of attacks on public servants, on their integrity and ability, combined with the increasing overemphasis on market-led values has played a part in encouraging parallel interest in both PSM research and ethical conduct research (Perry and

Hondeghem, 2008). PSM's relationship to the phenomenon of whistle-blowing is an important aspect of this interest in linking ethical behavior, based on PSM, to the idea of public sector legitimacy. Whistle-blowing is thought to be related to, and behavioral evidence of, PSM (Brewer and Selden, 1998; Perry and Hondeghem, 2008). Brewer and Selden (1998) explored the hypothesis that whistle-blowing was consistent with a public service ethic and found a regard for the public interest was the most important motivation for reporting an illegal activity.

It is imperative to understand what motivates our public servants, and potential public servants, in order to stimulate these motives – through the culture at large as well as through our governmental organizations. The public bureaucracy, our public officials, and serving the public good have to be seen as valued and valuable in our national mindset in order to attract the best and the brightest into public service. Further, as the literature shows, the desire to serve the public interest becomes especially important because of its effect on employee commitment and performance (Francois, 2000). Public organizations with limited resources cannot rely solely on monetary incentives and benefits for recruitment and retention. Values like volunteerism, sense of community and duty, as well as the desire to serve others are what will draw some individuals to public service. Satisfying their PSM through constant affirmation and reinforcement in organizational culture, structure, and goal attainment is what will keep them there.

The public sector is facing severe obstacles in recruiting, retaining, and motivating high-performing employees. What was referred to previously by Perry and Wise (1990) as the "quiet crisis" of confidence in the public sector can be seen to be near screaming now as polls, pundits, and politicians continually reflect and reinforce the

public's loss of confidence in government. Besides the short term effects of poor job performance and retention, devastating long term effects could include permanent displacement of a public service ethic (Crewson, 1997).

Though the results have been mixed on the dimensions and effects of PSM, calls from some (see Gabris and Simo, 1995) to abandon the theory altogether are shortsighted and premature. The extent literature has revealed that public employees place a higher value on helping others, serving the public interest, contributing to society, and that they value intrinsic rather than pecuniary rewards more than their private sector counterparts (e.g., Wittmer, 1991; Crewson, 1997; Houston, 2000). PSM's influence on quality and content of public sector output, its inherent place in the public/private distinction, and its importance in encouraging civic engagement are research streams whose implications for democratic governance, and the legitimacy of public administration, cannot be overstated. In a democracy that promotes principles like equity, accountability, justice, the public service ethic, the citizenry will be best served when being served by those who hold those principles in high esteem.

Summary

The research problem of determining the distinctive character of motivations associated with pursuing careers in the public sector as well as what helps to develop these motivations through life experiences is of vital importance to the field of public administration. The public sector's downward trend of credibility and legitimacy has led to a crisis in recruitment. Research in the area of PSM, especially in understanding

potential public administrators and their formative socialization influences, will allow us to take proactive steps in promoting a culture which nourishes public service values like altruism, equity, and communitarianism so that we might continue a society of active, engaged citizens, with high levels of PSM, who want to serve their communities through employment in the public sector.

The purpose of this paper is to advance the understanding of the dimensions of PSM by exploring its development and effect upon students' choices and the decision to engage in their community through work in the public sector. The theoretical framework is derived from research within public administration, namely Perry and Wise's (1990) heuristic for PSM and Perry's (1997) original antecedent model. The model presented in this study modifies Perry's original antecedent model of factors by exchanging professional socialization for educational socialization as well as modifying individual variables within each of the factors: parental socialization, religious socialization, educational socialization, personal ideology, and demographic characteristics.

This dissertation will support and extend earlier public administration research, which has sought to explain the attraction of employment in the public service. Given that democratic governance rests in large part on the availability and willingness of citizens with both desire and competence for public service, the contribution of study in the area of PSM to the field will be in the promotion, generation, and expansion of empirical research in the antecedents and effects of the motivations of potential public service professionals as well as emphasis on understanding public service ethos. It is my hope that this research will help to energize passion for public service.

Organization of Dissertation

This dissertation is presented in five chapters: Chapter 1: The Research Problem; Chapter 2: Literature Review and Theoretical Framework; Chapter 3: The Methods Section; Chapter 4: The Results of the Study: and Chapter 5: Conclusions, Implications, Limitations, and Suggested Future Research.

This first chapter has introduced the research problem, the goals and purposed of the study, definitions of key terminology, and has provided reasoning for the importance of the research to the field of public administration. Chapter Two provides a literature review of research on PSM and related areas of interest with an emphasis on studies examining antecedents of PSM. The main objective of this chapter is to provide the conceptual and theoretical framework for this research as well as to explicate the research questions, the hypotheses, and the theoretical model. Chapter Three delineates the procedures utilized to collect and analyze the data. The research design is explained, as are the analytical procedures to be employed. The survey instrument used to collect the data is discussed and the statistical methods utilized to analyze the data are described. Chapter Four's discussion details the results and findings of the research. Additionally, analysis of the data, both descriptive and inferential based on statistical modeling is provided. The results of specific hypotheses are given and the antecedent variables are assessed for their usefulness to the model. Chapter Five, the final chapter, reviews the entire study. Research findings are discussed along with their implications and future research in the area of public service motivation is laid out.

CHAPTER 2

LITERATURE REVIEW AND THEORY DEVELOPMENT

Elmer Staats, former Comptroller General of the United States and a former Chairman of the National Academy of Public Administration, said, "In its broadest sense, 'public service' is a concept, an attitude, a sense of duty – yes, even a sense of public morality. These attributes are basic to democratic society" (Staats, 1988, p. 601). Brewer noted, "The notion that public life involves self-sacrifice, devotion to duty, and commitment to the public interest dates back at least to the ancient Greek city-states" (2003, p. 3). Indeed, our cultural heritage is resplendent with the idea of service to one's country. Examples span from Founding Father Thomas Jefferson who said, "There is a debt of service due from every man to his country, proportioned to the bounties which nature and fortune have measured for him" (Staats, 1988, p. 605), to current President Barack Obama, a former community organizer, who, as a presidential candidate said, "I won't just ask for your vote as a candidate; I will ask for your service and your active citizenship when I am president of the United States. This will not be a call issued in one speech or program; this will be a cause of my presidency" (Obama, 2007).

Sociologists generally take the position that most people have good intentions towards others (Bekkers, 2005). As a society, we are better off when these intentions are encouraged and our community structures facilitate the realization of these intentions to create a shared sense of existence and purpose so that we might better develop trust towards one another. In turn, this community trust translates into high levels of social capital in the citizenry and nurtures ideas of connectedness, which fosters ideas of responsibility towards our fellow citizens (Putnum, 2000). Our public sector relies on successive generations to promote service within our communities through socialization

within our dominant societal institutions in order to create a pool of individuals both willing and able to serve on behalf of the public interest.

This chapter will provide review of the literature as well as the rationale for the development of the model tested in this research. It will start with a discussion of current research on PSM and a description and explanation of Perry's (1997) original PSM antecedent model. Then I will provide the modified model employed in this study as well as the reasoning behind the modifications. My research questions seek to understand the distinctive character of motivations associated with pursuing careers in the public sector as well as what helps to develop this motivation through life experiences.

Definitions

In order to provide some foundational information, the following definitions are provided. These terms will be utilized throughout this study.

Altruism – While there is disagreement among scholars on how best to define altruism (see Losco, 1986), this study characterizes the term in philosopher Thomas Nagel's vein, "By altruism I mean not abject self-sacrifice, but merely a willingness to act in the consideration of the interests of other persons, without the need of ulterior motives" (1970, p. 79).

Public Service Ethic – A public service ethic is a "dynamic behavioral concept anchored in the types of behavior people exhibit rather than in the sectors in which they work" that drives individuals to perform their jobs in a way that enhances the public interest (Brewer and Selden, 1998). It is characterized by a commitment to the public interest.

Public Service Motivation (PSM) - "An individual's predisposition to respond to motives grounded primarily or uniquely in public institutions and organizations" (Perry and Wise, 1990, p. 368). PSM emphasizes intrinsic reward preferences over extrinsic (Houston, 2000).

Service Learning - According to the Commission on National and Community Service, "service-learning" means a method-

> under which students or participants learn and develop through active participation in thoughtfully organized service that is conducted in and meets the needs of a community; is coordinated with an elementary school, secondary school, institution of higher education, or community service program, and with the community; and helps foster civic responsibility; and that is integrated into and enhances the academic curriculum of the students, or the educational components of the community service program in which the participants are enrolled; and provides structured time for the students or participants to reflect on the service experience (National and Community Service Act of 1990).

Social Capital - Putnam (2000) refers to social capital as "connections among individuals – social networks and the norms of reciprocity and trustworthiness that arise from them" (p. 19).

Socialization – Socialization refers to the process by which individuals are influenced by their surroundings as they develop their values. PSM research has examined socialization aspects of relationships with parents, religion, politics, education, and

employment, among others, in attempts to determine what, if any, effect these life experiences and influences have on one's PSM level.

Public Service Motivation Research

Perry and Wise's (1990) PSM and Perry's (1997) PSM antecedent research form the foundation of this inquiry. Since Perry and Wise's (1990) original conception of the concept, many other scholars have also delved into the motivational bases of public service. Since the mid-1990's, much has been written on PSM – broader definitions, individual conceptions, and more testing of both its dimensions and impact on the public sector (e.g., Naff and Crum, 1999; Brewer et al., 2000; Perry, 2000; Houston, 2000; Wright, 2001; Alonso and Lewis, 2001; Bright, 2005; Coursey and Pandey, 2007). Additionally, scholars in the public administration field have continued to conduct research to both test the veracity of the concept and corroborate Perry's measurement scale (Houston, 2000; Vandenabeele, 2008; Coursey, Perry, Brudney, and Littlepage, 2008; Kim, 2008), as well as to explore the antecedents of PSM in greater detail (Perry, 1997; Perry, Brudney, Coursey, and Littlepage, 2008; Camilleri, 2009; Hansen, 2009; Kim, Cho, and Park, 2009; Lee and Lee, 2009a; Lee and Lee, 2009b; and Wright and Christensen and Wright, 2009; Vandenabeele, 2011).

However, few of these studies have used Perry's (1997) original survey measure for PSM (see Kim, 2010, p. 524). Many do not utilize the entire scale, but omit one or more of the dimensions or substitute one of the 24 items used to represent them (Wright, 2008). Those who have sought to test the veracity and corroborate Perry's measurement

scale have operationalized the concept differently based on their interpretation of the relationships between the four dimensions – attraction to public policy making, commitment to the public interest/civic duty, compassion, and self-sacrifice (Wright, 2008). So, while the general validity of Perry's (1996) instrument, either its full or abbreviated form, has been confirmed, the variety of operational definitions has produced inconsistent findings, which limits the ability to understand the underlying construct and provide a uniform approach to inquiry of the topic (Wright, 2008).

Perry and Wise's (1990) original hypotheses regarding PSM, that it affects employee performance, preference towards reward incentives, and desire to seek employment in a public organization, stems from the recognition of motivational differences that exist between the public and private sectors (Perry and Porter, 1982; Rainey, 1982). This stream of research supports the argument that there are individuals who are predisposed to derive satisfaction from working in the public sector because of the opportunities it affords them to fulfill their need to help others, provide a service to their communities, or impact public policy for the public interest. It follows, then, that there should be positive correlates in their performance in the public sector. Researchers have provided a litany of empirical studies to support this supposition. Scholars have examined how these motivations interact with variables such as work environment and individual characteristics, hoping to explicate tangible outcomes from PSM like reward preferences (Alonso and Lewis, 2001; Crewson, 1997; Rainey, 1982; Wright, 2004); job satisfaction (Brewer and Selden, 1998; Naff and Crum, 1999; Norris, 2003; Kim, 2005; Steijn, 2006; Cerase and Fainella, 2006; Rainey, 1982), and organizational commitment (Crewson, 1997; Camilleri, 2006; Castaing, 2006).

Much PSM research is focused on individual reward preferences. Rainey's (1982) comparison of reward preferences between employees in public and private organizations where he sought to investigate a unique service ethic in public organizations was one of the earliest. Crewson (1997), building on Rainey's (1982) findings, also examined reward preferences and found that public sector employees had a distinct set of motives, leading him to state, "A delicate balance must be achieved between providing adequate economic rewards and taking care not to destroy or ignore the intrinsic or service needs of public employees" (p. 515). While Alonso and Lewis (2001) found little evidence of the effect of PSM on employee incentive preferences, this might be because their measurement of PSM was flawed (Wright, 2008). Wright (2008) concluded that empirical results in this area suggest that pecuniary incentives correlate to PSM only so far as the incentives can be associated with employee performance and that intrinsic incentives are just as important to individuals with high levels of PSM as monetary incentives are.

Job Satisfaction is another correlate of PSM that has been tested by many scholars seeking to clarify the tangible effects of PSM. Brewer and Selden's (1998) work on public sector employees, found that whistle-blowers reported higher levels of job satisfaction. Brewer and Selden (1998) posited that a public service ethic (concern for the public interest) is what triggers some individuals to be whistle-blowers. Naff and Crum's (1999), Kim's (2005), and Steijn's (2006) findings also support job satisfaction as a correlate to PSM. Naff and Crum (1999) found a significant relationship between job satisfaction and PSM in a sample of federal employees and Kim (2005) found this relationship in Korean public employees. Steijn (2006) also found a significant

relationship between PSM and job satisfaction in a survey conducted by the Dutch Ministry of the Interior. Additionally, Kim (2005) found that both PSM and job satisfaction increased overall organizational performance. And, in another international setting, Cerase and Fainella (2006) conducted a study on Italian Revenue Agency employees and found a positive relationship between PSM and job satisfaction. These findings all point to the substantial effects that PSM has on an individual's desires and expectations related to their employment. The desire to contribute to the public interest through public sector employment is an aspect of employee management that can be affected by organizational culture or mission.

The interest in examining the relationship between PSM and organizational commitment stems from Perry and Wise's (1990) original hypotheses of the significance of PSM on workplace outcomes. Seeking to highlight civil servant uniqueness, Crewson (1997) found PSM consistently had a positive relationship with organizational commitment, leading him to state, "Profit-searching firms are likely to be dominated by economic-oriented employees while public-service organizations both public and non-profit, are likely to be dominated by service oriented employees" (p. 516). Camilleri (2006) used a sample within the Maltese Public Service to find the same and Cerase and Fainella's (2006) and Castaing's (2006) empirical work also provides support for the positive correlation between organizational commitment and PSM. Additionally, Camilleri (2006), Cerase and Fainella (2006) and Castaing (2006) all found affective commitment to be more influential than normative commitment. While there is difference of opinion on using organizational commitment as an antecedent on PSM or vice versa (see Camilleri, 2006; Castaing, 2006), given their reciprocal nature, what can

be gleaned from the research in this area is that organizational culture and mission and how well they align with an individual's expectations and PSM is vital in nurturing that individual's desire to continue to work there.

There is relatively little research focusing on student levels of PSM, or how PSM affects student career choices after college. A large majority of PSM research is focused on professionals already in the field (see Naff and Crum, 1999; Brewer et al., 2000; Perry, 2000; Houston, 2000; Wright, 2001; Alonso and Lewis, 2001; Bright, 2005; Coursey and Pandey, 2007). However, recently several scholars prepared presentations for the 2009 International Public Service Motivation Research Conference examining students and PSM (Gabris and Davis 2009; Infeld et. al 2009; and Lee and Lee 2009).

Gabris and Davis (2009) measured PSM in Masters of Public Administration (MPA) students to determine whether it affected students' perceptions toward the application of management techniques and role behavior in the public sector. Infeld, et al. (2009) compared work values and career choices of public administration and public policy students in the U.S. and China. Lee and Lee (2009) profiled civil service applicants and factors affecting those decisions in undergraduate students in Korea. These projects are still in progress and their results, when shared, will add substantially to the knowledge of the relationship between PSM and students. Additionally, several other scholars presented their research on antecedents (Camilleri, 2009; Hanson, 2009; Lee and Lee, 2009a; Lee and Lee, 2009b; and Wright and Christensen, 2009). However, to date, no PSM research examines undergraduate students across a range of disciplines, utilizes the original PSM scale created by Perry (1996), and employs educational socialization as an antecedent. The current study fills this gap in research by doing all

three.

Antecedents to PSM

The stream of research emphasizing antecedents to PSM has produced greater knowledge and understanding of how institutions and socialization processes and exposure to certain events, philosophies, and ideologies help shape individuals' "general altruistic motivation to serve the interests of a community of people, a state a nation or humankind" (Rainey and Steinbauer, 1999, p. 23). Though most studies address the effects of PSM, much can be learned from its origins as well. Perhaps most recently, Vandenabeele (2011) investigated how specific institutional factors are involved in inculcating PSM in civil servants in Belgium. Earlier, because of his research on PSM in international settings, Vandenabeele (2008), felt the need to develop a more encompassing definition of PSM than commonly utilized by American PSM scholars and expanded the definition to "the belief, values and attitudes that go beyond self-interest and organizational interest, that concern the interest of a larger political entity and that motivate individuals to act accordingly whenever appropriate" to apply to settings outside of the United States, whose scholars often don't use the term PSM at all (p. 547). Noting that characteristics such as gender, age, education level, and political preference are the most consistently examined antecedents of PSM levels, Vandenabeele (2008) sought to include a discussion on the role "institutions embedded in the sociohistorical environment" play in the development of PSM (p. 89).

Perry and Vandenabeele (2008) found that identity is a core element in the development of PSM, even though, historically, identity is not commonly addressed in

motivational theory. Vandenabeele (2011) asserts that when an individual internalizes the public values that can be found within institutions (like family, religion, etc.), they develop PSM and it becomes a part of their identity. In an institution like a family, parental modeling socializes children and helps develop their identity (Staub, 1992). Organizations where individuals work also have both informal and formal socialization processes, which transfer values to those who work there (Fogarthy and Dirsmith, 2001). In fact, Bright (2005) and Camilleri (2007) have found that employees in managerial positions or who are more senior in the hierarchy of an organization have higher levels of PSM, which speaks to the effects of the socialization aspects of organizational culture.

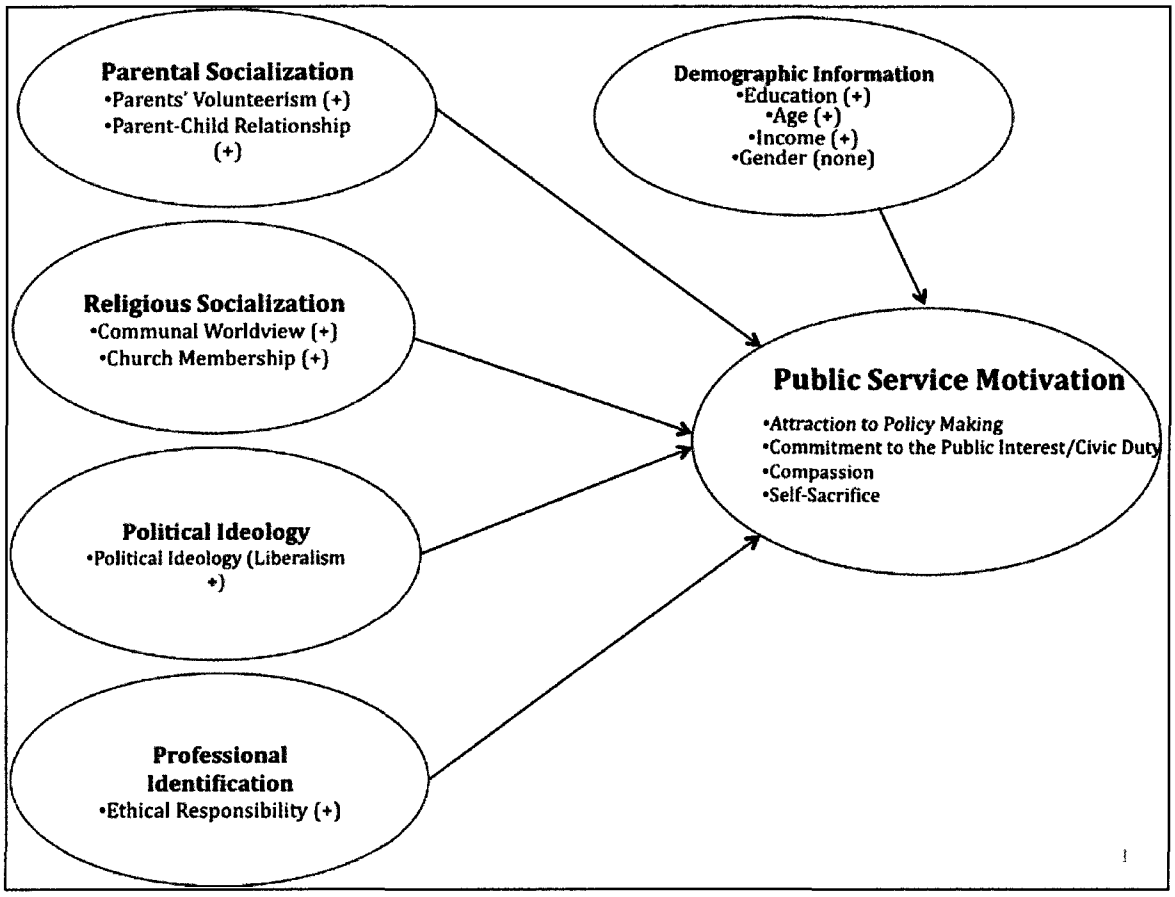
Vandenabeele (2011) concludes that PSM is partially present before one enters service, wherein it continues to be developed further by institutional and organizational forces. His findings present substantiation for the roles that different institutions play in the development of PSM as well as the importance and complexity of the interaction between individual and societal factors.

Perry's Original Model of Antecedents of PSM

Perry's (1997) original antecedent research examined parental socialization, religious socialization, professional identification, political ideology, and individual demographics. He concluded that PSM develops "from exposure to a variety of experiences, some associated with childhood, some associated with religion, and some associated with professional life" (Perry, 1997, p. 190). He also suggested future research focus on educational factors. In later research, Perry (2000) again argued that

PSM is dependent on how individuals are socialized through sociohistorical institutions – primarily parental relations, religion, observational learning and modeling throughout life experiences, education and professional training. Perry's (1997) original model of PSM antecedents can be found below in Figure 2.1.

Figure 2.1
Perry's Model of PSM Antecedents



Perry's (1997) original model of the antecedents of PSM built upon previous research aimed at highlighting the difference in motivation between the public and private sectors. Originally defined as, "an individual's predisposition to respond to motives grounded primarily or uniquely in public institutions," the PSM construct was

captured in four dimensions: attraction to public policy making (rational), commitment to the public interest and civic duty (normative), compassion (affective), and self-sacrifice (affective) (Perry and Wise, 1990, p.368). Perry (1996) discussed how motives, which he defined as, "psychological deficiencies or needs that an individual feels some compulsion to eliminate" (p.6), can be satisfied within different contexts – rational, norm-based, and affective. He categorized attraction to public policy making as a rational based motive because public policy making holds individual utility maximization as well as personal satisfaction for some individuals, which draws them into public service in order to fulfill their desire to impact their communities in a positive way. Commitment to the public interest or belief in a civic duty to serve others, Perry designated as a normative motive because norm-based motives "refer to actions generated by efforts to conform to norms," and the generally accepted standard of the importance of service to one's country (Perry, 1996, p. 6). The dimensions of compassion and self-sacrifice were distinctively affective, "grounded in emotional responses to various social contexts" (Perry, 1996, p.6). Perry's conception of compassion closely aligned with what Frederickson and Hart (1985) termed 'patriotism of benevolence' which they defined as, "an extensive love of all people within our political boundaries and the imperative that they must all be protected in all of the basic rights granted to them by the enabling documents" (p. 549). Using the same rationale, self-sacrifice, or "the willingness to substitute service to others for tangible personal rewards" (Perry, 1996, p. 7), is rooted in an intangible emotional appeal, not quantifiable by monetary terms, for serving the public.

Relying on previous insights into PSM motives (rational, normative, and affective) and dimensions (attraction to public policy making, commitment to the public interest and civic duty, compassion, and self-sacrifice), Perry (1997) then went on to investigate five antecedents to PSM, noting he could not hope to explore all of the potential antecedents in this initial investigation: parental socialization, religious socialization, political ideology, professional identification, and individual demographics. He tested the effects of these antecedent factors on a dependent variable, which was a composite measure of PSM as well as the four dimensions, with mixed results.

In the parental socialization factor, Perry (1997) found a strong positive relationship between parental modeling of altruistic behavior on both overall PSM levels and the dimension of civic duty. However, good parental relations did not have a correlation with PSM levels. Religion was also varied, with religious worldview having no significant impact and church involvement being negatively related to PSM. A third variable, closeness to God, was positively related to PSM. Education had a significant, positive relationship with both a composite PSM score and two of the dimensions – commitment to public interest/civic duty and compassion. Professional identification had a mixed effect on PSM as well, with no relationship to the composite score of PSM and varying correlations within the dimensions. Political ideology produced mixed results, with liberalism relating significantly and positively to the dimension of attraction to policy-making, but negatively and significantly to the dimension of self-sacrifice. In terms of demographics, men scored higher than women on the dimension of commitment to public interest/civic duty. Contrary to his hypothesis, income was negatively

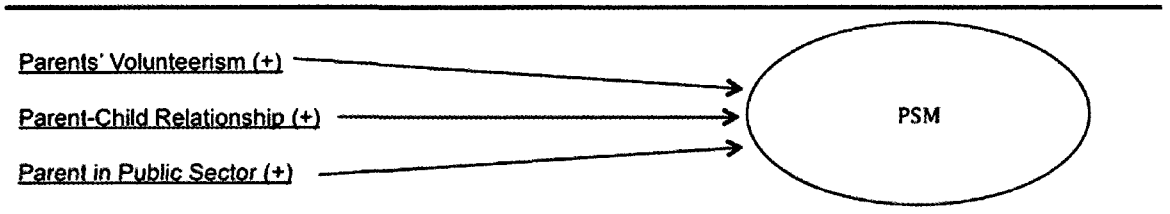
associated with the composite PSM level, as well as with the dimension of commitment to public interest/civic duty. Finally, age had a positive correlation with PSM.

Given Perry's original investigation of PSM antecedents and taking into account the literature to be discussed below, the antecedent factors for PSM examined in this research are categorized as follows: parental socialization factors, religious socialization factors, political ideology factors, educational socialization factors, and an individual demographic factor of gender. Since there have been very few studies regarding antecedents to PSM and none that examine these factors on a broad spectrum group of undergraduates, utilizing an educational socialization factor will emphasize potential variables that influence PSM levels in undergraduates. The assumptions and hypotheses presented below are based on studies regarding PSM and other extent literature in motivation, public administration, and volunteerism research.

Parental Socialization. Perry (1997) relied upon several empirical studies to establish a relationship between parenting and early childhood development and altruistic behavior in adulthood. Clary and Miller (1986) had found that volunteers in the non-profit organization they studied were more likely to sustain their commitments to volunteering if they reported positive relationships with parents who modeled altruism. Additionally, Perry (1996) posited that since altruism is closely aligned with the PSM dimensions of self-sacrifice and compassion, they might also be a product of parental socialization. Based on his research, he suggested two hypotheses in the area of parental socialization. First, persons with parents who modeled altruistic behavior would have higher levels of PSM. Second, persons with positive parental relationships would have

higher levels of PSM. Figure 2.2 depicts Perry's (1997) original hypotheses on the individual variables in the parental socialization factor.

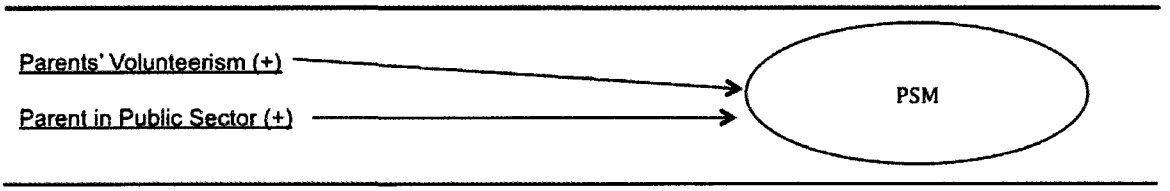
Figure 2.2
Perry's Original Parental Socialization Factor



In my model for this research, I will be modifying two variables. First, I will not be testing parental relations, as Perry (1997) did not find that variable significant in any of the four equations he tested. Additionally, since then, while researchers examining antecedents have continued to find a significant relationship between parental modeling of volunteerism and PSM levels in their children, there is little to no reference of the parental relations variable (see Coursey et al., 2008; Perry et al., 2008; Vandenabeele, 2011).

I will also add the hypothesis that having a parent working in the public sector will relate positively with a student's PSM levels. Figure 2.3 shows the modified parental socialization factor below:

Figure 2.3
Updated Parental Socialization Factor



Like the hypothesis on the relationship between one's PSM levels and parental volunteerism, this new hypothesis is also based on the stream of volunteerism literature which suggests that volunteering 'runs' in families in part because of parental role modeling (Mustillo et. al, 2004). The transference of values and beliefs from parent to child during the socialization process is well established and maintains a central role in value development (Mustillo et. al, 2004). "It is well established that generosity and altruistic behaviors are strongly influenced by the presence of a positive role model, often the parent" (Pancer & Pratt, 1999, p. 43 quoted in Mustillo et. al, 2004, p. 531). "In terms of PSM, people will be public service motivated because they have internalized public values that can be found within the institutions to which they belong" (Vandenabeele, 2011, p. 90). In the family setting, that would apply to the values and examples that the parents provide for their children. Accordingly, Vandenabeele (2011) found that having parents who were employed in the public sector significantly increased an individual's PSM. Extending the rationale for parental modeling and previous findings on the bearing of a parent's employment in the public sector, parental influence on a child would also seem to support the supposition that parents with careers in the public sector would have children who express a desire to also pursue a career in the public sector.

As such, hypotheses one and two are that:

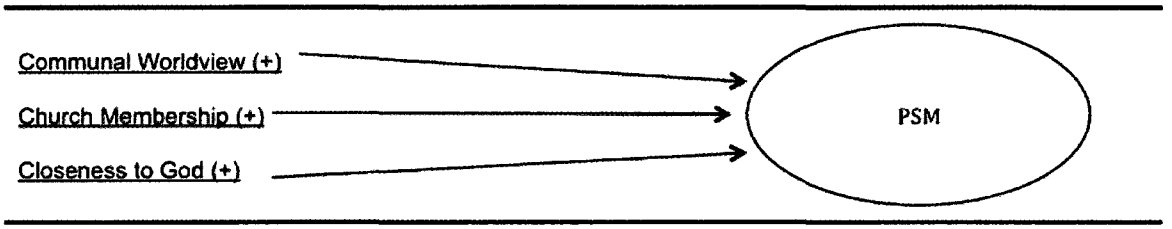
H_1: Students with parents who volunteered will have higher mean PSM scores than students whose parents did not volunteer.

H_2: Students whose parents worked in the public sector will have higher mean PSM scores than students whose parents worked in the private sector.

Religious Socialization. Religion has long been a variable of interest in social science research, perhaps since de Tocqueville credited Protestantism with being the basis for a vibrant civic culture (Bellah et al., 1985). One's religious socialization helps shape and define one's attitudes, opinions, and values. Perry's (1997) original religious socialization factor was comprised of three variables – religious worldview, church membership, and closeness to God. He drew on Bellah et. al.'s work (1985), which depicted religion as influencing facets of a person's life outside of just their private spirituality. How that person then translates these beliefs in a broader context is dependent upon their 'religious worldview' (Benson and Williams, 1982). A religious worldview that is described as 'agenetic' "perceives religion in relation to individual problems and religious solutions to them" (Perry, 1997, p. 184). On the opposite end of the spectrum is a 'communal' worldview, which "sees religion in terms of problems shared by people and their relationships with one another (Perry, 1997, p. 184). Perry (1997) also discussed the concept of 'closeness to God' (Welch and Leege, 1988), "an individual's perception of the closeness to God when engaged in both spiritual and social activities" (p. 184). He posited that these religious beliefs are directly related to several aspects of PSM, specifically to the dimensions of civic duty and compassion and commitment to the public interest. He hypothesized that those who claim an agenetic worldview would have lower PSM levels than those who self-identify with a communal worldview and that those who expressed closeness to God and attended church more would have higher levels of PSM. Figure 2.4, below, depicts the individual variables in Perry's original religious socialization factor:

Figure 2.4

Perry's Original Religious Socialization Factor

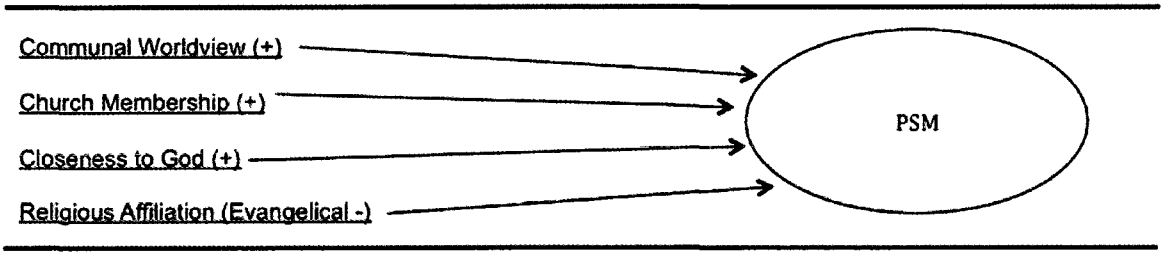


As more work has been done in the area of antecedents of PSM, focus on religious influence on PSM, volunteering, and individual conceptions of PSM is increasing (Houston and Cartwright, 2007; Perry et al., 2008). Perry's (1997) parsing out the variables of church attendance versus religious worldview and closeness to God speaks to the distinctions that continue to be explored in this area (Houston and Cartwright, 2007). Spirituality distinct from religion continues to be investigated as scholars seek to hone in on the convergent yet distinct nature of these concepts. While spirituality is intrinsically focused and relates to one's personal relationship with a higher being, religion is regarded as extrinsically focused, with emphasis on a particular institution and its practices, along with affiliation with a particular group (Houston and Cartwright, 2007). Perry et al.'s (2008) study on morally committed citizens provides a nuanced examination of religion and its effects for more insight into the interactions of one's faith and one's desire to serve others and how that plays out through their community involvement. The authors note the relationship between religion, volunteering, and PSM is complicated and conditional on varying factors like religious denomination. Religious ideology has been found to be linked to political values concerning social issues, for example, abortion with Catholics and Evangelical Protestants less likely to support reproductive healthcare rights than those in the Jewish

faith (Greentree, Morris, and Lombard, 2011). Religious denomination also affects personal conceptions and interpretations of the meaning of volunteering. Bekers and Dhingra (2001) found that the language used to describe the reasoning behind volunteering differed between evangelical respondents and more liberal Protestant or Catholic congregants. For example, whereas an evangelical respondent expressed volunteerism in individualistic terms, "If I am to become more Christ-like, I must serve," a member of a liberal congregation said he volunteers because of "an obligation to help others as citizens" (Bekers and Dhingra, 2001, p. 328). The authors state that these differences were more than individual meaning-making, but also a reflection of the messages congregants received from their pastors, messages that include what kind of community service that particular congregation regards as valuable and the extent to which it supported their religious values.

Because evangelical congregations are more closely aligned with the agenetic worldview, and religion, as an institution, helps shape the values of an individual's attitudes towards their responsibilities as citizens, the updated religious socialization factor will include a new hypothesis, which is that an evangelical Protestant religious background will relate negatively to PSM levels. Figure 2.5 below reflects the updated religious variables.

Figure 2.5
Updated Religious Socialization Factor



As such, hypotheses three through six are:

H_3: Students with a communal worldview will have higher mean PSM scores than students with an individualistic worldview.

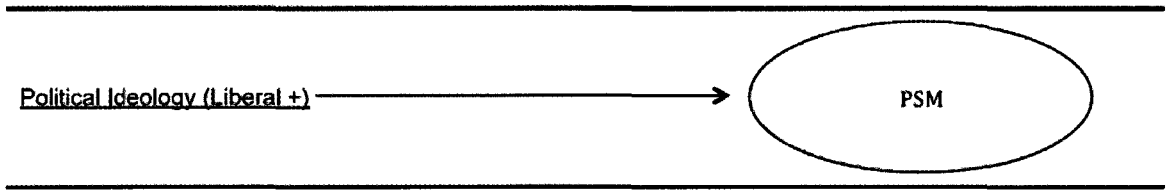
H_4: Students with higher levels of church involvement will have higher mean PSM scores than students with lower levels of church involvement.

H_5: Students who profess a higher 'closeness to god' outlook will have higher mean PSM scores than those with a lower 'closeness to god' outlook.

H_6: Students who are evangelical Protestants will have lower mean PSM scores than students of other Protestant denominations.

Political Ideology. Perry (1997) relied on the historical context of political ideologies associated with liberalism and conservatism and their traditional positions on the proper role and scope of the state and free enterprise to form his hypothesis on the relationship between political ideology and PSM. He posited that liberalism would have a positive relationship with PSM. Follow up research has also shown public sector employees to vote more liberal as well (Vandenabeele, 2011). Others have also examined the relationship between ideology and volunteerism and found, "Liberals consider their volunteering as a civic duty and as helping others around them, while conservatives consider their volunteering as a spiritual act expressing their religious beliefs (Bekers and Dhingra, 2001, p. 330). Figure 2.6 depicts his hypothesis for political ideology:

Figure 2.6
Perry's Original Ideology Factor

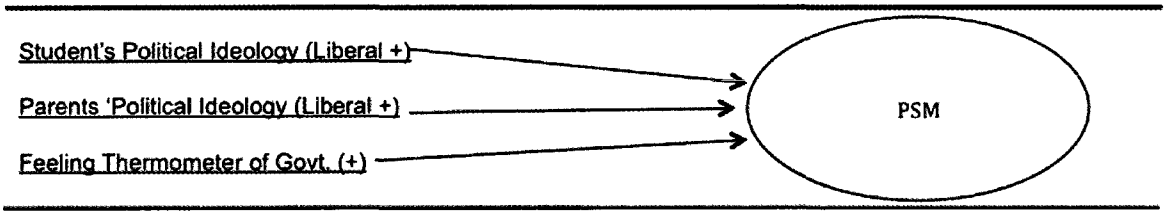


For this updated model, I will add two more hypotheses. First, I posit that parental ideology will also have an effect on the student's level of PSM. Specifically, having parents who are more liberal will have a positive correlation to a student's PSM levels. This hypothesis is based on the sample being comprised of students and the previously mentioned importance of parental influence and modeling of altruistic behavior. Additionally, previous research has shown that ideological affiliations of parents significantly impacts the expressed ideological affiliations of young adults (Hooghe and Wilkenfeld, 2008).

Additionally, I will include a variable to gauge one's view of government. A recurrent theme in public administration literature is the negative connotation of the term "bureaucrat" and the effect of criticism of government employees. Staats (1988) discussed the pejorative use of the term "bureaucrat" and the idea that, "'these bureaucrats' have somehow come to be thought responsible for the growth of government, increased taxes, and oppressive regulation of our daily lives" (p. 602). He quotes the infamous line by then President Reagan as a prime example when Reagan said, "In this present crisis, government is not the solution to our problem. Government is the problem!" (p. 602). While the idea of the unresponsive bureaucrat makes an easy and abstract target for political careers, there is very real damage done to the legitimacy

and functionality of our civil servants by such grandstanding. Haque (1996) makes mention of The Volker Commission's findings on "bureaucratic bashing" and its negative effect on public perception of public service. The Commission discloses, "...when the president and members of Congress denigrate the federal workforce, they reinforce the public's inherent distrust of it" (1990, p. 66). To compound this distrust is the market-led reform movement brought on by the popularity of New Public Management. The cost of attacks on public servants, on their integrity and ability, combined with the increased overemphasis on market-led values has played a part in encouraging parallel interest in PSM research and ethical conduct research (Perry and Hondeghem, 2008). This interest has been seen in efforts to foster understanding of the foundational differences between the public and private sectors and the importance of the ethical code that should imbue those in the public sector as they work to deliver democracy, and not profits, to their fellow citizens. Students with a more positive view of government, as measured by a feeling thermometer of government, should have higher levels of PSM. Figure 2.7 depicts the updated ideology socialization factor with the added variables.

Figure 2.7
Updated Ideology Socialization Factor



As such, hypotheses seven through nine are:

H_7: Students who indicate a liberal ideology will have higher mean PSM scores

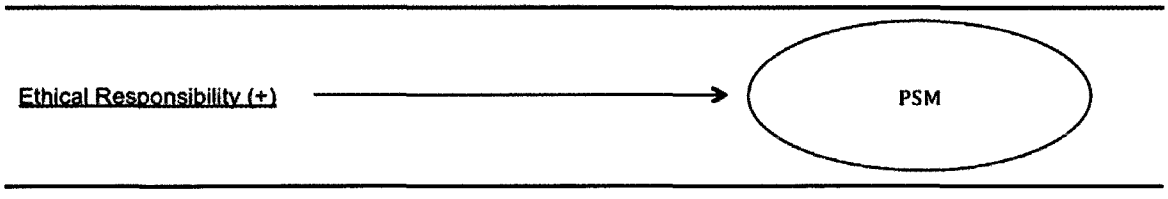
than students who indicate a conservative ideology.

H_8: Students who indicated that their parents have a liberal political ideology will have higher mean PSM scores than students who indicated that their parents have a conservative political ideology.

H_9: Students who indicate a positive view of government will have higher mean PSM scores than students who indicate a negative view of government.

Educational Socialization. Perry (1997) originally utilized a measurement of professional identification as a possible antecedent of PSM. He believed that the degree to which a professional identified with the ethical responsibility of their position would be positively correlated with PSM. Given the historical context of the importance placed on the ethical probity of elected and bureaucratic officials, this supposition resonates with those who believe in a calling to public service and subscribe to Denhardt and Denhardt's (2003) stance that "Public servants do not deliver customer service; they deliver democracy" (p. xi). Figure 2.8 below depicts Perry's original professional identification factor.

Figure 2.8
Perry's Original Professional Identification Factor



This factor is the one that perhaps most clearly distinguishes Perry's (1997) original model from this current research project. As mentioned earlier, there have been few explorations into student levels of PSM and what helps to develop this motivation

through their life experiences. And, while several presentations were given at the 2010 International Conference on Public Service Motivation that focused on students (Gabris and Davis, 2009; Infeld, et. al, 2009; Lee and Lee, 2009a; and Wright and Christensen, 2009), none examined undergraduates across a broad range of students utilizing Perry's (1996) full measurement scale. Accordingly, this study serves to contribute to public administration and the PSM literature by delving into student experiences and perceptions, our potential future public administrators. Therefore, the factor of professional identification is replaced with the factor of educational socialization. Educational socialization has several variables, which are designed to illuminate the potential effects of the educational experience on student PSM levels. The variables are: choice of major, participation in ROTC, having a service learning experience, profession of desire for a career in the public sector, and participation in extra-curricular and volunteer activities.

Though Perry (1997) originally included level of education as a demographic control, he also recognized the role of the educational process in shaping one's beliefs (Moynihan and Pandey, 2007). John Dewey, a pioneer in educational reform, also recognized the long-term effects of education socialization. It was Dewey who successfully highlighted the link between education and society in his pursuit of education reform, positing their interactive and interdependent relationship (Stelljes, 2008).

There is little empirical evidence reported about the relationship between certain majors or field of study and PSM levels (Vandenabeele, 2011). However, given that certain majors are more likely to lead to careers that embody a public service ethos or are

focused on serving the public, it follows that these students would be more likely to demonstrate higher levels of PSM. Clerkin et al. (2009) found a positive relationship between students majoring in the humanities and social sciences and their likelihood of choosing to volunteer. And, Vandenabeele (2011) found that individuals who had studied in the areas of language, health care, and social science had higher PSM levels than those who studied in a general field. He also found that studying in business was associated with lower levels of PSM. These results corroborate earlier findings in this area by Vandenabeele (2008), when he found masters students in the behavioral sciences, arts, medical sciences, and law more likely than business school masters students to select a public employer. I hypothesize that certain majors, those within the humanities and social sciences, will correlate with higher levels of PSM. Students participating in Reserve Officer Training Corps (ROTC) have already expressed a desire to find employment in the public sector and service to their country through membership in the armed services. As such, it is anticipated that involvement in ROTC will correlate positively with PSM. Using that same rationale, it is hypothesized that profession of a preference to work in the public sector will correlate positively with PSM levels.

Increased research into service learning, its effect on students, and potential benefit to society reflects a growing interest in preparing our nation's students for active involvement in community life as engaged citizens (Smith, 1994). The idea that 'citizenship education' allows students to "explore their own identities and what it means to contribute to something larger than their individual lives" (Rhoads, 1998, p. 277) is something some academics feel is inherent to their mission as teachers. "If there is a crisis in education in the United States today, it is less that test scores have declined than

it is that we have failed to provide the education for citizenship that is still the most important responsibility of the nation's schools and colleges (Newman, 1985, p. 31). Service-learning is designed to both achieve academic goals and contribute positively to society (Stelljes, 2008). The service-learning model is based upon students' development of commitment to service through service experiences (Stelljes, 2008). Previous studies indicate that college student participation in service-learning contribute to commitment to future service and feelings of social responsibility (Stelljes, 2008), both of which are related to the PSM dimensions of commitment to the public interest and civic duty and compassion. The role of education and its influence on civic engagement, its ability to provide a strong foundation and the importance of adapting curricula to fit the needs of today's youth, is enhanced by the integration of both service learning and civic literacy emphasis into educational programs. Cultivating civic literacy through the national education system is also widely supported by educational representatives as well as those who study the social sciences (Kidwell, 2007). It is hypothesized that participation in service-learning will be positively correlated with PSM.

The examination of the relationship between pro-social behaviors and PSM has spanned research in areas like organizational citizenship behavior, whistle-blowing, donating blood, and volunteering (Houston, 2008). These types of altruistic behaviors are seen to have a mutually supportive relationship with PSM (Houston, 2008). While rational choice theory falls short of providing explanation for participation in civic organizations and other voluntary or philanthropic behaviors, PSM theory is complementary to the study of charitable behavior, social capital, and other active citizenship activities, which is why PSM scholars continue to examine correlations

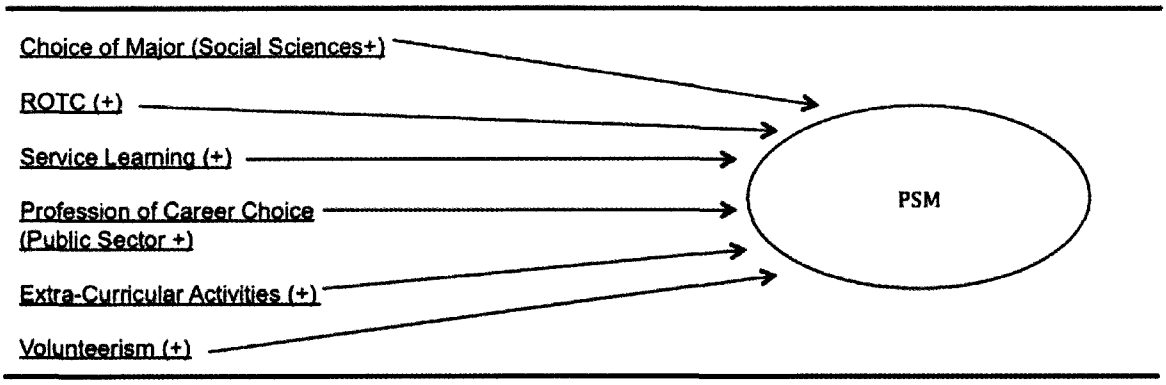
between pro-social behavior and PSM levels.

One such pro-social behavior, volunteerism, allows an individual to advocate for political interests, express social identity, improve their status, and feel a connection to other people, among other things (Bekkers, 2005). Studies have shown that involvement in community service, such as volunteering at a shelter, motivates students to consider underlying political issues and develop habits of long-term civic participation (Owen, 2000). Public sector employees have been shown to be more likely to volunteer than private sector employees, even after controlling for demographics and occupational level (Houston, 2006; Houston, 2008; Rotolo and Wilson; 2006; Wilson and Musick, 1997), prompting Rotolo and Wilson (2006, p. 37) to write, "Civil servants do not exhaust their motivation to perform public service in their paid work but seek to supplement it in unpaid work on behalf of voluntary agencies" (in Houston, 2008). Clerkin et al. (2009) also found that, in their sample of undergraduate students, PSM had a positive relationship with both volunteering and donating. It is hypothesized that volunteer experience will correlate positively with a student's PSM levels.

It has also been found that the more education one has, the more likely they are to volunteer, and be involved in a host of other community activities (Bekkers, 2005; Putnam, 2000). Badescu and Neller (2007) constructed four categories to capture membership in civic organizations. Sociocultural (charity, social welfare, cultural); leisure, sport, and expressive; advocacy and interest groups; and church affiliated (Houston, 2008). Houston (2008) found that governmental employees are more likely than non-governmental employees (both non-profit and private) to be members of sociocultural groups as well as participate in civic organizations. These behavioral trends

correspond with PSM's dimensions of compassion and commitment to the public interest and support the hypothesis that public service employees have higher levels of empathy and altruism (Houston, 2008). It is hypothesized that participation in extra-curricular activities will correlate positively with a student's PSM levels. Figure 2.9 below shows the new educational socialization factor.

Figure 2.9
New Educational Socialization Factor



As such hypotheses 10 through 15 are:

H_{10}: Students with a major in the humanities and/or social sciences will have higher mean PSM score than students in other majors.

H_{11}: Students who participate in Reserve Officer Training Corps (ROTC) will have higher mean PSM scores than students who do not participate in ROTC

H_{12}: Students who profess a preference to work in the public sector will have higher mean PSM scores than those who profess a preference to work in the private sector.

H_{13}: Students who have participated in a service learning experience will have

higher mean PSM scores than students who have not participated in a service learning experience.

H_{14}: As students' reported number of extra-curricular activities increases, mean PSM score will also increase.

H_{15}: Students with volunteer experience will have higher mean PSM scores than students who don't have volunteer experience.

Demographic Information. Perry (1997) originally captured four demographic variables for his antecedent research. He postulated that education, age, and income would be positively correlated with PSM. He did not predict a relationship for gender. Additional research on the variables of education, age, and income explored since Perry's original work has tended to support the positive relationship between education and age and PSM (Pandey and Stazyk, 2008), along with other pro-social behaviors like volunteering (Houston, 2008). However, the effect of gender and income on PSM has been more ambivalent (Bright, 2005; Camilleri, 2007; DeHart-Davis et al., 2006; Perry, 1997).

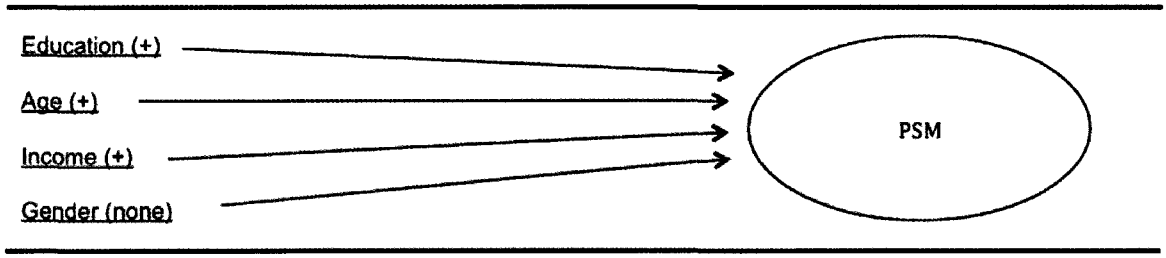
Traditional gender role expectancies would suggest that women have will have higher levels of concern and compassion for others, perhaps driving them through affective motivations to want to serve. And, in fact, most studies, which include an examination of gender, find women show higher levels for the compassion dimension (Pandey and Stazyk, 2008). However, gender differences in other dimensions are less clear. Bright (2005), citing Perry's (1997) and Blank's (1985) findings, posited that women would have higher levels of PSM. He found that both education and gender (being female) were significantly and positively related to PSM levels in his respondents,

a selection of public administrators from Oregon. DeHart-Davis et al. (2006) looked at the differences in gender between dimensions of PSM and found that the attraction to policy-making and compassion dimensions were statistically higher for women but that commitment to public interest showed no gender difference. Moynihan and Pandey (2007) also found that women were more likely to be attracted to policy making. However, Camilleri (2007), examining both personal attributes and organizational variables, found that the organizational environment was more significant than any personal attributes, including age, gender, and education. Hansen (2009), looking at Danish municipal managers, found gender to be the second strongest predictor of PSM of all the variables utilized in the analysis, with female managers being significantly, negatively related to all measures of PSM. Lee and Lee (2009), in another international setting, looked at the Korean experience of the effects of gender on PSM and found no significant differences between male and female civil servants in the dimensions of attraction to policy making, commitment to public interest/civic duty, and compassion. However, in the dimension of self-sacrifice, males scored higher than females.

Perry's hypothesis about the positive relationship between education and PSM levels has been supported consistently by follow up research (Bright, 2005; Moynihan and Pandey, 2007; Naff and Crum, 1999; Perry, 1997; Steijn, 2006). Bright (2005) suggests that because education elicits awareness and facilitates critical thinking, the more education one has, the more likely they are to connect and appreciate the value of public service to society, thus increasing their PSM. Boyte and Kari (1999) would agree, as they proposed earlier that the educational process demonstrates 'practical citizenship.' Moynihan and Pandey's (2007) findings also point to the powerful effects of socio-

historical variables like education and call for examining "how the educational process imparts values of PSM rather than simply measuring the level of education" (p. 46). Figure 2.10 depicts Perry's (1997) original demographic factor.

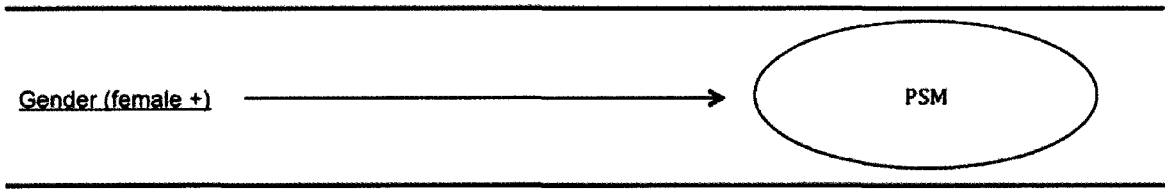
Figure 2.10
Perry's Original Demographic Factor



In this model, I will collect socio-demographic descriptive variables of age, international student status, and ethnic background. Socio-demographic antecedents like age, education, and gender are often included in as control variables in multivariate models researching PSM (see Alonso and Lewis, 2001, Brewer, 2003; Gabris and Simo, 1995; Houston, 2000, Kim, 2005; Naff and Crum, 1999). Socio-demographic variables like income level and age indirectly affect pro-social behaviors like volunteering and social capital development because of their bearing on an individual's ability to accumulate human, social, and cultural capital (Wilson and Musick, 1997). Perry (1997) found a positive correlation between age and PSM level while others (Moynihan and Pandey, 2007) found no significant relationship. However, given the expected lack of variation in age in this sample, because of the use of juniors and seniors in college, age will be collected but not expected to have an impact on this sample. The same logic is

applied towards education level, as the sample will consist of only juniors and seniors. International student status and ethnic background will be collected for future research as several authors have noted the international and cultural aspects of PSM (Wandenabeele and Van de Walle, 2008) though with no final conclusions on the effects of culture on PSM. The updated demographic factor will hypothesize relationship of the variable below in figure 2.11.

Figure 2.11
Updated Demographic Factor



As such, hypothesis 16 is:

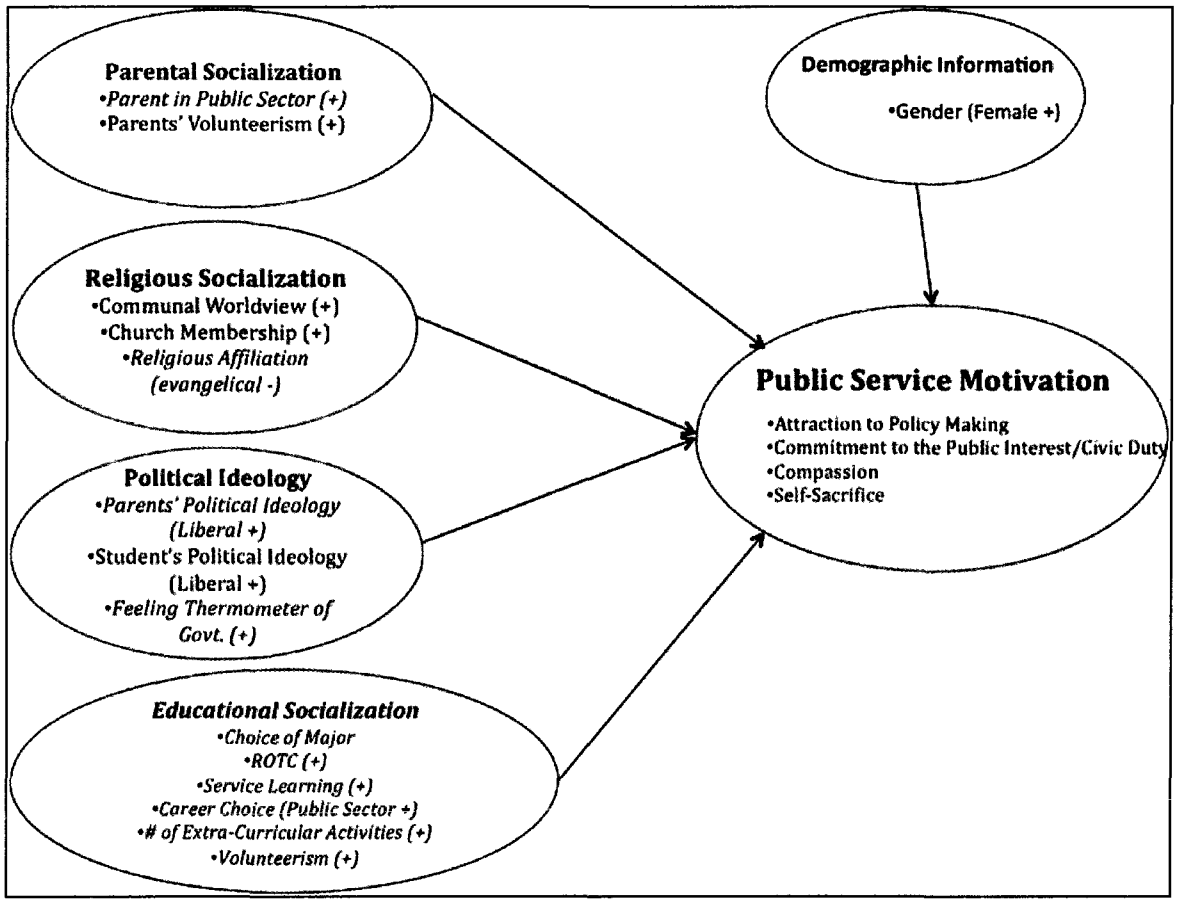
H_{16}: Female students will have higher mean PSM scores than male students.

Revision of Perry's (1997) Model of Antecedents of PSM

Based on the literature discussed above, the antecedent factors for PSM examined in this research are categorized as follows: parental socialization factors, religious socialization factors, political ideology factors, educational socialization factors, and individual demographic factors. Since there have been very few studies regarding antecedents to PSM and none that examine these factors on a broad spectrum group of undergraduates, utilizing an educational socialization factor will emphasize potential variables that influence PSM levels in undergraduates. My model will modify Perry's

(1997) variables of parental socialization, religious socialization, political ideology, and individual demographics. Additionally, I will substitute the variable of professional identification with educational socialization because of my sample population of college juniors and seniors vice public administration professionals. Figure 2.12 depicts the update model of antecedents to PSM.

Figure 2.12
Revision of Perry's (1997) Model of Antecedents of PSM
Italicized Items are modifications to Perry's (1997) Original Antecedent Model



As depicted in figure 2.12 above, this revised model of Perry's (1997) original model testing the antecedents of PSM will test the following hypotheses:

H_1: Students with parents who volunteered will have higher mean PSM scores than students whose parents did not volunteer.

H_2: Students whose parents worked in the public sector will have higher mean PSM scores than students whose parents worked in the private sector.

H_3: Students with a communal worldview will have higher mean PSM scores than students with an individualistic worldview.

H_4: Students with higher levels of church involvement will have higher mean PSM scores than students with lower levels of church involvement.

H_5: Students who profess a higher 'closeness to god' outlook will have higher mean PSM scores than those with a lower 'closeness to god' outlook.

H_6: Students who are evangelical Protestants will have lower mean PSM scores than students of other Protestant denominations.

H_7: Students who indicate a liberal ideology will have higher mean PSM scores than students who indicate a conservative ideology.

H_8: Students who indicated that their parents have a liberal political ideology will have higher mean PSM scores than students who indicated that their parents have a conservative political ideology.

H_9: Students who indicate a positive view of government will have higher mean PSM scores than students who indicate a negative view of government.

H_{10}: Students with a major in the humanities and/or social sciences will have higher mean PSM score than students in other majors.

H_{11}: Students who participate in Reserve Officer Training Corps (ROTC) will have higher mean PSM scores than students who do not participate in ROTC

H_{12}: Students who profess a preference to work in the public sector will have higher mean PSM scores than those who profess a preference to work in the private sector.

H_{13}: Students who have participated in a service learning experience will have higher mean PSM scores than students who have not participated in a service learning experience.

H_{14}: As students' reported number of extra-curricular activities increases, mean PSM score will also increase..

H_{15}: Students with volunteer experience will have higher mean PSM scores than students who don't have volunteer experience.

H_{16}: Female students will have higher mean PSM scores than male students.

CHAPTER III

METHODOLOGY

Introduction

Chapter One of this dissertation presented an introduction to public service motivation (PSM) theory and provided justification for the "so what" question of this research inquiry. The literature review and theory development then provided insight into the findings of past research on PSM, along with its antecedents, and offered a foundation for the updated model, which is tested in this study. This chapter will explicate the methodology, the instrument, and the analytical procedures utilized to answer the three research questions and test the 16 hypotheses in the cross-sectional survey design.

The chapter begins with a discussion of the research questions and purpose of the research, the design and methodology, and then identifies the population and the rationale behind their selection. Next, the survey instrument is discussed, including identification of the variables, with special emphasis on the modified variables and their operationalization. Finally, the method of data analysis will be explained and a summary section presented.

Research Questions

This study will advance the understanding of PSM by exploring its development within an undergraduate student population. The central research question is, "What are the antecedents to public service motivation in college juniors and seniors at Old Dominion University?" The research purpose of determining the distinctive character of

motivations associated with pursuing careers in the public sector as well as what helps to develop this motivation through life experiences is a question of vital importance to the field of public administration. There are two additional objectives, which stem from this core research question. The first is to replicate Perry's (1996) original index of PSM in order to examine its explanatory power when applied to a sample of college students. The second is to test an educational socialization factor rather than the professional identification factor originally utilized by Perry (1997) in the antecedent model to reflect the sample of juniors and seniors in college.

Research Design

This study examined the association between a set of independent antecedent variables and the dependent variable, an individual's composite PSM score. The variables will be discussed in more detail below. The study employed a survey design, which was chosen for this particular research because of the advantages it provided given the research questions. Survey research is often utilized for description, explanation, or exploration (Babbie, 1990). In this research, a survey design allowed the researcher to attain descriptive information about life experiences and attitudes among students and their bearing on the student's PSM levels and make inferences about the larger population.

The survey is cross-sectional, with the data being collected at one point in time through an online self-administered sixty-six question survey form hosted though the online survey website, SurveyMonkey. The cross-sectional design allowed for observation of the independent variables within the sample at a single point in time in

order for the variance to be observed (Creswell, 2009). This study also provides a foundation for future collection of this information, should trend research be of interest in this area since utilization of a survey instrument will allow for comparative analysis (Miller and Salkind, 2002).

A drawback of web surveys is that they have been found to have lower response rates compared to mail surveys (Crawford, Couper, and Lamias, 2001), though others have found them to obtain similar response rates (Dillman, 2007). The benefits of utilizing an online survey for this study include the lower cost to the researcher by not printing and paying for postage for a mailed survey and a quick turnaround time (O'Sullivan, Rassel, and Berner, 2003). In addition, attaining the mailing addresses of the population was not possible. However, Fowler (2009) states that response rate for mail or e-mail surveys is largely dependent upon the sample population and the survey's purpose. Students are active users of the internet, are provided university email addresses, and use both routinely (Fowler, 2009). Care will be taken to adhere to Fowler's (2009) advice of, "identifiable sponsors, well-designed instruments, financial incentives, and repeated contacts..." (p.61) in order to ensure the highest response rate possible.

Dillman, Smyth, and Christian (2009) write, "Conducting surveys that produce accurate information that reflects the views and experiences of a given population requires developing procedures that minimize all four types of survey error – coverage, sampling, non-response, and measurement" (p. 16). Given these concerns, I will address each and how the research design of this study will minimize the impact of error introduced through each area.

Coverage Error

Coverage error occurs when all members of the population don't have an equal chance of being included in the sample for the survey (Dillman, Smyth, and Christian, 2009). The choice of survey mode may increase coverage error because it excludes some individuals or makes them less likely to be included. For example, internet surveys have been criticized because they exclude populations with limited or no access to computers or the internet. However, though web surveying has faced criticisms of bias because of gaps in computer and access rates (Dillman Smyth, and Christian, 2009), all students at ODU are required to have a student email address and are provided with access to both computers and the internet through free, on-campus labs and centers. Because of the unique needs and lifestyles of students, this limitation of web surveying is less troublesome than if it were a different population.

Sampling Error

Random sampling is the most desired sampling method in research because the extent to which results may be generalized to the larger population becomes more precise (Creswell, 2009). This research utilized a non-probability sample design because of issues of access to student records and email addresses. The researcher acknowledges that a non-probability volunteer sample design limits the generalizability of the results. However, the purpose of collecting data to explore a new model of antecedents, including an educational socialization factor, necessitated the use of a student population. Given the exploratory nature of this research, a convenience sample will provide a foundation and insight for future inquiries into this area.

Non-response Error

Non-response error occurs when those in the sample do no respond to the survey request, thereby not taking it. To limit this kind of error, the researcher will offer several small incentives to students who opt to take the survey. This incentive will be mentioned within any communication designed to promote survey taking (in emails and flyers). In order to ensure enough responses are received from individuals with the different characteristics and variables that the research is designed to uncover, a list was compiled of different stakeholders and on-campus groups to help distribute the survey to the widest number of juniors and seniors possible. Leaders and administrators from the following groups were solicited to help promote the survey and disseminate information on how to take part: individual college administrators, ROTC coordinator, Student Activities Director, The Center for Service and Civic Engagement, associate deans in individual colleges, and other campus leaders. The tactics described by Dillman, Smyth, and Christian (2009) to establish trust and increase benefits to the respondents were employed in order to provide for the largest possible response rate from the sample.

Measurement Error

Measurement error has to do with the actual survey instrument and how well the variables are operationalized within the questions as well as the construction and format of the survey, which may impede respondents' ability to answer accurately. Operationalization of the variables will be discussed later, and the ways in which the reliability and validity of the survey protocol were ensured based on their previous use in PSM research. Additionally, the survey was pre-tested with a group of junior and senior

Old Dominion University students to work out any issues or concerns they might have as a result of taking a self-administered survey rather than a proctored survey. Pre-test group feedback also ensured operationalization of the variables was accurate and provided content and construct validity of the survey.

Methodology

The survey instrument collected data that measures both the independent and dependent variables of this research. To measure the dependent variable of PSM, Perry's (1996) original multidimensional construct instrument which is comprised of four dimensions: attraction to public policy making, commitment to the public interest/civic duty, self-sacrifice, and compassion was used. Perry (1996) utilized Likert-scale items for each dimension to create the PSM scale and then tested the model with confirmatory factor analysis (CFA). To measure the independent variables, the antecedents of PSM, I replicated Perry's (1997) original survey and modified it to include the proposed variables, which will be discussed in further detail in the variables section. The survey instrument contains 66 questions that test the 16 hypotheses of the research model.

Unit of Analysis

The unit of analysis will be the individual respondent to the survey, drawn from a convenience or volunteer sample of juniors and seniors at Old Dominion University. In the social sciences, the individual is the most typical unit of analysis (Babbie, 1990). The PSM literature and past administration of the survey (Perry, 1996, 1997) guided the selection of the unit of analysis. As this study seeks to understand the individual

motivations that lead students to want to serve in the public sector, the unit of analysis is appropriate.

Population and Procedures

Given the lack of focus on students and educational antecedents in the PSM literature, this study will expand the knowledge in this area by providing insight into future public administrators and the distinctive character of motivations associated with pursuing careers in the public sector in students as well as what helps to develop this motivation through life experiences.

The sampling frame for this research was registered juniors and seniors at Old Dominion University during the fall 2010 semester. There are a total of 4,734 juniors who registered for the fall semester in 2010 and a total of 6,076 seniors who registered for the fall semester of 2010 (Old Dominion University, 2010). The total number in the sampling frame is 10,810. The sample was administered through a website link, using SurveyMonkey, an online survey hosting website. SurveyMonkey allows for some analytics of the results, cross-tabulation, and ability to download the data (into Microsoft Excel or SPSS).

Juniors and seniors were chosen for the sample because they represent the group most likely to have declared a major, are further along in their educational careers, and have had more time for the socialization influences of the antecedent variables to occur. Moreover, juniors and seniors are more likely than freshman and sophomore students to have given thought to their possible career choices and preferences, another important variable in the study model.

A link to the website where the survey was hosted online was sent to juniors and seniors at Old Dominion University, with prior approval from the College of Business and Pubic Administration's Internal Review Board committee. The colleges in the University were contacted for their approval and assistance in helping to distribute the survey, via email. The email described the survey, the survey's intent, and contained the URL of the survey, along with an acknowledgement of approval from the Internal Review Board. The survey was accessible online from April 1st until May 5th of 2011. Students self-selected to take the online survey after being exposed to the invitation through a variety of outlets, including an email sent directly to their student email account.

Dillman, Smyth, and Christian (2009) maintain that sending potential respondents multiple invitations with varied messaging is the most effective way to increase response rates. Survey responses were solicited through a variety of channels; university email announcements, class notifications, undergraduate advising offices, and social media outlets and listservs of campus groups. Additionally, the researcher was able to directly email all students in the sampling frame with an introduction and link to the survey website. The assistance of key campus administrators ensured the widest possible distribution of the survey, increased the likelihood of multiple exposures and of maximum participation. A small inducement was also offered to help increase response numbers. Five $50 gift certificates were offered through a random drawing of emails provided by the respondents.

Survey Instrument

A total of 66 items were included on the instrument (see Appendix A for full survey questionnaire). Permission to use the two foundational survey instruments, which were combined and modified to produce the current instrument, was granted by the cited author (Perry, 1996; Perry, 1997).

To measure the dependent variable of PSM, Perry's (1996) original multidimensional instrument was used. Perry's (1996) instrument was organized into four dimensions: attraction to public policy making, commitment to the public interest/civic duty, self-sacrifice, and compassion. Perry (1996) utilized a 5-point Likert-scale item (strongly disagree to strongly agree) for each dimension to create the PSM scale and then tested the model with confirmatory factor analysis (CFA). Some of the items were reverse worded to address a socially preferred response problem (McNabb, 2002). This instrument was utilized in its original form with no modifications and comprises questions 1-24. It should be noted that the survey used in this research used a 7-point Likert-scale in order to collect the highest level of data possible. However, all analysis was completed by collapsing the 7-point scale into the 5-point scale that Perry (1996) utilized.

To measure the independent variables, the antecedents of PSM, I will replicate Perry's (1997) original antecedent survey, modified to include the additional proposed variables. Survey questions 25-72 address the independent variables.

The questions were arranged according to socialization area and sections were designed to flow as a conversation to put the respondent at ease and increase completion of the questionnaire.

Tests of Reliability in the Instrument

Perry's original multidimensional instrument achieved good internal consistency among the items. His coefficient alphas for the four dimensions ranged from 0.69 to 0.74 (Perry, 1996). However, others (see Camilleri 2006, 2007) using his original 24-question instrument have had problems with internal reliability, where the attraction to policy-making measure fell under .70, the accepted standard for predictive validation research (Wright, 2008). Tests for reliability for this study's instrument were computed using SPSS. Cronbach's Alpha was used to estimate instrument reliability based on internal consistency. A separate Cronbach's Alpha was also run for both the composite PSM construct as well as each of the four dimensions (questions 1-24).

The modified survey instrument was pre-tested on a group of students in the Public Service Foundation courses (the classes are comprised of juniors and seniors) at ODU. Students were informed about the purpose of the research and asked to respond to the survey through SurveyMonkey as well as provide feedback of their concerns or suggestions about the content or formatting of the survey instrument. The student feedback provided the researcher with a few question modifications, specifically wording for clarification. Technical malfunctions were also noticed and corrected based on feedback from the pre-tester students who completed the survey online.

Variables

PSM, as a motivational base for public service, contrasts with rational choice models of motivations by expanding the parameters of rational, normative, and affective stimulators for choosing to serve the public interest (Perry and Wise, 1990; Perry, 1996,

1997, 2000). As such, the dependent variable of interest in this study is a measure of and individual's motivation to serve the public interest. The instrument used to measure this construct is Perry's (1996) PSM instrument. This instrument consists of 24 items, which were then indexed by averaging to determine a mean score – both for an overall PSM score and a score for each of the dimensions. The four sub-scales captured the dimensions of attraction to policymaking, commitment to civic duty/public interest, compassion, and self-sacrifice by indexing a varying number of questions under each category.

The PSM scores were all measured using a seven-point Likert scale in the survey, in order to capture the highest level of detail for future research. However, to align the current study with Perry's (1996, 1997) modeling, the seven-point Likert scale was collapsed into the five-point Likert scale that Perry utilized. The seven-point Likert scale of: Strongly Disagree, Disagree, Somewhat Disagree, Neither, Somewhat Agree, Agree, and Strongly Agree was recoded into the five-point Likert scale of: Strongly disagree, Disagree, Neither, Agree, and Strongly Agree. Disagree and Somewhat Disagree were recoded into Disagree and Somewhat Agree and Agree were recoded into Agree. For the purposes of this research, all analysis was completed using the five-point Likert scale index.

The independent variables, the antecedents to PSM, are categorized into five factors – parental socialization, religious socialization, political ideology, educational socialization, and demographics. Questions 25-36 relate to parental socialization, questions 37-50 relate to religious socialization, questions 51-53 relate to political ideology, questions 54-62 relate to educational socialization, and questions 63-66 ask for

socio-demographic information. Most of questions 25-66 are taken directly from Perry's (1997) antecedent instrument. However, there have been a few modifications to reflect the new variables. A complete table of how the variables were operationalized is in Appendix B.

Data Analysis

Fowler (2009) states that the largest advantage in using computer-based data collection is attaining answers instantaneously in 'machine-readable form.' The utilization of SurveyMonkey allowed the process to be monitored throughout the collection period of the survey. Using a user identification and password combination, the researcher was able to log on and check for the number of respondents and frequency data. Through the SurveyMonkey software program, the researcher was able to access anonymous survey responses to compile the data. The raw data were then downloaded into Microsoft Excel, where they were formatted, checked for consistency of responses, and coded appropriately for transfer to SPSS for analysis.

In most PSM studies, only parts of the subscales are utilized and researchers abbreviate the subscales and/or combine them to produce shortened or modified versions of the instrument (Wright, 2008). In studies that do use the full, original instrument to measure PSM, creation of an index score for the subscales and a composite score is done by two methods, averaging the responses or summing the responses (Wright, 2008). Perry (1997) used the mean of the item responses for both the subscales and the composite scale when he administered the full 24-item survey instrument. However, Scott and Pandey (2005) summed the responses, using only part of the full instrument

with a 5-point Likert scale while Bright (2005), also summing the responses, used the full instrument with a 7-point Likert scale. From an empirical perspective, choosing to average or sum the responses seems to have little impact in the outcome. However, in this study, the mean scores will be utilized, in order to more closely align with Perry's (1996) original research. PSM level is measured from a (low) score of 1 to a (high) score of 5.

Confirmatory Factor Analysis was conducted using principal axis factoring of the model. Replication of Perry's (1996) original PSM instrument was achieved because the variables all showed acceptable communalities and factor loadings and the Cronbach's alpha was within acceptable bounds. After that, the 16 hypotheses were tested utilizing correlation analysis, Analysis of Variance (ANOVA) planned comparisons, and Independent T-testing. Next, correlations were computed to check for collinearity. Multivariate regression was then employed to test the explanatory power of the antecedent variables and compare this study's findings to Perry's (1997) original antecedent model testing. Regression diagnostics were conducted to ensure the assumptions of the regression technique were met. The results of the regression indicated the amount of variance of the PSM score accounted for by this set of antecedent constructs, which will be discussed in Chapter Four.

Finally structural equation modeling (SEM) was employed in order to provide more unbiased estimates of the relationships among the latent constructs in this study's model, which modifies Perry's (1997) original antecedents and introduces a new antecedent of educational socialization. The purpose of utilizing SEM is to account for the variations and covariation of the measured variables because measurement error is

controlled for (Byrne, 2010). The results of all hypothesis tests and modeling of these analyses are reported in Chapter Four.

Limitations

There are several threats to internal validity with this research. First, given the use of a non-probability sample, there is a possibility of selection bias. Therefore, the sample is not necessarily representative of the population. However, given the exploratory nature of this investigation, the resultant data provide a solid foundation for the purposes of this research and for future research. Given that the survey was available online and able to be taken anonymously, there is little concern for bias introduced through the threat of social desirability influencing responses, which can be a challenge for survey researchers (Dillman, Smyth, and Christen, 2009).

Summary

This chapter explicated the methodology for this research project, which used a survey research design on juniors and seniors at Old Dominion University. This research seeks to replicate Perry's (1996, 1997) PSM instrument and PSM antecedent instrument, utilizing it in a specific population. This research also seeks to extend the knowledge on the distinctive character of motivations associated with pursuing careers in the public sector as well as what helps to develop this motivation through life experiences. Chapter Four presents all the data analyses and model testing conducted for this research to answer the previously discussed research questions.

Chapter IV

RESULTS OF THE STUDY

Introduction

Chapter Three explained the data collection method for this study, introduced the sample utilized in the study, recounted the hypotheses for the variables of interest, described the survey instrument, and laid out the analytic approaches. This chapter presents descriptive statistics for indicators of the antecedent constructs, the PSM construct, the results of the hypotheses testing, and the analysis of the data. The hypotheses and the resulting analytics are presented according to the presentation of the conceptual framework within the literature review in Chapter Two. This chapter is divided into four sections: respondent make-up, descriptive statistics, the data analysis, which includes results of the factor analysis, hypotheses testing, a multivariate analysis, and an SEM antecedent model analysis. Finally, a summary of the chapter is presented.

Profile of the Survey Respondents

The respondents were juniors and seniors at Old Dominion University. The total number of online surveys started was 1,826, of which 1,406 were utilized in analysis (N=1,406). Four hundred and twenty-nine surveys were excluded because of a substantial amount of missing data. The number of valid responses is noted for each question in the following tables.

As discussed earlier, there are a total of 4,734 juniors and 6,076 seniors who registered for the fall semester in 2010 (Old Dominion University, 2010). The total sampling frame is 10,810. This survey captured about 13.8 percent of the sampling

frame. Table 4.1 presents the demographic statistics for the junior and senior students at Old Dominion University, which was provided by Old Dominion University's Office of Institutional Research and Assessment. There is some disparity in the total numbers between demographic categories and between the total number of juniors and seniors registered for classes because of the way the data is collected by the Office of Institutional Research and Assessment. Some students do not have active email accounts, which is how the information is collected by their office. However, the overall picture presented of the sampling frame's characteristics provides a useful comparison to this study's sample.

Table 4.1. Actual Demographic Characteristics of ODU Juniors and Seniors.

		Juniors		Seniors	
Variable		N	Percentage	N	Percentage
Gender	Total:	4,673	100	6,664	100
Male		2103	54.8	2891	43.3
Female		2570	44.8	3773	56.5
Race	Total:	4,514	100	6,559	100
White - Non Hispanic		2721	59.4	4168	63.6
Black/African American		1130	24.6	1351	20.6
Asian/Pacific Islander		275	6.0	366	5.6
Hispanic or Latino		213	4.6	247	3.8
American Indian/Alaska Native		36	0.8	30	0.5
Missing Info		59	1.3	208	3.2
Other		80	3.1	189	2.9
Age	Total:	4,692		6,682	
Mean		24.0		27.8	
Std. Dev.		6.3		8.2	
Minimum		16.0		19.0	
Maximum		71.0		85.0	
College	Total:	4,692	100	6,682	100
Arts and Letters		1656	35.3	2206	33.0
Sciences		796	17.0	947	14.1
Business and Public Administration		795	16.9	1228	18.4
Education		756	16.1	816	12.2
Engineering and Technology		429	9.1	900	13.5
Health Sciences		230	4.9	571	8.6
Undesignated		30	0.6	14	0.2

In this study, juniors made up 31 percent of the sample, seniors 69 percent. Non-Hispanic Whites made up a majority of the respondents (69 percent). The second largest grouping was Black/African Americans with 17 percent. Five percent of the sample indicated their race as Asian, three percent were Hispanic or Latino, and less than one percent each identified themselves as Native Hawaiian or Pacific Islander or American Indian/Alaska Native. The actual race/ethinicity characteristics of Old Dominion's

juniors and seniors follow this trend, with White – Non Hispanic making up the majority (59 percent for juniors and 63 percent for seniors), Black/African American with the next highest percent (24 percent for juniors and 20 percent for seniors), followed by Asian (six percent for juniors and 5 percent for seniors). American Indian comprises less than one percent for both juniors and seniors. Six percent of respondents indicated their race as Other.

The sample represented a broad spectrum of ages, but most are 25 and below (63 percent). Another twenty-two percent were between twenty-six and thirty-five, and 15 percent were thirty-six or older. The true mean age for juniors at Old Dominion University is 24 and the true mean age for seniors is 27.

Twenty-eight (28.1) percent of the respondents had a major in the College of Arts and Letters, sixteen percent (16.4) were in the College of Business and Public Administration, fifteen percent (15.7) were in the College of Education, eleven (11.6) percent were in the College of Engineering and Technology, eight percent (8.7) were in the College of Health Sciences, eighteen percent (18.5) were in the college of Sciences, and one percent said they didn't know what college their major was in. Like the sample, within the true population of Old Dominion University juniors and seniors, Arts and Letters has the highest number of juniors and seniors (35 percent of juniors, 33 percent of seniors). Table 4.2 presents the demographic statistics for the sample respondents.

Table 4.2. Demographic Characteristics of Sample of ODU Juniors and Seniors From This Study's Sample.

Variable	N	Percentage
Year	(1,397)	
Junior	436	31.2
Senior	961	68.8
Gender	(1397)	
Male	436	31.2
Female	961	68.8
Race	(1,402)	
White - Non Hispanic	936	66.8
Black/African American	241	17.2
Asian	75	5.3
Hispanic or Latino	48	3.4
Native Hawaiian or Pacific Islander	13	0.9
American Indian/Alaska Native	9	0.6
Other	80	5.7
Age	(1,403)	
20 or Under	160	11.4
21-25	731	52.1
26-35	309	22
36-50	161	11.5
Over 50	42	3
College	(1,391)	
Arts and Letters	391	28.1
Sciences	258	18.5
Business and Public Administration	228	16.4
Education	218	15.7
Engineering and Technology	161	11.6
Health Sciences	121	8.7
Don't Know	14	1

Appendix C contains tables 4.3 through 4.6 and 4.8 through 4.12, which present descriptive statistics for each of the four dimensions of PSM, overall PSM scores, and the variables, which are hypothesized to construct this model's antecedent factors. The next section discusses descriptive statistics for individual dimensions within the PSM construct.

Descriptive Statistics and Discussion of the Variables of Interest

Dependent Variable: Public Service Motivation. The number of respondents varied by question so the number of valid responses for each question is noted in parenthesis in the descriptive tables.

Self-Sacrifice. Table 4.3 presents the descriptive statistics for the indicators within the self-sacrifice dimension. There were eight questions in this section of the survey and the number of responses varied from 1,393 to 1,403. The PSM dimension of self-sacrifice is centered around an individual's affective motives to serve others, even at a possible negative impact to themselves, and is "grounded in emotional responses to various social contexts" (Perry, 1996, p. 6). The respondents largely identified with this dimension with 91 percent of them agreeing with the statement, "Serving other citizens would give me a good feeling even if no one paid me for it." Additionally, 72 percent indicated they would "risk personal loss to help someone else."

Compassion. Table 4.4 presents the descriptive statistics for the indicators that measure the compassion dimension of PSM. There were eight questions in this section of the survey and the number of responses varied from 1,396 to 1,401. The PSM dimension of compassion, also an affective motive, is closely aligned with the concept of a 'patriotism of benevolence' (Fredrickson and Hart, 1985), in which a person extends their caring and consideration to those outside their immediate family and community circles, desiring to protect the rights of all citizens. And, indeed, 77 percent of the respondents agreed with the statement, "Patriotism includes seeing to the welfare of others." Interestingly, in the midst of recent small government rhetoric (Pew Research Center for the People and the Press, 2010), a majority of this sample, 61 percent, said

most social programs are too vital to do without. Only 24 percent disagreed with that statement.

Commitment to the Public Interest/Civic Duty. Table 4.5 presents the descriptive statistics for the items that measure the public interest/civic duty dimension of PSM. There were five questions in this section of the survey and the number of responses varied from 1,398 to 1,406. Perry (1996) categorized the PSM dimension of commitment to the public interest and civic duty as a normative motive because it is related to the cultural and societal expectations of the importance in serving one's country (Perry, 1996, p. 6). This motive and the idea of community engagement clearly resonates with the respondents as 64 percent indicated that they considered public service as a civic duty.

Attraction to Public Policy-Making. Table 4.6 presents the descriptive statistics for the indicators, which measure the attraction to public policy-making dimension of PSM. There were three questions in this section of the survey and the number of responses was constant at 1,405. Perry (1996) classified the PSM dimension of attraction to public policy making as a rational motive because of the personal utility of pursuing policy making in areas about which a person feels strongly as well as the personal satisfaction one can gain from being engaged in the political process. However, respondents were split in how they viewed the political process with about 35 percent 'agreeing' and 40 percent 'disagreeing' that "Politics is a dirty word." Twenty-five percent were neutral.

Table 4.7 presents the minimum, maximum, mean scores, standard deviation, and N for each of the variables within the PSM construct. Nineteen of 24 variables had

means over 3.00. The two variables with the highest mean scores were SS5 (self-sacrifice) "Serving other citizens would give me a good feeling even if no one paid me for it" (M=4.15, SD=.733) and SS6 (self-sacrifice) "I think people should give back to society more than they get from it" (M=4.03, SD=.810). The two with the lowest scores were PM3 (attraction to public policy making) "I don't care much for politicians" (M=2.53, SD=1.078) and Comp7 (compassion) "I have little compassion for people in need who are unwilling to take the first steps to help themselves." (M=2.68, SD=1.210).

Table 4.7. Descriptive Statistics of Public Service Motivation: Mean and Std. Deviation

#	Independent Variable	Mean	Std. Deviation	*N*
	Self-Sacrifice Total	29.88	4.580	1357
1	SS1	3.76	0.913	1403
2	SS2	3.77	0.849	1398
3	SS3	3.40	1.023	1393
4	SS4	3.70	0.929	1401
5	SS5	4.15	0.733	1401
6	SS6	4.03	0.810	1403
7	SS7	3.68	0.892	1396
8	SS8	3.37	0.982	1401
	Compassion Total	27.50	4.793	1372
9	Comp1	3.87	0.960	1401
10	Comp2	3.45	1.041	1397
11	Comp3	3.49	0.999	1396
12	Comp4	3.78	0.897	1399
13	Comp5	3.56	1.036	1397
14	Comp6	3.69	0.895	1398
15	Comp7	2.68	1.210	1400
16	Comp8	2.96	1.060	1401
	Public Interest/Civic Duty Total	17.77	3.296	1392
17	PI1	3.45	1.045	1403
18	PI2	3.41	0.934	1405
19	PI3	3.79	0.790	1398
20	PI4	3.55	0.899	1403
21	PI5	3.57	0.912	1406
	Attraction to Public Policy-Making Total	8.302	2.607	1403
22	PM1	2.95	1.104	1405
23	PM2	2.82	1.028	1405
24	PM3	2.53	1.078	1405

*The mean for each variable can be between 1 (low) and 5 (high).
** The mean was calculated by summing the individual variables and then taking the average across the number of respondents

Since examining whether replication of Perry's (1996) original index of PSM provides explanatory power when applied to a sample of college students is one of the main research questions of this study, Table 4.8 compares Perry's (1996) means, standard

deviation, and item-correlations to the current sample of students. The mean for an item is determined by the sum of all individual scores divided by the number of respondents. The mean can be any value between 1.0 and 5.0 for each individual variable. The means of the items are similar across the two studies, with the standard deviations of the current data appearing comparable with the original study. The item-total correlations, the correlation between each individual item to the scores of all the other items are generally higher than Perry's (1996) results. This analysis suggests that the pattern of response to each item is similar, which further supports the internal validity of the instrument.

Independent Variables

The central research question of this study is, "What are the antecedents to public service motivation in college juniors and seniors at Old Dominion University?" The larger purpose is to determine the distinctive character of motivations associated with pursuing careers in the public sector as well as what kinds of life experiences help to develop this motivation in college students. Because of previous researchers' emphasis on professionals already in the public administration field, this study substitutes the factor of professional identification in Perry's (1997) original antecedent model with an educational socialization factor. The socialization factors of: parental socialization, religious socialization, political ideology, and educational socialization will be discussed below. Tables 4.9-4.12 depict their descriptive statistics.

Parental Socialization. Table 4.9 presents the descriptive statistics for the items that make up the parental socialization factor of the antecedent model. There were eleven

questions in this section of the survey and the number of responses varied from 1,383 to 1,405. Slightly less than half of the respondents indicated that their parents were employed in the public sector (45.4 percent). About 24 percent of their parents were employed in the private sector, and about 12 percent (11.9 percent) didn't know which sector their parents were employed in. Students who had a parent in the non-profit sector comprised less than five percent of the respondents. Respondents were split on their exposure to parental modeling of volunteerism. In response to the question of their parents actively participating in volunteer organizations, 43 percent 'agreed' that they had and 41 percent indicated their parents did not actively volunteer. Perry (1997) argues that a tradition of volunteering in the home, which constitutes a general modeling of altruistic behavior from parents, will correspond to higher levels of PSM in the children of these parents. However, 47 percent 'agreed' that their parents very often urged them to get involved with volunteer projects as children, while only 31 percent 'disagreed' with that statement. And, 79 percent of respondents 'agreed' with the statement, "When I was growing up, my parents told me I should be willing to 'lend a helping hand.'" Speaking to the impact of parental socialization, 80 percent of the sample 'agreed' that their parents frequently discussed moral values in their home.

Religious Socialization. Table 4.10 presents the descriptive statistics for the religious socialization factor of the antecedent model. There were fourteen questions in this section of the survey and the number of responses varied from 1,371 to 1,404. The largest respondent group was Mainline Protestant/Christian with almost 25 percent (24.7 percent). Evangelicals made the next largest group with about 18 percent (18.6 percent)

and Catholics followed with 15 percent (15.5 percent). Students identifying themselves as either Agnostic or Atheist accounted for 14 percent (14.3 percent).

Perry (1997) included religion in his original PSM antecedent model as a result of the historical interest and demonstrated interactions between religion, faith, and serving others. Perry et al. (2008) also highlighted the effects of religion on community involvement through an examination of morally committed citizens. As individual denomination and personal faith and worldview has been shown to have effects on the meaning behind volunteerism and service, the religious socialization questions in the current study were designed to extend Perry's (1997) model by uncovering, if there are any, nuanced differences between religious affiliation and PSM levels. Interestingly, the two 'worldview' questions, aimed at distinguishing between a communal and an agenetic worldview, reflected ambivalence in the sample. While almost 60 percent (57.7 percent) agreed with the statement, "The best way to address social problems is to change the hearts of individuals" (agenetic), 78 percent (77.7 percent) also agreed with the statement, "Individuals are poor because of social, economic, and political factors." Fifty-five percent (54.8 percent) considered themselves 'very' or 'moderately' spiritual while 39 percent (38.8 percent) considered themselves 'slightly' or 'not' spiritual. Additionally, in the 'Closeness to God' questions, "helping others in need" had the highest percentage of respondents who felt 'very close' (62 percent) to God while doing so. In contrast, 55 percent felt 'very close' to God while "gathering with the congregation during services" and 45.1 percent felt 'very close' to God while "obeying church rules."

Political Ideology. Political ideology is a key component of PSM, given that there are very different ideas about the role of PSM in public life, and that these roles can take on different characteristics depending on one's political orientation and view of the government's proper scope and role. There were three questions in this section of the survey and the number of responses varied from 1,398 to 1,402. Table 4.10 presents the presents the descriptive statistics for the political ideology factor of the antecedent model.

Responses to the question of placing political views on a spectrum between 'Very Liberal' and 'Very Conservative' were well distributed throughout the set. Forty-six percent (45.9 percent) of respondents described themselves as 'Moderate' while 34 percent (34.4 percent) described their parents as 'Moderate.' Twenty percent (20.4 percent) described themselves as 'Conservative,' while 31 percent (30.9 percent) described their parents as 'Conservative'. Additionally, when asked to agree or disagree with the question, "Most government administrators can be trusted to what is best for the public interest," only 20 percent (19.7 percent) agreed. A full 50 percent (50.8 percent) disagreed while 30 percent (29.5 percent) said they were neutral.

Educational Socialization. The educational socialization factor is designed to encompass the student experience and is important to PSM because it will help identify the potential effects of the educational experience on student PSM levels. To date, much of the literature has focused on professionals already in the field; however, the current study seeks to investigate PSM in those who are not yet in the field. There were 11 questions in this section of the survey and the number of responses varied from 1,273 to 1,402. Table 4.11 presents the descriptive statistics for the educational socialization factor of the antecedent model.

Arts and Letters was the college with the largest percentage of students, with 28 percent (28.1 percent) followed by Sciences with 19 percent (18.5 percent), Business and Public Administration with 16 percent (16.4 percent), Education with 16 percent (15.7 percent), Engineering and Technology with 12 percent (11.6 percent), and finally, Health Sciences with nine percent (8.7 percent).

While only a small percentage of respondents (2.4 percent) were members of the ROTC program, 13 percent (13.4 percent) were affiliated with the military through active duty, guard or reserve, veteran, or spouse status. Of the entire sample, about 16 percent (15.8 percent) indicated a military affiliation. Additionally, 34 percent (34.4 percent) expressed desire to find employment in the public sector, 28 percent (28.3 percent) through the government/non-military and 6 percent (6.1 percent) through the military. Twenty-four percent (24.6 percent) selected employment in the private sector, and 12 percent (12.2 percent) selected the non-profit sector. Nineteen percent (19.1 percent) weren't sure.

Service-learning is another educational experience that is thought to be related to a student's PSM levels (Stelljes, 2008). In this sample, 34 percent (33.7 percent) had participated in service-learning in either high school or college while 52 percent (51.8 percent) had not. Fifty percent of the respondents did not participate in any extra-curricular activities through the university. Thirty-one percent (30.6 percent) did participate in one to two extra-curricular activities and 18 percent (17.6 percent) engaged in three to five extra-curricular activities through the university. Political engagement in this sample was very low, with 85 percent (84.8 percent) not having any volunteerism in political activities in the last 12 months. Students who did volunteer outside of school

activities spread their time between charitable and church-related activities with 62 percent (61.6 percent) volunteering for a charitable cause at least one time in the last year and 39 percent (38.7 percent) volunteering in a church or religious activity in the last year.

Data Analysis

There are two additional research objectives of this study, which stem from the core research question of, "What are the antecedents to public service motivation in college juniors and seniors at Old Dominion University?" The first objective was to replicate Perry's (1996) original index of PSM in order to examine its explanatory power when applied to a sample of college students. Each respondent's scores for the first 24 items on the survey instrument were determined and then confirmatory factor analysis using principal axis factoring was completed. Cronbach's alpha was also determined. Cronbach's alpha was within acceptable parameters for the composite PSM score as well as each individual dimension of PSM, indicating that the instrument accurately captured PSM within this sample.

The second objective was to modify Perry's (1997) original antecedent model and test a newly created educational socialization factor rather than the professional identification factor originally utilized by Perry (1997) to reflect the current sample of juniors and seniors who are still in college. The PSM score for each respondent became the dependent variable and both multivariate regression and SEM were employed to find the most strongly predictive variables and to compare models. The SEM analysis used a measurement model, structural model, and resulting fit indices to examine the

hypothesized model and relationships among the variables. The analytic procedures are described below and can be seen in table 4.13.

Table 4.13. Data Analysis Procedures for Testing of Hypotheses and Research Questions

Hypothesis or Research Question	Procedure
Does a replication of Perry's original index of PSM provide explanatory power when applied to a sample of college students?	Reliability and Factor Analyses
Hypotheses 1-16	Pearson's Correlations, ANOVA, Independent T-testing
Are there antecedent variables, in addition to those originally identified by Perry (1996), which can help explain differing levels of PSM in individuals?	Multivariate Regression
What model best fits the data to explain differing levels of PSM in this population?	Structural Equation Modeling

Reliability

Cronbach's alpha was utilized to determine the reliability of the instrument. Cronbach's alpha is a widely accepted measure to assess reliability of multi-item indices (Groves et al., 2009). It ranges in value from zero to one, so the higher the coefficient, the better the items are at describing the factor. A higher Cronbach's alpha also "implies high reliability or low response variance....A low value can indicate low reliability or can indicate that the items do not really measure the same construct" (Groves et al., 2009, p. 284). Generally, the minimal acceptable value for alpha is between .70 (Miller and Salkind, 2002). Perry's (1996) original multidimensional instrument achieved good internal consistency, with coefficients ranging from .69 to. 74 for individual variables, and a coefficient of .90 for the overall construct.

Using SPSS Cronbach's alpha was calculated for the PSM construct (questions 1-24 of the survey) as well as for each individual dimension. The PSM construct as a whole had a Cronbach's Alpha of .865, putting it within the acceptable range and so suggesting the reliability of the instrument in this sample. Cronbach's Alpha was also computed for each of the four PSM dimensions, with the following results:

Attraction to Policy Making (3 items)	.741
Commitment to the Public Interest/Civic Duty (5 items)	.771
Compassion (8 items)	.737
Self-Sacrifice (8 items)	.802

These calculated coefficients suggest that the instrument employed in this study is capturing the concept of PSM and each of its dimensions for this sample of college juniors and seniors. Further, these coefficients indicate that this sample compares favorably to the results that Perry (1996) obtained for his sample largely comprised of individuals with public sector experience.

Factor Analysis

Because motivation is an internal driving force of an individual, it must be captured through indicators of observable outcomes, variables that one can capture and measure (Perry, 1996). Mertler and Vannatta (2005) describe an unobservable factor as a group of observable indicators that together measure some otherwise unobservable construct or structure that is theoretically defensible. Factor analysis is one of the many statistical techniques that model the covariation among the observable indicators that

cluster together and represent some form of latent variable (Mertler and Vannetta, 2005). Factor loadings, the main output of a factor analysis, range from -1.00 (a perfect negative association between items) to 1.00 (a perfect positive association between items). Additionally, a factor analysis provides communalities for each variable. According to Agresti and Finlay (1997), communalities signify the amount of variability for a given variable that is explained by the factors.

With a sample size of 1,406, the central limit theorem suggests that the distribution of the sample will meet normality assumptions. Additionally, Tabachnick and Fidell (1996) posit that sample sizes of 1,000 and above have "excellent" estimated reliability in factor analyses. In attempts to align the methods of this study's analysis to Perry's (1996) original study, orthogonal (varimax) rotation was used. Factors with eigenvalues greater than one were retained reliant on "Kaiser's rule" (Mertler and Vannatta, 2005). Eigenvalues, explained variance, communalities, and factor loadings were analyzed. Tables 4.14 and 4.15 depict this information.

Table 4.14. Total Variance Explained

Component	Initial Eigenvalues			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	6.397	26.653	26.653	3.689	15.372	15.372
2	2.250	9.373	36.027	2.410	10.042	25.414
3	1.744	7.268	43.294	2.320	9.668	35.082
4	1.286	5.358	48.652	2.265	9.438	44.519
5	1.052	4.383	53.035	2.044	8.516	53.035
6	0.920	3.835	56.871			
7	0.852	3.549	60.420			
8	0.788	3.285	63.704			
9	0.773	3.222	66.927			
10	0.750	3.127	70.053			
11	0.728	3.034	73.087			
12	0.645	2.689	75.776			
13	0.611	2.544	78.320			
14	0.591	2.464	80.784			
15	0.571	2.381	83.165			
16	0.556	2.319	85.484			
17	0.541	2.252	87.736			
18	0.514	2.143	89.879			
19	0.469	1.956	91.835			
20	0.449	1.869	93.704			
21	0.445	1.854	95.558			
22	0.397	1.652	97.210			
23	0.369	1.538	98.748			
24	0.300	1.252	100			

Mertler and Vannatta (2004) state that 0.7 is the common cut off for determining adequate loading of an item on a factor, unless the sample is large. Since this sample is considered large (over 1,000), Tabachnick and Fidell's (2001) requirement of .32 as a minimum loading was utilized in analysis. Perry's (1996) factor structure originally loaded the 24 items into four distinct dimensions that he labeled: self-sacrifice (eight items), compassion (eight items), commitment to the public interest/civic duty (five items), and attraction to public policy-making (three items). However, when this study's data were analyzed, and loadings less than .32 were suppressed, a five factor model

emerged (least cross-loading across factors and highest loadings in each factor). Table 4.15 depicts the results of a principal axis factor analysis of the PSM instrument with five factors extracted. It should be noted that the researcher retained the same labels for dimensions as Perry (1996).

Table 4.15. Results of Principal Axis Factor Analysis of the PSM Instrument with Five Factors Extracted

		Rotated Factor Loadings					
Variable	Communality	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5	Cronbach's Alpha if variable not included
SSI	0.473	0.567	0.360				0.850
SS2	0.415	0.591					0.852
SS3	0.336	0.404					0.856
SS4	0.458	0.465	0.517				0.848
SS5	0.422	0.613					0.848
SS6	0.490	0.619					0.848
SS7	0.403	0.735					0.850
SS8	0.580	0.688					0.845
Comp1	0.546			0.697			0.850
Comp2	0.592				0.759		0.853
Comp3	0.503				0.636		0.849
Comp4	0.558	0.323			0.652		0.847
Comp5	0.534			0.708			0.852
Comp6	0.418				0.573		0.851
Comp7	0.391			0.568			0.855
Comp8	0.374			0.556			0.856
PI1	0.429		0.601	0.430			0.848
PI2	0.409		0.709				0.847
PI3	0.555	0.405	0.629				0.845
PI4	0.561	0.405	0.569				0.843
PI5	0.278	0.481					0.850
PM1	0.611					0.800	0.861
PM2	0.621					0.776	0.858
PM3	0.719					0.843	0.857
Analysis N	1406						
Cronbach's Alpha	0.865						
Percent of Variance	53.035						

Self-Sacrifice. The self-sacrifice dimension explained 15.37 percent of the variance among the items. The self-sacrifice variables all loaded satisfactorily into Factor 1, with SS4 also loading at .517 into Factor 2, which the Public Interest variables (with the exception of PI5) loaded into. It is logical that SS4, represented by the statement, "Much of what I do is for a cause bigger than myself," would cross-load into the Public Interest factor because of the statement's context referencing the larger community in the question. Additionally PI5, "I would prefer seeing public officials do what is best for the whole community even if it harmed my interests," also loaded higher into Factor 1 with the self-sacrifice dimension than into Factor 2, with the rest of the Public Interest variables. PI5's statement emphasizing accepting harm to self or self-deprivation in pursuit of a common goal, may help explain its loading into Factor 1, or the Self-Sacrifice dimension than with the rest of the public interest variables.

Compassion. The compassion dimension broke out into two factors, Factor 3 and Factor 4. Comp1, Comp5, Comp 7, and Comp 8 loaded into Factor 3, explaining 9.67 percent of the variance. Comp 2, Comp 3, Comp 4, and Comp 6 loaded into Factor 4, explaining 9.44 percent of the variance. Table 4.16 depicts the compassion dimension statements and their loadings.

Table 4.16. Compassion Variables and Their Loadings

Variable	Loading	Factor	Item Statement
Comp1	0.697	3	I am rarely moved by the plight of the underprivileged.
Comp5	0.708	3	I seldom think about the welfare of people whom I don't know personally.
Comp7	0.568	3	I have little compassion for people in need who are unwilling to take the first step to help themselves.
Comp8	0.556	3	There are few public programs that I wholeheartedly support.
Comp2	0.759	4	Most social programs are too vital to do without.
Comp3	0.636	4	It is difficult for me to contain my feelings when I see people in distress.
Comp4	0.652	4	To me, patriotism includes seeing to the welfare of others.
Comp6	0.573	4	I am often reminded by daily events about how dependent we are on one another.

The weakness in the compassion factor has been noted in other studies with different samples and estimation techniques (Perry and Hondeghem, 2008). For example, Moynihan and Pandey (2007), when studying public servants employed in health and human service agencies, opted not to include the compassion factor in their analysis because it didn't reach an acceptable level of reliability. Perry's (1996) original sample included graduate and undergraduate students, university employees, public employees, and managers in various public organizations. In this sample of college students, the compassion variables seem to break out along the lines of personal exposure or first-hand familiarity versus a more abstract, less concrete idea of the experiences of others. Comp 1, Comp 5, Comp 7, and Comp 8 revolve around the idea of "others" outside the respondent's personal sphere of influence. For example, Comp 1's statement, which loaded into factor one, of, "I am rarely moved by the plight of the underprivileged," conjures up a much more intangible impression than Comp 3's statement, which loaded into factor 2, of "It is difficult for me to contain my feelings when I see people in

distress." The immediate nature of the statements of Comp 2, Comp 3, Comp 4, and Comp 6 focus on the respondent's personal environment and interactive experiences with others within their close private spheres, using personal interaction situations to gauge a respondent's need to help others. Perhaps, given the sample of undergraduate students in this research and the fact that 52 percent of the population was between 21 and 25 year-old, the loadings of compassion into two factors, vice one, points to compassion being a learned and developed motivation. Perhaps the dimension of compassion has facets, including empathy towards others and the ability to expand empathy over time and experience. Compassion could be crafted through life events, which temper one's views and exposes them to ideas and emotions they must cultivate in order to identify with others that they might not personally know. Fredrickson and Hart (1985) have discussed this phenomenon, of caring for "others" as central to the tenants of democracy and termed it a, "patriotism of benevolence." This dimension of PSM is especially important to public administrators because, in order to truly protect the public interest, public administrators must extend their feelings of responsibility and consideration to those outside their immediate family and community circles. They must desire to protect the rights of all citizens, regardless of personal interest or familiarity, if they are truly to be stewards of the public good.

Public Interest/Civic Duty. The commitment to the public interest/civic duty dimension explained 10.04 percent of the variance among the items. This dimension largely loaded into Factor 2. One item, PI5, as mentioned earlier, loaded higher into Factor 1, that largely describes a construct of self-sacrifice. Again, as previously mentioned in the self-sacrifice factor discussion, given the emphasis on personal

deprivation for the sake of others (the respondent preferring to see public officials do what is best for the whole community even if the respondent's interests are harmed), this loading is logical.

Attraction to Public Policy-Making. The attraction to public policy-making dimension explained 8.52 percent of the variance among the items. This dimension of Attraction to Public Policy-Making had three variables, all loading into Factor 5 successfully.

In an attempt to align with Perry's (1996) original findings, where he found four dimensions within the PSM construct (rather than five), another factor analysis was run, forcing four factor extraction. The rotation converged in five iterations. Interestingly, when forced into four factors, the model actually explained less variance (48.65%). Table 4.17, below, depicts the results.

Table 4.17. Total Variance Explained - Forced Four Factors

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	6.397	26.653	26.653	6.397	26.653	26.653	4.874	20.308	20.308
2	2.250	9.373	36.027	2.250	9.373	36.027	2.485	10.356	30.664
3	1.744	7.268	43.294	1.744	7.268	43.294	2.240	9.332	39.996
4	1.286	5.358	48.652	1.286	5.358	48.652	2.077	8.656	48.652
5	1.052	4.383	53.035						
6	0.920	3.835	56.871						
7	0.852	3.549	60.420						
8	0.788	3.285	63.704						
9	0.773	3.222	66.927						
10	0.750	3.127	70.053						
11	0.728	3.034	73.087						
12	0.645	2.689	75.776						
13	0.611	2.544	78.320						
14	0.591	2.464	80.784						
15	0.571	2.381	83.165						
16	0.556	2.319	85.484						
17	0.541	2.252	87.736						
18	0.514	2.143	89.879						
19	0.469	1.956	91.835						
20	0.449	1.869	93.704						
21	0.445	1.854	95.558						
22	0.397	1.652	97.210						
23	0.369	1.538	98.748						
24	0.300	1.252	100						

Extraction Method: Principal Component Analysis

When forced into four factors, the loadings remained largely the same. Compassion still broke out the same variables between Factor 2 and Factor 3, and the three variables for Attraction to Public Policy-Making all loaded into Factor 4. The main difference in this model is that Self-Sacrifice (except SS3 again) and Commitment to the Public Interest/Civic Duty (except PI5, which loaded into Factor 3) all loaded into Factor 1. The fact that these two dimensions loaded into the same factor when forced into the four-factor model isn't surprising since there was cross-loading between these two dimensions on the five-factor model. Additionally, in Perry's (1996) original assessment

of the PSM construct, Public Interest/Civic Duty and Self-Sacrifice were highly correlated at .89. However, because of additional analysis comparing chi-square results which showed the four-factor model to be superior, Perry chose to keep the four-factor model. Table 4.18 depicts the four-factor model analysis.

Table 4.18. Results of Principal Axis Factor Analysis of the PSM Instrument with Four Factors Extracted

Variable	Communality	Rotated Factor Loadings				Cronbach's Alpha if variable not included
		Factor 1	Factor 2	Factor 3	Factor 4	
SSI	0.473	0.677				0.850
SS2	0.415	0.640				0.852
SS3	0.336		0.500			0.856
SS4	0.458	0.662				0.848
SS5	0.422	0.605				0.848
SS6	0.490	0.651				0.848
SS7	0.403	0.627				0.850
SS8	0.580	0.741				0.845
Comp1	0.546		0.704			0.850
Comp2	0.592			0.761		0.853
Comp3	0.503			0.632		0.849
Comp4	0.558			0.646		0.847
Comp5	0.534		0.719			0.852
Comp6	0.418			0.570		0.851
Comp7	0.391		0.585			0.855
Comp8	0.374		0.543			0.856
PI1	0.429	0.328	0.518			0.848
PI2	0.409	0.577				0.847
PI3	0.555	0.662				0.845
PI4	0.561	0.633				0.843
PI5	0.278	0.430				0.850
PM1	0.611				0.779	0.861
PM2	0.621				0.782	0.858
PM3	0.719				0.843	0.857
Analysis N	1406					
Cronbach's Alpha	0.865					
Percent of Variance	48.652					

Given these results, the five-factor model is preferred. The findings suggest that the variables are measuring the same underlying constructs or dimensions that Perry (1996) found, though the compassion dimension did split out between two factors. In the

five-factor model, the variables SS3 and PI5 had loadings of less than .5 and low communalities (.336 and .278 respectively), suggesting that they contributed less to the model than any of the other 22 variables.

In summary, this section discussed a factor analysis, based on Perry's (1996) original four-factor model of the PSM construct (the four dimensions). Alternatively, the factor analysis of the current sample favored a five-factor model over a four-factor model (which was forced), with the dimension of compassion splitting up between two different factors. Next, the hypotheses, developed in Chapter Two, will be analyzed to explore the relationships between the socialization variables and PSM levels.

Hypotheses Testing

The 16 hypotheses were tested using correlation analysis, Independent T-testing, and independent one-way Analysis of Variance (ANOVA) with planned comparisons.

Pearson's correlation coefficient (Pearson's r) measures the statistical significance of association between two continuous variables. Pearson's r also indicates the strength and direction of the relationship between the two variables. A Pearson's r of one (+1) indicates a perfect positive association between the variables, so that as the value of one variable increases, the second variable's value also increases (Knoke et al., 2002). Pearson's correlation coefficient was calculated to test hypothesis 14 because it indicates the statistical significance, strength, and direction of association between two pairs of continuous variables.

Independent sample t-testing is used to compare the mean of a continuous variable (the PSM score) among groups within a dichotomous variable to ascertain

whether the differences among groups, if any, are statistically significant (Knoke et al., 2002). Independent sample T-testing was used to analyze hypotheses one, nine, ten, eleven, thirteen, fifteen, and sixteen.

One-way independent ANOVA testing is a method utilized to assess the statistical significance of the relationship between a categorical independent variable and a continuous dependent variable (Agresti and Finlay, 1997). However, while ANOVA provides a measurement of the statistical significance of the relationships between variables, it doesn't provide information on the direction or strength of that relationship. Because the hypotheses stated a priori predictions on the relationships between the variables as discussed in chapter two, planned comparisons after one-way ANOVA was employed for testing hypotheses two, three, four, five, six, seven, eight, ten, and twelve (Graziano and Raulin, 2010). The planned comparisons test was used because these variables have two or more categories and the PSM score (the dependent variable) is continuous (Knoke et al., 2002).

H_1: Students whose parents who volunteered will have higher mean PSM scores than students whose parents did not volunteer.

Since Perry's (1996) original hypothesis that persons with parents who modeled altruistic behavior would have higher levels of PSM, researchers examining antecedents have continued to find a significant relationship between parental modeling of volunteerism and PSM levels in their children (see Coursey el al., 2008; Perry et al., 2008; Vandenabeele, 2011). In this sample, T-testing of mean differences between students whose parents have volunteered versus students whose parents have not

volunteered show statistical significance. Results are provided in table 4.19 below. The mean PSM score for respondents whose parents volunteered was 85.97, and 81.72 for those whose parents had not volunteered. This difference is statistically significant at the .01 percent level (F=.761, df=1,306, p<.000), indicating that the higher PSM scores of respondents whose parents had volunteered is due to more than chance. Hypothesis one is supported.

Table 4.19. Independent Samples T-Testing: PSM Score by Parent's Volunteerism

	mean	s.d.
Volunteerism**		
Parents Volunteered	85.969	10.819
Parents Did Not Volunteer	81.718	11.051

*p<.05, **p<.01

H_2: Students whose parents worked in the public sector will have higher mean PSM scores than students whose parents worked in the private sector.

Vandenabeele (2011) found that having parents who were employed in the public sector significantly increased an individual's PSM. However, in the current study, ANOVA testing indicates that the relationship between parental sector employment and PSM score is not statistically significant. The difference in mean PSM scores does not vary significantly with respect to the sector the respondent's parent was employed in. A one-way independent ANOVA was not significant (F (2, 951) = .414, p>.05).

Respondents with a parent employed in the non-profit sector had the highest mean PSM scores, with 84.927. Those with a parent in the public sector had a mean PSM score

of 83.668, and those with parents employed in the private sector had the lowest mean PSM scores with 83.655. However, the difference in the means was not significant. Table 4.20 presents the results of the ANOVA analysis. Hypothesis two is not supported.

Table 4.20. One-way Analysis of Variance Testing: PSM Score by Parental Sector Employment and Descriptives.

	Sum of Squares	d.f.	Mean Square	F
Sector Preference				
Between Group	107.949	2	53.975	0.414
Within Group	123897.591	951	130.281	
	N	**Mean**	**St. Dev.**	
Non-Profit	55	84.927	10.954	
Public Sector	579	83.668	11.246	
Private Sector	320	83.413	11.786	

*p<.05, **p<.01

H_3: Students with a communal worldview will have higher mean PSM scores than students with an individualistic worldview.

One's religious socialization helps shape and define one's attitudes, opinions, and values. A communal worldview which, "sees religion in terms of problems shared by people and their relationships with one another" was posited by Perry (1996) to have a positive relationship with PSM. In this study, one-way independent ANOVA testing indicates that the relationship between religious worldview and PSM score is statistically significant (F (2, 1,298) = 25.85, p<.000). Using the mean square error, a planned comparison revealed a significant difference between respondents with a communal

worldview and those with an individualistic worldview (t(1298) = 7.169, p < .000). Those respondents with a communal worldview had a mean PSM score of 83.55, compared with the lower mean score of 78.44 among those who professed an individualistic worldview. Hypothesis three is supported.

Table 4.21. One-way Analysis of Variance Testing: PSM Score by Religious Worldview and Descriptives.

	Sum of Squares	d.f.	Mean Square	F
Religious Worldview				
Between Group	6195.985	2	3097.993	25.853**
Within Group	155540.358	1298	119.831	
	N	**Mean**	**St. Dev.**	
Individualistic	178	78.438	10.720	
Mixed	675	85.050	11.105	
Communal	448	83.547	10.794	

*p<.05, **p<.01

H_4: Students with higher levels of church involvement will have higher mean PSM scores than students with lower levels of church involvement.

Perry (1997) originally found that church involvement was significantly, negatively associated with PSM, though he posited the relationship would be positive. However, one-way independent ANOVA testing in this sample indicates that the relationship between church involvement and PSM score is statistically significant in a positive direction (F (2, 1,289) = 20.797, p<.000). Using the mean square error, a planned comparison revealed a significant difference in mean PSM scores between respondents with higher levels of church participation and those with no church participation (t(1289) = 6.441, p < .000). Those respondents who identified themselves as having medium or

high involvement with church activities had a mean PSM score of 86.35 while those who indicated no involvement had a lower mean PSM score of 80.96. Table 4.22 presents the results of the ANOVA analysis. Hypothesis four is supported.

Table 4.22. One-Way Analysis of Variance Testing: PSM Score by Church Involvement and Descriptives.

	Sum of Squares	d.f.	Mean Square	F
Church Involvement				
Between Group	4946.534	2	2473.267	20.797***
Within Group	153293.951	1289	118.925	

	N	**Mean**	**St. Dev.**
High to Medium Involvement	338	86.349	10.635
Some to Little Involvement	612	83.438	10.837
No Involvement	342	80.962	11.284

*p<.05, **p<.01, ***p<.001,

H_5: Students who profess a higher 'closeness to god' outlook will have higher mean PSM scores than those with a lower 'closeness to god' outlook.

Perry's concept of 'closeness to God' was in regards to "an individual's perception of the closeness to God when engaged in both spiritual and social activities" (1997, p. 184). He found a significant relationship between a 'closeness to God' and PSM. In this study, one-way independent ANOVA testing indicates that the relationship between a respondent's feeling of closeness to God and PSM score is statistically significant (F (2, 1,246) = 75.196, p<.000). Using the mean square error, a planned comparison revealed a significant difference in mean PSM scores between respondents with a who felt either moderately or extremely close to God and those who did not feel

close to God at all ($t(1298) = 10.241$, $p < .000$). Those respondents who identified themselves as feeling extremely or moderately close to God had a mean PSM score of 86.77 while those who indicated they did not feel close at all with God had a lower mean PSM score of 78.69. Table 4.23 presents the results of the ANOVA analysis. Hypothesis five is supported.

Table 4.23. One-Way Analysis of Variance Testing: PSM Score by Closeness to God and Descriptives.

	Sum of Squares	d.f.	Mean Square	F
Closeness to God				
Between Group	16759.349	2	8379.674	75.196***
Within Group	155611.729	1246	111.439	
	N	**Mean**	**St. Dev.**	
Not Close At All	242	78.691	13.196	
Not Very or Somewhat Close	321	80.053	10.126	
Moderately or Extremely Close	686	86.773	9.672	

*p<.05, **p<.01, ***p<.000,

H_6: Students who are evangelical Protestants will have lower mean PSM scores than students of other Protestant denominations.

As religious denomination affects personal perceptions and interpretations of the meaning of volunteering (Bekers and Dhingra, 2001), it is hypothesized that being evangelical will have an effect on one's PSM. Because evangelical congregations are more closely aligned with the agenetic worldview, and religion, as an institution, helps to shape the values of an individual's association with their responsibilities as citizens, it was hypothesized that evangelical Protestants would have lower mean PSM scores than

students of other Protestant denominations. In this study, one-way independent ANOVA testing indicates that the relationship between a respondent's religious background and PSM score is statistically significant ($F(2, 1{,}306) = 10.954$, $p<.000$). However, using the mean square error, a planned comparison revealed there was not a significant difference in mean PSM scores between respondents who indicated they were evangelical and those who identified with other Protestant denominations ($t(1{,}306) = -1.419$, $p>.05$). Table 4.24 presents the results of the ANOVA analysis. Hypothesis six is not supported

Table 4.24. One-Way Analysis of Variance Testing: PSM Score by Religion and Descriptives.

	Sum of Squares	d.f.	Mean Square	F
Religious Worldview				
Between Group	2651.252	2	1325.626	10.954***
Within Group	158049.807	1306	121.018	
	N	**Mean**	**St. Dev.**	
Mainline Protestant	411	84.455	10.477	
Evangelical Protestant	251	85.705	9.747	
All Others	647	82.216	11.757	

*p<.05, **p<.01, ***p<.000

H_7: Students who indicate a liberal ideology will have higher mean PSM scores than students who indicate a conservative ideology.

Relying on the historical context of political ideologies associated with liberalism and conservatism and their traditional positions on the proper role and scope of government, it was hypothesized that students who held a liberal ideology would have higher mean scores than students who held a conservative ideology. And, one-way independent ANOVA testing on this sample indicates that the relationship between an

individual's political ideology and PSM score is statistically significant (F (2, 1,305) = 11.330, p<.000). Using the mean square error, a planned comparison revealed a significant difference in mean PSM scores between respondents with a who indicated they were liberal/very liberal and those who indicated they were conservative/very conservative (t(1,305) = 4.233, p < .000). Those respondents who identified themselves as liberal/very liberal had a mean PSM score of 85.82 while those who identified themselves as conservative/very conservative had a lower mean PSM score of 82.30. Those identifying as moderates had a mean PSM score of 82.86. Table 4.25 presents the results of the ANOVA analysis. Hypothesis seven is supported.

Table 4.25. One-Way Analysis of Variance Testing: PSM Score by Political Ideology and Descriptives.

	Sum of Squares	d.f.	Mean Square	F
Political Ideology				
Between Group	2750.281	2	1375.14	11.330***
Within Group	158391.074	1305	121.372	
	N	**Mean**	**St. Dev.**	
Liberal/Very Liberal	380	85.816	10.407	
Moderate	599	82.855	11.154	
Conservative/Very Conservative	329	82.304	11.443	

*p<.05, **p<.01, ***p<.000

H_8: Students who indicated that their parents have a liberal political ideology will have higher mean PSM scores than students who indicated that their parents have a conservative political ideology.

Parental ideology was included in this study because the sample was comprised of

students and parental influence and modeling was expected to have an effect upon the students' PSM scores. One-way independent ANOVA testing on this sample indicates that the relationship between parental political ideology and PSM score is statistically significant (F (2, 1,301) = 3.027, p<.05). Using the mean square error, a planned comparison revealed a significant difference in mean PSM scores between respondents with a who indicated their parents were liberal/very liberal and those who indicated their parents were conservative/very conservative (t(1,301) = 2.398, p < .01). Those respondents who identified their parents as having a liberal/very liberal political ideology had a mean PSM score of 84.73. Those who identified their parents as having a conservative/very conservative political ideology had a lower mean PSM score of 82.80. Table 4.26 presents the results of the ANOVA analysis. Hypothesis eight is supported.

Table 4.26. One-Way Analysis of Variance Testing: PSM Score by Parental Political Ideology and Descriptives.

	Sum of Squares	d.f.	Mean Square	F
Political Ideology				
Between Group	748.407	2	374.203	3.027*
Within Group	160813.382	1301	123.608	
	N	**Mean**	**St. Dev.**	
Liberal/Very Liberal	286	84.730	10.622	
Moderate	451	83.803	10.592	
Conservative/Very Conservative	567	82.797	11.752	

*p<.05, **p<.01,***p<.000,

H_9: Students who indicate a positive view of government will have higher mean PSM scores than students who indicate a negative view of government.

A recurrent theme in public administration literature is the negative use of the term "bureaucrat" in reference to those working in the public sector and the effect such denigration has on the credibility of public servants and of the government. If the public sector is delegitimized, its ability to recruit the next generation of public sector leaders is put at risk. T-testing of mean differences in this sample between those students having a positive view of government versus those students who did not have a positive view of government showed statistical significance. Results are provided in table 4.27 below. The mean PSM score for respondents who had a positive view of government was 86.40, and 82.84 for those that did not have a positive view of government. This difference is statistically significant at the .01 percent level (F=.299, df=1,310, p<.000), indicating that the higher PSM scores of respondents who are liberal is due to more than chance. Hypothesis nine is supported.

Table 4.27. Independent Samples T-Testing:
PSM Score by Trust in Government

	mean	s.d.
View of Government**		
Positive	86.402	10.773
Negative	82.837	11.129

*p<.05, **p<.01

H_{10}: Students with a major in the humanities and/or social sciences will have higher mean PSM score than students in other majors.

While there is little empirical evidence on the relationship between certain majors or fields of study and PSM level, Clerkin et al. (2009) found a positive relationship

between students majoring in the humanities and social sciences and their likelihood of choosing to volunteer and Vandenabeele (2011) found that individuals who had studied in the areas of language, health care, and social science had higher PSM levels than those who studied in a general field. Because certain majors are more likely to lead to careers that are more focused on serving the public, it was hypothesized that students with a major in the humanities and/or social sciences would have higher PSM scores than students in other majors.

One-way independent ANOVA testing on this sample indicates that the relationship between major and PSM score is statistically significant ($F(1, 1{,}226) = 33.576$, $p<.000$). Using the mean square error, a planned comparison revealed a significant difference in mean PSM scores between respondents who were majoring in humanities or the social sciences and those majoring in other areas ($t(1{,}226) = 5.794$, $p < .000$). Those respondents who identified themselves as social science or humanities majors had a mean PSM score of 85.42 and those majoring in all other majors had a lower mean score of 81.81. Table 4.28 presents the results of the ANOVA analysis. Hypothesis 10 is supported.

Table 4.28. One-Way Analysis of Variance Testing: PSM Score by Major and Descriptives.

		Sum of Squares	d.f.	Mean Square	F
Major					
	Between Group	3994.938	1	3994.938	33.576***
	Within Group	145873.065	1226	118.983	
		N	**Mean**	**St. Dev.**	
	Social Science or Humanities	586	85.416	10.797	
	All Other Majors	642	83.529	11.008	

*p<.05, **p<.01, ***p<.000

H_{11}: Students who participate in Reserve Officer Training Corps (ROTC) will have higher mean PSM scores than students who do not participate in ROTC.

It was hypothesized that students participating in the ROTC program would have higher PSM scores than students who did not participate in ROTC because ROTC students have already expressed a desire to find employment in the public sector through military service after college. However, T-testing of mean differences between students participating in ROTC versus students not participating in ROTC does not show statistical significance. Results are provided in table 4.29 below. While the mean PSM score for ROTC participants was higher (86.29) than the mean PSM score for non-ROTC participants was (83.46), the difference was not statistically significant ($F=1.060$, $df=1,310$, $p>.05$). It should be noted that there were only 33 respondents who were ROTC students, less than 2.4 percent of the respondents. Because of this small percentage, it is hard to draw any conclusions from the analysis. Hypothesis 11 is not supported.

Table 4.29. Independent Samples T-Testing:
PSM Score by Participation in ROTC

	mean	s.d.
ROTC Participation		
ROTC	86.290	9.374
Non-ROTC	83.461	11.18

*p<.05, **p<.01

H_{12}: Students who profess a preference to work in the public sector will have higher mean PSM scores than those who profess a preference to work in the private sector.

Students, like those participating in the ROTC program, who have already expressed a preference to work in the public sector after college, were hypothesized to have higher PSM scores than students who professed a desire to work in the private sector. In this study, one-way independent ANOVA testing indicates that the relationship between sector preference and PSM score is statistically significant (F (2, 921) = 54.212, p<.000). Using the mean square error, a planned comparison revealed a significant difference in mean PSM scores between respondents who desired to work in the public sector and those who preferred to find employment in the private sector (t(921) = 6.383, p < .000). Those respondents who desired employment in the public sector had a mean PSM score of 84.62 while those who desired to work in the private sector had a lower mean PSM score of 79.74. Those respondents desiring to work in the non-profit sector had the highest mean PSM scores, 90.19. Table 4.30 presents the results of the ANOVA analysis. Hypothesis 12 is supported.

Table 4.30. Analysis of Variance Testing: PSM Score by Sector Employment Preference and Descriptives.

	Sum of Squares	d.f.	Mean Square	F
Sector Preference				
Between Group	11859.856	2	5929.928	54.212***
Within Group	100743.139	921	109.385	
	N	**Mean**	**St. Dev.**	
Non-Profit	153	90.190	9.053	
Public Sector	448	84.616	10.890	
Private Sector	323	79.743	10.467	

*p<.05, **p<.01, ***p<.000

H_{13}: Students who have participated in a service learning experience will have higher mean PSM scores than students who have not participated in a service learning experience.

The service-learning model is based upon students' development of commitment to service through service experiences in their academic coursework. Previous research indicates that service-learning participation contributes to commitment towards future service and feelings of social responsibility (Stelljes, 2008). In this sample, T-testing of mean differences between students who have had a service-learning experience versus students who have not had a service-learning experience show statistical significance. Results are provided in table 4.31 below. The mean PSM score for students with service-learning experience was 86.22, and the mean PSM score for students who did not have a service-learning experience was 82.11. This difference is statistically significant at the .01 percent level (F=2.634, df=1,110, p<.000), indicating that the higher PSM scores of respondents who have participated in service-learning are due to more than chance. Hypothesis 13 is supported.

Table 4.31. Independent Samples T-Testing:
PSM Score by Service Learning

	mean	s.d.
Service Learning Experience**		
Service Learning – yes	86.221	10.685
Service Learning – no	82.111	11.491

*p<.05, **p<.01,

H_{14}: As students' reported number of extra-curricular activities increases, mean PSM score will also increase.

Pro-social behavior, such as engaging others through organized civic affiliations, is one way of developing tendencies that promote altruistic and philanthropic behavior. While there is scarce empirical evidence available about students' extra-curricular activities and its bearing on PSM levels, other pro-social behavior like volunteering has been linked to higher levels of PSM in individuals. In this study, correlation analysis was used to assess the statistical significance of the hypothesized relationships between students who have participated in extra-curricular activities and their PSM scores. Pearson's correlation coefficient was obtained for both sets of variables. Table 4.32 depicts the results of the analysis. Correlation analysis showed that the relationship between participation in extra-curricular activities and PSM scores was statistically significant, and that the relationship was positive (Pearson's R=.117, p<.01), but that the relationship was not correlated that strongly. Hypothesis 14 is supported, though it is a weak relationship.

Table 4.32. Correlation Analyses: PSM Score and Participation in Extra-Curricular Activities

	Pearson's R	Sig.
Participation in Extra-Curricular Activities**	0.117	0.002

** Correlation is significant at the 0.01 level (1-tailed).

H_{15}: Students with volunteer experience will have higher mean PSM scores than students who don't have volunteer experience.

Volunteerism and an assortment of other altruistic behaviors have been previously linked to higher PSM levels (Houston, 2008). Volunteerism allows individuals to advocate for political interests, express social identity, and feel a connection to other people, among other things (Bekkers, 2005). Public sector employees have been shown to be more likely to volunteer than private sector employees. In this sample, T-testing of mean differences between students who volunteer versus students who did not volunteer show statistical significance. Results are provided in table 4.33 below. The mean PSM score for respondents who volunteered was 85.52, while the mean PSM score for respondents who had not volunteered was 77.85. This difference is statistically significant at the .01 percent level (F=.299, df=1,310, p<.000), indicating that the higher PSM scores of respondents who volunteer is due to more than chance.

Table 4.33. Independent Samples T-Testing: PSM Score by Volunteerism

	mean	s.d.
Volunteer Experience**		
Volunteer - yes	85.521	10.205
Volunteer - no	77.850	11.758

*p<.05, **p<.01

Additionally, t-tests were run for each of the component volunteer questions and each type of volunteerism – political activities, charitable activities, religious and church related activities, and any other kind of voluntary activities – had statistically significant differences in means. Table 4.34 below shows the analysis of the four different types of

volunteering that were captured in the survey. Hypothesis 15 is supported.

Table 4.34. Independent Samples T-Testing: PSM Score by Type of Volunteerism

	mean	s.d.
Volunteer Experience**		
Political Volunteering – yes	89.172	10.973
Political Volunteering – no	82.653	10.965
Charitable Volunteering – yes	86.512	9.923
Charitable Volunteering – no	78.630	11.402
Religious Volunteering – yes	86.697	10.419
Religious Volunteering – no	81.428	11.167
Volunteering (Other) – yes	86.119	9.901
Volunteering (Other) – no	79.000	11.860

*p<.05, **p<.01

H_{16}: Female students will have higher mean PSM scores than male students.

The effect of gender on PSM has been ambiguous in past research (Bright, 2005; Camilleri, 2007; DeHart-Davis et al., 2006; Perry, 1997). Some have found being female to be significantly, positively related to PSM levels (Bright, 2005; Pandey and Stazyk, 2008) while others have found no significance (Camilleri, 2007; DeHart-Davis et al., 2006; Lee and Lee, 2009). Others (Hansen, 2009) have found significant, negative relationships between being female and PSM levels. In this sample, T-testing of mean differences between the genders shows statistical significance. The mean PSM score for women was 85.15, for men it was 80.00. This difference is statistically significant at the .01 percent level (F=17.181 df=1,302, p<.000), indicating that the higher PSM scores of

women respondents is due to more than chance. Table 4.35 presents the results of the t-test analysis. Hypothesis 16 is supported.

Table 4.35. Independent Samples T-Testing: PSM Score by Gender

	mean	s.d.
Gender**		
Female	85.152	10.088
Male	80.000	12.242

*p<.05, **p<.01

Table 4.36 provides a summary of the hypotheses and whether or not each hypothesis is supported.

Table 4.36. Hypotheses Testing and Findings

	Hypothesis	Supported/Not Supported
1	Students with parents who volunteered will have higher mean PSM scores than students whose parents did not volunteer	Supported
2	Students whose parents worked in the public sector will have higher mean PSM scores than students whose parents worked in the private sector	Not Supported
3	Students with a communal worldview will have higher mean PSM scores than students with an individualistic worldview	Supported
4	Students with higher levels of church involvement will have higher mean PSM scores than students with lower levels of church involvement	Supported
5	Students who profess a higher 'closeness to god' outlook will have higher mean PSM scores than those with a lower 'closeness to god' outlook	Supported
6	Students who are evangelical Protestants will have lower mean PSM scores than students of other Protestant denominations	Not Supported
7	Students who indicate a liberal ideology will have higher mean PSM scores than students who indicate a conservative ideology	Supported
8	Students who indicated that their parents have a liberal political ideology will have higher mean PSM scores than students who indicated that their parents have a conservative political ideology	Supported
9	Students who indicate a positive view of government will have higher mean PSM scores than students who indicate a negative view of government	Supported
10	Students with a major in the humanities and/or social sciences will have higher mean PSM score than students in other majors	Supported
11	Students who participate in Reserve Officer Training Corps (ROTC) will have higher mean PSM scores than students who do not participate in ROTC	Not Supported
12	Students who profess a preference to work in the public sector will have higher mean PSM scores than those who profess a preference to work in the private sector	Supported
13	Students who have participated in a service learning experience will have higher mean PSM scores than students who have not participated in a service learning experience	Supported
14	As students' reported number of extra-curricular activities increases, mean PSM score will also increase	Supported
15	Students with volunteer experience will have higher mean PSM scores than students who don't have volunteer experience	Supported
16	Female students will have higher mean PSM scores than male students	Supported

Antecedent Modeling

The variables that comprise the antecedent model were previously discussed in the bivariate analysis as well as in the literature review where they were examined as cohesive antecedent constructs. A short summation of the variables that comprise each antecedent construct in the model (see Figure 2.12) is discussed below before moving into multivariate analysis of the data. These constructs will be considered individually in order to address the multivariate regression and then the structural equation model.

Parental Socialization Construct. The parental socialization antecedent construct consists of two variables, parental modeling of altruism and parental employment (in the public, private, or non-profit sector). The parental modeling of altruism variable is made up of 11 of the survey items, with each measured on a 5-point Likert-scale. To create a single variable score for the 11 parental modeling questions, the scores for each individual question were summed with higher scores indicating higher levels of parental encouragement of altruism in the respondent. The minimum score was 11 and the maximum score possible was 55 (mean = 38.68, SD = 7.72). The descriptives for each of the variables that comprise the parental socialization antecedent construct are contained in Table 4.8 (see Appendix C).

A correlation analysis was conducted between the parental modeling of altruism variable and PSM score. Table 4.37 depicts the results of the analysis. Correlation analysis showed that the relationship between parental modeling of altruism and PSM scores was statistically significant, and that the relationship was positive (Pearson's $R=.351$, $p<.000$).

Table 4.37. Correlation Analyses: PSM Score and Parental Modeling of Altruism

	Pearson's R	Sig.
Parental Modeling of Volunteerism**	0.351	0.000

** Correlation is significant at the 0.01 level (2-tailed).

While parental modeling of altruism correlates significantly with PSM, having a parent employed in public sector was not found to be statistically significant in the hypothesis testing.

Religious Socialization Construct. The religious socialization antecedent construct consists of four variables - religious worldview, church involvement, closeness to God, and religious affiliation. The descriptive statistics for these variables are available in Table 4.9 (See Appendix C). The variable of religious worldview was constructed by creating a composite score with two questions, gauging the respondent's perceptions of individual versus communal values. A higher score indicated a more communal worldview. The variable of church involvement was a composite score of four questions, asking about various forms of participation in their church. A higher score indicated more participation. The variable of closeness to God was also created by constructing a composite score of six questions measuring how close to God the respondent felt while taking part in different communal activities. Again, a higher score indicated more participation. Religious affiliation was the third variable making up the religious socialization antecedent factor. However, hypothesis testing showed that there was no statistically significant difference in mean PSM scores of students dependent on

Protestant denomination (evangelical denomination versus other mainstream Protestant denominations), so this variable will not be included in the antecedent model.

Political Ideology Construct. The politically ideology antecedent construct is comprised of three variables – personal political ideology, parental political ideology, and a trust thermometer towards government. Both the parental and individual political ideology were measured on a five point Likert-scale from very conservative to very liberal, with a higher score indicating the respondent reports being more liberal. The feeling thermometer towards government was also measured on a five point Likert scale from strongly disagree to strongly agree, with a higher score indicating more trust in government from the respondent. Descriptive statistics on the variables within this antecedent construct can be found in Table 4.11 (See Appendix C).

Educational Socialization Construct. The educational socialization antecedent construct is comprised of six variables - choice of major, service-learning experience, career preference, participation in ROTC and extra-curricular activities, and volunteerism. Table 4.12 (see Appendix C) contains the descriptives statistics for all the variables in this construct.

Because hypothesis 11 was not supported and the percentage of respondents who were enrolled in the ROTC program was so low (only 2.4% of all respondents) the ROTC variable will not be included in the antecedent model.

In summary, the socialization variables, which comprise the antecedent constructs for the study's model, were discussed as cohesive constructs previously within the

literature review and again in this chapter, briefly, in order to provide a framework for understanding the relationships between the variables and the constructs they measure in the next stage of analysis. The analysis of the data now progresses from bivariate to multivariate examination of the variables through multivariate regression and SEM.

Multivariate Regression Analysis

Multiple regression was used to examine the predictive power of the socialization variables within each antecedent construct on the students' PSM levels (both composite and dimensional) and compare the updated model in this research to Perry's (1997) original findings. The PSM score is the dependent variable and the individual socialization variables were the independent variables in this analysis.

A standard multivariate regression model was utilized because it allows for each independent variable to be evaluated with respect to its contribution to the prediction of the dependent variable (Tabachnick and Finell, 1996). Given that the research interest in this multivariate analysis is understanding which variables contribute the most towards a respondents' PSM scores – both the composite score and the dimensional scores – when compared with the other socialization variables, multivariate regression is appropriate.

Table 4.38 presents the results for the regression analysis. The adjusted R^2 for the overall model is .28. The dimensions' adjusted R^2 values range from .11 for attraction to public policy-making to .26 for compassion. Six variables were significant in their relationship to overall PSM level, in their hypothesized direction. Parental modeling of altruism, closeness to God, a liberal political ideology, higher trust in government, volunteerism, and public sector employment preference all had positive, significant

relationships with overall PSM level. Eight variables were significant in their relationship to at least one of the four dimensions. The variables of church involvement, parental political ideology, participation in extra-curricular activities, participation in service learning, and choice of major were not significant in any of the equations.

Parental Socialization. Parental modeling of altruism through volunteerism was positively, significantly related to overall PSM level and every dimension except attraction to public policy-making.

Religious Socialization. The variable of closeness to God was the only variable in the model which was significant with overall PSM and all four dimensions. Interestingly, it corresponded negatively with attraction to public policy-making. Having a communal worldview was significantly related to the compassion dimension.

Political Ideology. Being liberal was positively, significantly related to overall PSM level as well as the compassion and commitment to the public interest/civic duty dimensions. Having more trust in government was positively, significantly related to overall PSM level and to the dimensions of attraction to public policy-making and commitment to the public interest/civic duty. Parental political ideology was not significant to either overall PSM or any of the dimensions.

Educational Socialization. Both volunteerism and desire to work in the public sector had significant, positive relationships with overall level of PSM. Public sector employment preference was also related positively and significantly with every dimension of PSM but attraction to public policy-making. There were no significant relationship between PSM and participation in extra-curricular activities, service-learning, or choice of major.

Table 4.38. Regressions for Antecedents of Public Service Motivation.

Dependent Variables		Public Service Motivation		Attraction to Public Policy-Making		Commitment to the Public Interest/Civic Duty		Compassion		Self-Sacrifice	
Independent Variables		BETA (Std. Error)	Sig.	BETA (Std. Error)	Sig	BETA (Std. Error)	Sig	BETA (Std Error)	Sig.	BETA (Std. Error)	Sig
Demographics	Gender	077 1 060	103	063 302	216	032 309	514	132 488	005**	- 031 411	534
Parental Socialization	Altruism Modeling	174 063	000***	037 018	464	131 019	007**	184 029	000***	159 025	001**
Religious Socialization	Religious Worldview	057 724	1 236	- 047 205	345	045 210	336	108 331	018*	006 281	902
	Church Involvement	- 032 469	- 032	041 132	474	025 136	653	- 064 214	228	021 182	706
	Closeness to God	258 080	000***	- 140 023	025*	268 023	000***	199 036	001**	272 031	000***
Political Ideology	Individual Political Ideology	192 611	000***	- 060 176	295	187 180	001**	264 283	000***	110 238	050*
	Parental Political Ideology	- 021 528	675	104 151	059	- 062 155	232	- 007 243	890	- 094 206	077
	Govt Thermometer	116 486	009**	301 140	000***	094 143	040*	- 008 225	860	016 190	730
Educational Socialization	Extra-Curricular	080 286	071	055 082	252	049 084	287	082 132	063	014 112	767
	Volunteerism	099 1 34	028*	088 376	088	085 386	068	059 612	190	081 513	087
	Service Learning	036 1 01	438	056 286	262	025 292	601	- 023 461	616	028 392	558
	Major	- 061 1 02	189	061 287	221	- 099 295	038*	- 008 465	860	- 061 393	210
	Employment Sector	241 742	000***	051 208	314	174 213	000***	199 337	000***	208 287	000***
Adjusted R^2		.28		.11		.20		.26		.19	
F		12 178		4.781		8.700		11.463		8.102	
Sig		.000***		000***		000***		000***		.000***	

* $p < .05$. ** $p < .01$. *** $p < .001$,

In comparison, Table 4.39 gives a summation of the adjusted R^2, F scores, and significance results of Perry's (1997) regression of his original antecedent socialization variables.

Table 4.39. Comparison of Perry's (1997) Model of Antecedents of Public Service Motivation With The Current Study

Dependent Variables		Public Service Motivation		Attraction to Public Policy-Making		Commitment to the Public Interest/Civic Duty		Compassion		Self-Sacrifice	
	Study	Perry (1997)	Current	Perry (1997)	Current	Perry (1997)	Current	Perry (1997)	Current	Perry (1997)	Current
Adjusted R^2		.13	.28	.07	.11	.18	.20	.07	.26	.15	.19
F		3.96	12.178	2.01	4.781	5.68	8.700	2.07	11.463	4.55	8.102
Sig.		.00***	.00***	.03**	.00***	.00**	.00***	.02*	.00***	.00**	.00***

* $p < .05$. ** $p < .01$. *** $p < .001$.

Perry (1997) found significant, positive relationships with overall PSM level and the variables of closeness to God and parental modeling of altruism. And, he found church involvement to be negatively, significantly related with overall PSM level. The adjusted R^2 values for this study's composite PSM score and for each dimension are equal to or higher than Perry's (1997), again lending validity to the construct of PSM and its relationship to the socialization variables previously examined by Perry (1997) as well as to the newly introduced educational socialization variables of volunteerism and sector employment preference.

Next, SEM analysis was employed to examine the hypothesized model of PSM by linking the observable socialization variables to the latent antecedent constructs and evaluating their relationships to PSM. Perry's (1997) hypothesized antecedent model, modified in this study to reflect the sample of undergraduate students, was tested to determine how well the model fits the observed data of this sample.

Structural Equation Modeling (SEM) Analysis

Structural equation modeling is often employed in social science research because

of its flexibility and ability to link multiple observed indicators to latent factors and assess the overall fit of a model to the data (Knoke, Bohrnstedt, and Mee, 2002). According to Shumacker and Lomax, "Various theoretical models can be tested in SEM that hypothesize how sets of variables define constructs and how these constructs are related to each other," with the end goal of determining the extent to which the sample data support the theoretical model (2010, p. 2). Klem states, "a full structural equation model can be viewed as a combination of a factor analysis model and a path analysis model" (2000, p. 230). Byrne (2010) posits that there are two key points that underlie the rationale for utilizing SEM. First, "the causal processes under study are represented by a series of structural (i.e., regression) equations," and second, "these structural relations can be modeled pictorially to enable a clearer conceptualization of the theory under study" (Byrne, 2010, p.3). The model is then examined for goodness-of-fit, the extent to which it is supported by the data.

Because PSM is a multifaceted concept, which, much like the larger field of public administration, encompasses components from economics, political science, sociology, and organizational theory (see Raacschelders, 1999), SEM has garnered interest from PSM researchers and has been increasingly useful in a variety of PSM research (Bright, 2007; Camilleri, 2007; Kim, 2010). As Kim stated in his study of whether PSM should be defined as a formative or a reflective measurement model, "PSM is perceived as a multidimensional construct, an overall latent variable with various latent dimensions" (2010, p. 528). As such, the data were analyzed using SEM because it "permits complex phenomena to be statistically modeled and tested" (Shumacker and Lomax, 2010, p. 7). And, though Kim (2009) preferred a formative specification for the

PSM construct, Perry's conceptualization of PSM is reflective (Coursey et al., 2008). Additionally, Coursey et al. used second-order reflective confirmatory factor analysis in their research on PSM because, "this procedure generates values far more representative of the theoretical assumptions concerning sub-dimension relations and their associations with overall PSM" (2011, p. 55). In accordance with Coursey et al. (2008) and Coursey et al. (2011) this study will consider PSM to be reflective.

The structural model assesses the relationships among the latent constructs, in this case, the antecedents of PSM, to PSM levels in students. Each of these latent constructs is defined by the measured variables described previously. These multiple measures, in the use of the measurement model, allow the researcher to more effectively control for measurement errors in any of the construct. Because measurement error is controlled for, we are able to obtain unbiased estimates of the relationships among the latent construct variables. Additionally, SEM combines the benefits of both factor analysis and multiple regression. The SEM program utilized was AMOS version 16.

First, a measurement model was constructed, allowing for simultaneous identification of latent variable and structural equation coefficients. The resultant measurement model is the basis for testing the structural model. A correlation/covariance matrix was created and the estimates of the relationships among the model variables were calculated using maximum likelihood estimation (MLE) because of the large sample size and the normal distribution of the observed variables (Pampel, 2000). Next, a structural model was utilized to test the measurement model, allowing for concurrent evaluation of the relationship among endogenous and exogenous latent variables.

Model Evaluation. Following Kline (2005), and in order to assess the model in

the most comprehensive way, six fit indices were used to assess how well the theoretical model fits the hypothesized relationships. The absolute fit indices of the normed chi-square, the Root Mean Square Error of Approximation (RMSEA), the Standardized Root Mean Square Residual (SRMR), and the Adjusted Goodness-of-Fit index (AGFI) were used because their calculations do not use an alternative model as a base for comparison but measure how well the proposed model fits in comparison to no model at all (Hooper, Coughlan, and Mullen, 2008). Additionally, the relative fit indices of the Tucker-Lewis Index (TLI) and Comparative Fit Index (CFI) were used because they allow for a comparison of the model against another, null model (a model that specifies that all measured variables are uncorrelated and should possess a large chi-square).

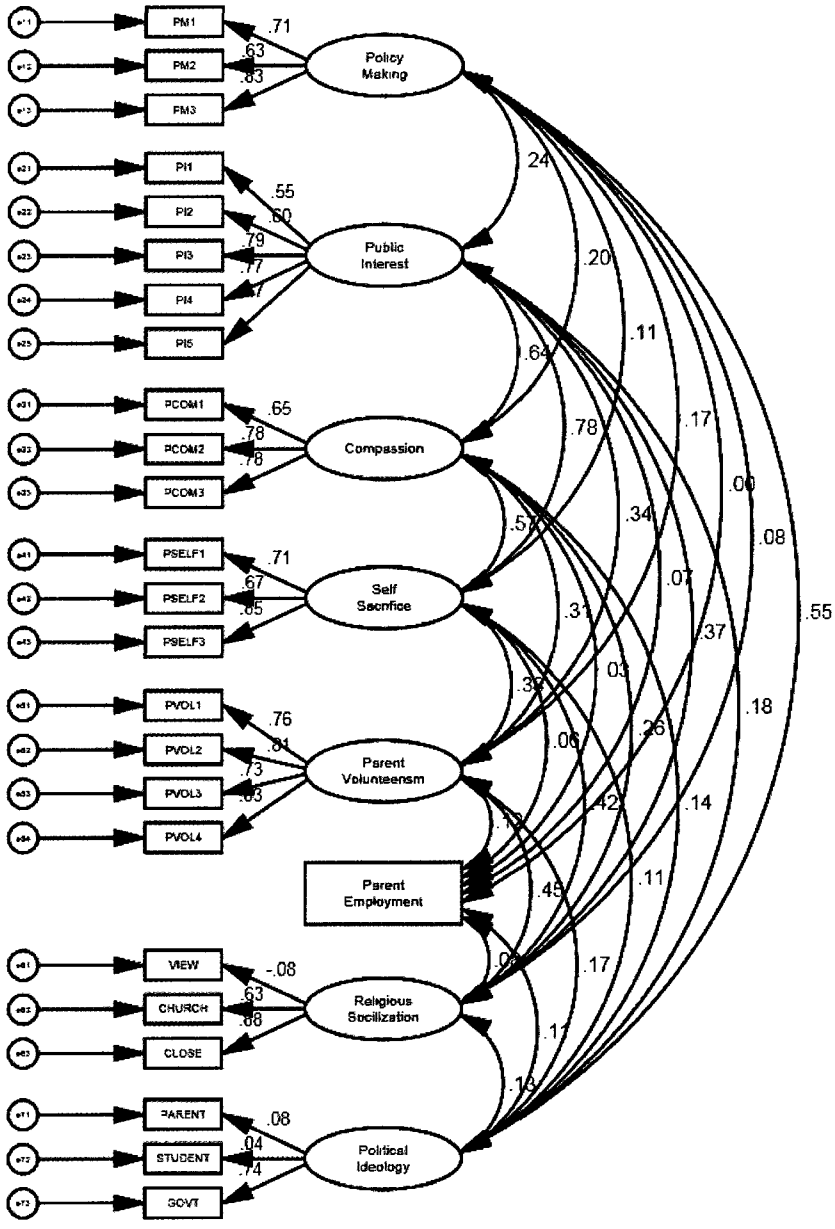
The significance of the factor loadings and path coefficients were evaluated at the .05 level. The following are the criteria utilized for each index to assess the model fit:

a. Comparative Fit Index (CFI) – A value of .95 and above indicates good model fit (Hu & Bentler, 1999);
b. Tucker-Lewis Index (TLI) – A value of .95 and above indicates good model fit; (Hu & Bentler, 1999);
c. Adjusted Goodness-of-Fit Index (AGFI) – A value of .90 and above indicates good model fit (Byrne, 2001);
d. Root Mean Square Error of Approximation (RMSEA) – A value less than .05 indicates good model fit; a value less than .08 indicates reasonable fit; and a value more than .10 has poor fit (Brown & Cudeck, 1993);
e. Standardized Root Mean Square Residual (SRMR) – A value less than .08 indicates good model fit (Hu & Bentler, 1999);

f. Normed chi-square or ratio of likelihood χ^2 to degrees of freedom – The benchmark is still not established but the lower the number (i.e., below 3.00), the better the fit (Kline, 2005).

Proposed Measurement Model. Parcels (small item groups) were created for constructs that had six or more indicators (the PSM dimensions of self-sacrifice (8 items) and compassion (8 items) and the variable of parental volunteerism (11 items)), following Little, Shahar, and Widaman's (2002) rationale that models with single-term indicators are less parsimonious and often increase sampling error. The item-to-construct balance method was used to generate parcels as recommended by Little et al. (2002). Corrected item-total correlations, garnered from the reliability analyses, were utilized to create the parcels. Items with lower correlations were matched with items of higher correlations until all items were categorized into parcels. Appendix D depicts the parcel compositions. The proposed measurement model is depicted in Figure 4.1.

Figure 4.1. Results for the Proposed Measurement Model



Tables 4.40-4.43 display the regression weights, covariance, correlations, and variances of the proposed measurement model. Several indicator variables had low standardized values. PI5, personal political ideology, and religious worldview all loaded

onto their constructs with less than .50 and were not significant (p>.05). PI5 loaded at .47 on the public interest construct, personal political ideology loaded at .05 on the political ideology construct and was not significant, and religious worldview loaded at -.05 on the religious socialization construct. All three of the dimensions of attraction to public policy-making indicators loaded successfully onto the construct, as did compassion, and self-sacrifice, though some of the indicators weren't significant.

Table 4.40. Regression Weights for Proposed Measurement Model

			Estimate	Beta	S.E.	C.R.	P
PM3	←	Policy_Making	1.000	.829			
PM2	←	Policy_Making	.722	.626	.052	13.863	***
PM1	←	Policy_Making	.869	.707	.058	14.900	***
PI5	←	Public_Interest	1.000	.471			
PI4	←	Public_Interest	1.562	.770	.136	11.452	***
PI3	←	Public_Interest	1.411	.789	.122	11.546	***
PI2	←	Public_Interest	1.307	.602	.127	10.290	***
PI1	←	Public_Interest	1.341	.550	.137	9.803	***
PCOM3	←	Compassion	1.000	.779			
PCOM2	←	Compassion	.917	.776	.054	17.127	***
PCOM1	←	Compassion	.783	.646	.052	15.027	***
PSELF3	←	Self_Sacrifice	1.000	.854			
PSELF2	←	Self_Sacrifice	.639	.668	.037	17.236	***
PSELF1	←	Self_Sacrifice	.899	.709	.049	18.402	***
PVOL4	←	Parent_Volunteerism	1.000	.831			
PVOL3	←	Parent_Volunteerism	.836	.726	.042	19.789	***
PVOL2	←	Parent_Volunteerism	1.064	.809	.047	22.453	***
PVOL1	←	Parent_Volunteerism	.990	.756	.048	20.758	***
GOVTHERM	←	Political_Ideology	1.000	.737			
IPV	←	Political_Ideology	.047	.037	.070	.676	.499
PPV	←	Political_Ideology	.112	.080	.100	1.120	.263
CLOSE	←	Religious_Socialization	1.000	.878			
CHURCH	←	Religious_Socialization	.065	.628	.067	9.724	***
VIEW	←	Religious_Socialization	-.046	-.081	.025	-1.872	.061

*p<.05. **p<.01.***p<.001.

Table 4.41. Covariances for the Proposed Measurement Model

			Estimate	S.E.	C.R.	P
Policy_Making	↔	Public_Interest	.092	.021	4.482	***
Policy_Making	↔	Compassion	.111	.028	3.985	***
Policy_Making	↔	Self_Sacrifice	.059	.027	2.237	.025*
Policy_Making	↔	Parent_Volunteerism	.106	.030	3.492	***
Policy_Making	↔	Political_Ideology	.384	.044	8.634	***
Policy_Making	↔	Religious_Socialization	.083	.053	1.565	.118
Policy_Making	↔	PAERMPR	.001	.038	.025	.980
Public_Interest	↔	Compassion	.162	.019	8.456	***
Public_Interest	↔	Self_Sacrifice	.193	.021	9.344	***
Public_Interest	↔	Parent_Volunteerism	.100	.016	6.224	***
Public_Interest	↔	Political_Ideology	.056	.019	2.964	.003**
Public_Interest	↔	Religious_Socialization	.183	.029	6.415	***
Public_Interest	↔	PAREMPR	.026	.017	1.530	.126
Compassion	↔	Self_Sacrifice	.202	.020	10.046	***
Compassion	↔	Parent_Volunteerism	.127	.020	6.208	***
Compassion	↔	Political_Ideology	.061	.026	2.307	.021*
Compassion	↔	Religious_Socialization	.183	.035	5.160	***
Compassion	↔	PAREMPR	.015	.024	.601	.548
Self_Sacrifice	↔	Parent_Volunteerism	.154	.020	7.643	***
Self_Sacrifice	↔	Political_Ideology	.050	.026	1.930	.054
Self_Sacrifice	↔	Religious_Socialization	.292	.036	8.163	***
Self_Sacrifice	↔	PAREMPR	.032	.024	1.362	.173
Parent_Volunteerism	↔	Political_Ideology	.090	.029	3.069	.002*
Parent_Volunteerism	↔	Religious_Socialization	.365	.041	8.810	***
Parent_Volunteerism	↔	PAREMPR	.080	.027	2.950	.003*
Political_Ideology	↔	Religious_Socialization	.112	.051	2.186	.029*
Political_Ideology	↔	PAREMPR	.074	.037	2.020	.043*
Religious_Socialization	↔	PAREMPR	.092	.048	1.921	.055

*p<.05. **p<.01.***p<.001.

The proposed measurement model shows positive correlation coefficients between several of the variables. Commitment to the public interest/civic duty and compassion had the highest correlation coefficient (.64). Parental employment and attraction to public policy-making had the lowest correlation coefficient (.00).

Table 4.42. Correlations for the Proposed Measurement Model

			Estimate
Policy_Making	↔	Public_Interest	.236
Policy_Making	↔	Compassion	.200
Policy_Making	↔	Self_Sacrifice	.108
Policy_Making	↔	Parent_Volunteerism	.166
Policy_Making	↔	Political_Ideology	.555
Policy_Making	↔	Religious_Socialization	.076
Policy_Making	↔	PAREMPR	.001
Public_Interest	↔	Compassion	.642
Public_Interest	↔	Self_Sacrifice	.776
Public_Interest	↔	Parent_Volunteerism	.345
Public_Interest	↔	Political_Ideology	.178
Public_Interest	↔	Religious_Socialization	.371
Public_Interest	↔	PAREMPR	.066
Compassion	↔	Self_Sacrifice	.570
Compassion	↔	Parent_Volunteerism	.309
Compassion	↔	Political_Ideology	.137
Compassion	↔	Religious_Socialization	.261
Compassion	↔	PAREMPR	.026
Self_Sacrifice	↔	Parent_Volunteerism	.379
Self_Sacrifice	↔	Political_Ideology	.112
Self_Sacrifice	↔	Religious_Socialization	.421
Self_Sacrifice	↔	PAREMPR	.058
Parent_Volunteerism	↔	Political_Ideology	.174
Parent_Volunteerism	↔	Religious_Socialization	.453
Parent_Volunteerism	↔	PAREMPR	.124
Political_Ideology	↔	Religious_Socialization	.129
Political_Ideology	↔	PAREMPR	.106
Religious_Socialization	↔	PAREMPR	.083

Table 4.43. Variances for the Proposed Measurement Model

	Estimate	S.E.	C.R.	P
Policy_Making	.860	.080	10.790	***
Public_Interest	.177	.030	5.982	***
Compassion	.358	.034	10.612	***
Self-Sacrifice	.350	.028	12.482	***
Parent_Volunteerism	.474	.038	12.452	***
Political_Ideology	.556	.467	1.191	
Religious_Socialization	1.376	.159	8.678	***
PAREMPR	.877	.048	18.276	***
e13	.391	.051	7.707	***
e12	.695	.046	15.044	***
e11	.650	.051	12.845	***
e25	.622	.036	17.378	***
e24	.297	.022	13.538	***
e23	.214	.017	12.909	***
e22	.531	.032	16.465	***
e21	.734	.043	16.903	***
e33	.232	.020	11.317	***
e32	.199	.017	11.440	***
e31	.307	.020	15.181	***
e43	.130	.014	9.202	***
e42	.178	.011	15.570	***
e41	.280	.019	14.809	***
e54	.212	.018	12.049	***
e53	.296	.019	15.220	***
e52	.283	.022	12.978	***
e51	.349	.024	14.613	***
e73	.468	.465	1.006	.315
e72	.889	.049	18.258	***
e71	1.089	.060	18.188	***
e63	.409	.129	3.175	.001**
e62	.891	.073	12.293	***
e61	.448	.025	18.248	***

*p<.05. **p<.01.***p<.001.

The proposed measurement models' chi-square values and fit indices are summarized in Table 4.44. This model did not fit the data well. Although the RMSEA and the SRMR were low and within reasonable range, the Normed chi-square was above three and the CFI, TLI, and AGFI were all below .95.

Table 4.44. Chi-square and Goodness of Fit Indices for the Proposed PSM Measurement Model

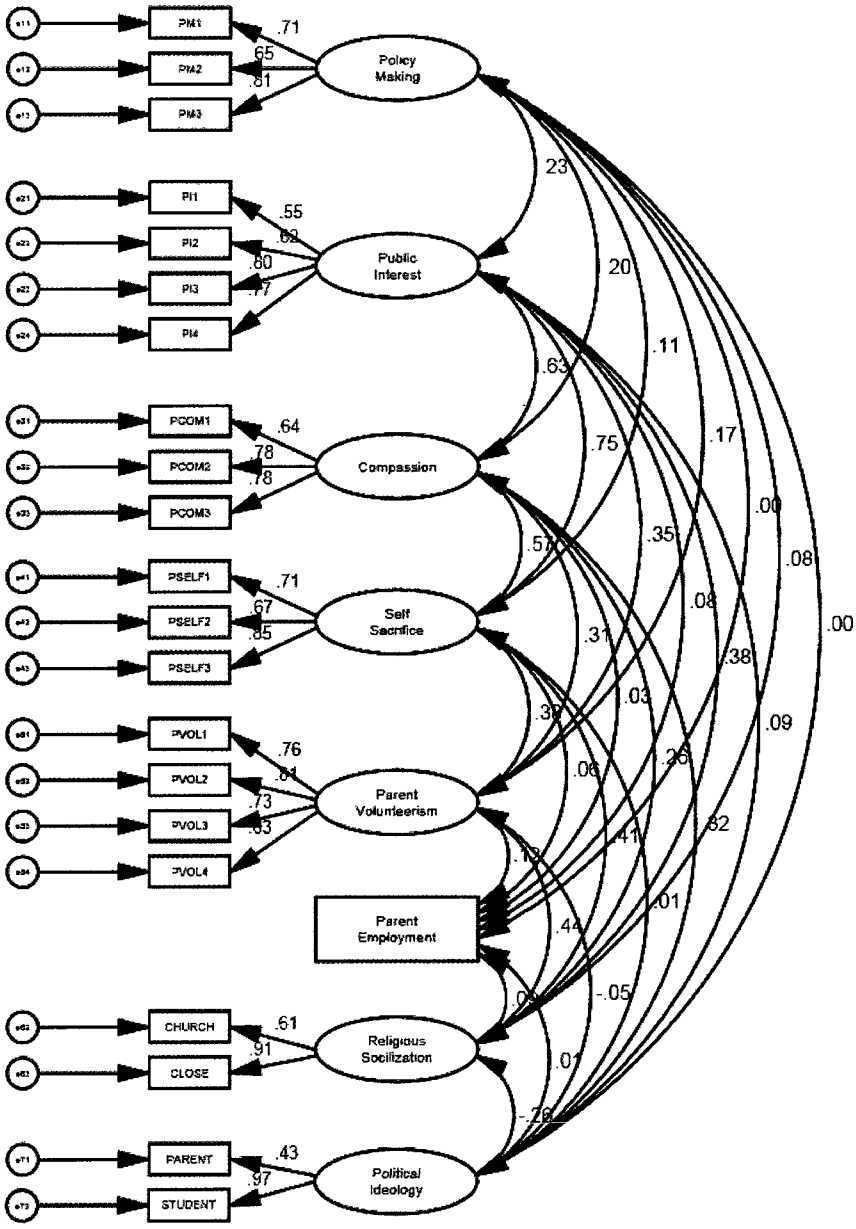
Index	Proposed
Chi Square	823.55
Degrees of Freedom	248.00
Significance	0.00
Normed chi-square (chi-square/df)	3.32
Adjusted Goodness of Fit Index (AGFI)	0.88
Tucker-Lewis Index (TLI)	0.87
Comparative Fit Index (CFI)	0.89
Root Mean Squared Error (RMSEA)	0.06
Lower Bound of 90% confidence interval	0.06
Upper Bound of 90% confidence interval	0.06
Standardized Root Mean Square Residual (SRMR)	0.06

Note. At $p < .001$, critical χ^2_{crit} (65) = 105.99.

Revised Measurement Model. Because of these results discussed above, the measurement model was revised. Following Hair, Black, Babin, and Anderson's (2010) advice, the indicator variables of religious worldview and public interest 5 (PI5) were deleted because they were not statistically significant and had low standardized values. Additionally, in order to retain the political ideology construct as a latent construct with two indicators, the trust in government indicator was deleted even though it loaded more highly than the indicators of personal and parental political ideology because the indicator of personal political ideology has been shown previously to affect one's PSM levels (Vandenabeele, 2011).

The revised measurement model can be seen in Figure 4.2.

Figure 4.2. Results for the Revised PSM Measurement Model.



Tables 4.45-4.48 display the regression weights, covariance, correlations, and variances of the revised measurement model.

In this revised measurement model, all of the indicators loaded successfully onto their respective dimensions of PSM, though some were not statistically significant. Additionally, the indicators for the antecedent construct of religious socialization and for the variable of parental volunteerism loaded successfully, all with standardized values over .50. However, the political ideology indicator of parental political ideology was slightly below .50, though it was statistically significant.

Table 4.45 Regression Weights for the Revised Measurement Model

			Estimate	Beta	S.E.	C.R.	P
PM3	←	Policy_Making	1.000	.808			
PM2	←	Policy_Making	.769	.650	.057	13.660	***
PM1	←	Policy_Making	.895	.710	.064	14.055	***
PI4	←	Public_Interest	1.000	.766			
PI3	←	Public_Interest	.919	.799	.048	19.240	***
PI2	←	Public_Interest	.862	.618	.057	15.046	***
PI1	←	Public_Interest	.862	.550	.065	13.334	***
PCOM3	←	Compassion	1.000	.782			
PCOM2	←	Compassion	.913	.775	.051	17.763	***
PCOM1	←	Compassion	.779	.644	.051	15.273	***
PSELF3	←	Self_Sacrifice	1.000	.855			
PSELF2	←	Self_Sacrifice	.639	.668	.037	17.158	***
PSELF1	←	Self_Sacrifice	.897	.708	.049	18.232	***
PVOL4	←	Parent_Volunteerism	1.000	.832			
PVOL3	←	Parent_Volunteerism	.836	.727	.042	19.798	***
PVOL2	←	Parent_Volunteerism	1.063	.809	.047	22.441	***
PVOL1	←	Parent_Volunteerism	.990	.756	.048	20.762	***
IPV	←	Political_Ideology	1.000	.972			
PPV	←	Political_Ideology	.491	.430	.041	11.870	***
CLOSE	←	Religious_Socialization	1.000	.906			
CHURCH	←	Religious_Socialization	.610	.609	.058	10.497	***

*p<.05. **p<.01.***p<.001.

Table 4.46. Covariances for the Revised Measurement Model

			Estimate	S.E.	C.R.	P
Policy_Making	↔	Public_Interest	.139	.030	4.646	***
Policy_Making	↔	Compassion	.110	.027	4.010	***
Policy_Making	↔	Self_Sacrifice	.058	.026	2.215	.027*
Policy_Making	↔	Parent_Volunteerism	.105	.030	3.537	***
Policy_Making	↔	Political_Ideology	.002	.037	.042	.967
Policy_Making	↔	Religious_Socialization	.082	.052	1.572	.116
Policy_Making	↔	PAERMPR	.003	.037	.085	.932
Public_Interest	↔	Compassion	.246	.024	10.379	***
Public_Interest	↔	Self_Sacrifice	.292	.024	12.149	***
Public_Interest	↔	Parent_Volunteerism	.159	.023	7.033	***
Public_Interest	↔	Political_Ideology	.053	.027	2.001	.045*
Public_Interest	↔	Religious_Socialization	.300	.040	7.462	***
Public_Interest	↔	PAREMPR	.049	.026	1.867	.062
Compassion	↔	Self_Sacrifice	.203	.020	10.079	***
Compassion	↔	Parent_Volunteerism	.127	.021	6.215	***
Compassion	↔	Political_Ideology	.177	.026	6.787	***
Compassion	↔	Religious_Socialization	.192	.036	5.363	***
Compassion	↔	PAREMPR	.015	.024	.599	.549
Self_Sacrifice	↔	Parent_Volunteerism	.154	.020	7.645	***
Self_Sacrifice	↔	Political_Ideology	.003	.024	.137	.891
Self_Sacrifice	↔	Religious_Socialization	.297	.036	8.249	***
Self_Sacrifice	↔	PAREMPR	.032	.024	1.363	.173
Parent_Volunteerism	↔	Political_Ideology	-.030	.027	-1.123	.261
Parent_Volunteerism	↔	Religious_Socialization	.366	.042	8.820	***
Parent_Volunteerism	↔	PAREMPR	.080	.027	2.950	.003**
Political_Ideology	↔	Religious_Socialization	-.289	.050	-5.819	***
Political_Ideology	↔	PAREMPR	.010	.034	.286	.775
Religious_Socialization	↔	PAREMPR	.098	.048	2.034	.042*

*p<.05. **p<.01.***p<.001.

The revised measurement model shows positive correlation coefficients between several of the variables. Commitment to the public interest/civic duty and compassion retained a high correlation coefficient. Self-Sacrifice and commitment to the public interest/civic duty had the highest correlation coefficient with .75. In this revised measurement model, parental employment and attraction to public policy-making had the second lowest correlation coefficient (.004), while political ideology and attraction to

public policy-making had the lowest correlation coefficient (.002).

Table 4.47. Correlations for the Revised Measurement Model

			Estimate
Policy_Making	↔	Public_Interest	.234
Policy_Making	↔	Compassion	.202
Policy_Making	↔	Self_Sacrifice	.108
Policy_Making	↔	Parent_Volunteerism	.169
Policy_Making	↔	Political_Ideology	.002
Policy_Making	↔	Religious_Socialization	.075
Policy_Making	↔	PAREMPR	.004
Public_Interest	↔	Compassion	.628
Public_Interest	↔	Self_Sacrifice	.754
Public_Interest	↔	Parent_Volunteerism	.352
Public_Interest	↔	Political_Ideology	.089
Public_Interest	↔	Religious_Socialization	.379
Public_Interest	↔	PAREMPR	.081
Compassion	↔	Self_Sacrifice	.570
Compassion	↔	Parent_Volunteerism	.308
Compassion	↔	Political_Ideology	.322
Compassion	↔	Religious_Socialization	.265
Compassion	↔	PAREMPR	.026
Self_Sacrifice	↔	Parent_Volunteerism	.379
Self_Sacrifice	↔	Political_Ideology	.006
Self_Sacrifice	↔	Religious_Socialization	.414
Self_Sacrifice	↔	PAREMPR	.058
Parent_Volunteerism	↔	Political_Ideology	-.048
Parent_Volunteerism	↔	Religious_Socialization	.440
Parent_Volunteerism	↔	PAREMPR	.124
Political_Ideology	↔	Religious_Socialization	-.260
Political_Ideology	↔	PAREMPR	.011
Religious_Socialization	↔	PAREMPR	.086

Table. 4.48. Variances for the Revised Measurement Model

	Estimate	S.E.	C.R.	P
Policy_Making	.817	.080	10.152	***
Public_Interest	.428	.039	10.850	***
Compassion	.360	.033	10.806	***
Self-Sacrifice	.351	.028	12.445	***
Parent_Volunteerism	.474	.038	12.458	***
Political_Ideology	.840	.049	17.250	***
Religious_Socialization	1.466	.154	9.511	***
PAREMPR	.877	.048	18.276	***
e72	.050			
e13	.434	.054	8.044	***
e12	.659	.047	14.177	***
e11	.644	.053	12.205	***
e24	.301	.023	13.362	***
e23	.205	.017	12.186	***
e22	.515	.032	16.200	***
e21	.734	.044	16.830	***
e33	.229	.020	11.692	***
e32	.199	.017	11.935	***
e31	.308	.020	15.399	***
e43	.129	.014	9.033	***
e42	.177	.011	15.502	***
e41	.281	.019	14.762	***
e54	.211	.018	12.030	***
e53	.296	.019	15.214	***
e52	.284	.022	12.992	***
e51	.349	.024	14.609	***
e71	.894	.050	18.036	***
e63	.319	.122	2.618	.009*
e62	.927	.068	13.697	***

*p<.05. **p<.01.***p<.001.

The revised model fit the data well. All the indicator variables loaded satisfactorily on to their respective constructs. Parental ideology's standardized value was lower than .50, but was statistically significant and retained so that the political ideology construct would remain a latent construct with two indicator variables.

The chi-square value and the fit indices for the revised measurement model are provided in Table 4.49. The RMSEA and the SRMR were both low and within the acceptable ranges, the Normed chi-square was below three, and the CFI, TLI, and AGFI

were within acceptable range as well. In all, the revised model fit the data better, $\Delta\chi^2(65) = 454.49, p < .001$.

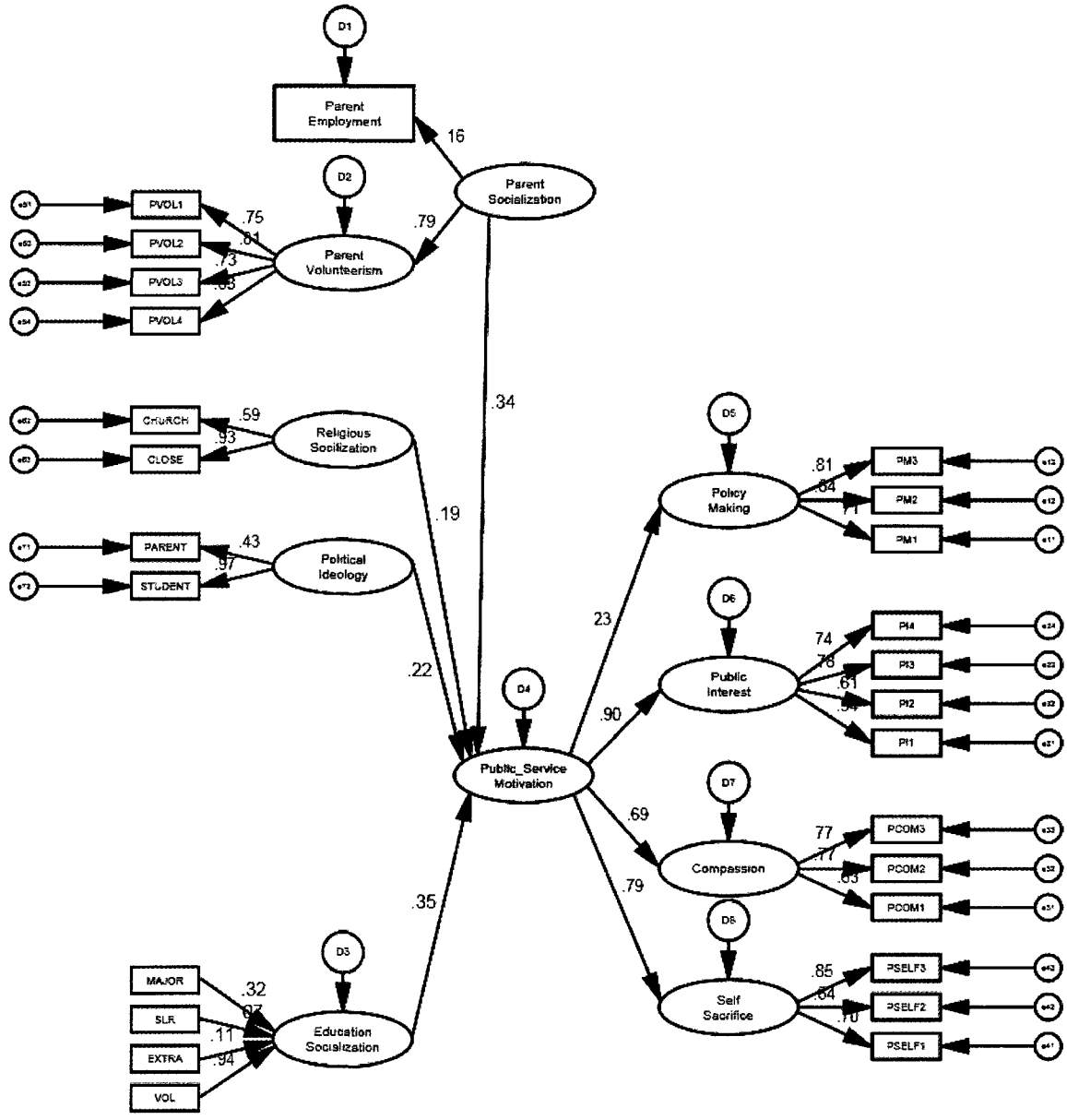
Table 4.49. Chi-square and Goodness of Fit Indices for the Revised PSM Measurement Model

Index	Revised
Chi Square	369.06
Degrees of Freedom	183.00
Significance	0.00
Normed chi-square (chi-square/df)	2.02
Adjusted Goodness of Fit Index (AGFI)	0.93
Tucker-Lewis Index (TLI)	0.95
Comparative Fit Index (CFI)	0.96
Root Mean Squared Error (RMSEA)	0.04
Lower Bound of 90% confidence interval	0.03
Upper Bound of 90% confidence interval	0.05
Standardized Root Mean Square Residual (SRMR)	0.04

Note. At $p < .001$, critical χ^2_{crit} (65) = 105.99.

Proposed Structural Model. The educational socialization construct was considered a formative construct in this analysis, so following Diamantopoulos and Winklhofer (2001) prescription to achieve model identification, its error variance was set to zero and the path of one of the variables measuring it was set to zero. The proposed structural model is depicted in figure 4.3 below.

Figure 4.3. Results for the Proposed PSM Structural Model



Tables 4.50-4.53 display the regression weights, covariance, correlations, and variances of the proposed structural model. Several indicator variables had low standardized values within their constructs. Major, service-learning experience, and

participation in extra-curricular activities all had standardized values of less than .50 in the antecedent construct of educational socialization. Parental employment sector and personal political ideology also failed to load satisfactorily onto their respective antecedent constructs of parental socialization and political ideology, though parental employment sector was statistically significant. Finally, all four of the antecedent constructs loaded onto PSM with standardized values of less than .50 and all four of the dimensions of PSM loaded onto PSM with standardized values of less than .50.

Table. 4.50. Regression Weights for Proposed Structural Model

			Estimate	Beta	S.E.	C.R.	P
Education_Socialization	←	MAJOR2CAT	1.948	.317	.711	2.742	.006*
Education_Socialization	←	SLR	.318	.071	.489	.650	.516
Education_Socialization	←	EXTRAC	.195	.111	.194	1.009	.313
Education_Socialization	←	VOLSELF	1.000	.939			
Public_Service_Motivation	←	Parent_Socialization	.287	.343	.178	1.613	.107
Public_Service_Motivation	←	Religious_Socialization	.071	.195	.047	1.498	.134
Public_Service_Motivation	←	Political_Ideology	.110	.222	.023	4.686	***
Public_Service_Motivation	←	Education_Socialization	.053	.349	.007	7.957	***
Policy_Making	←	Public_Service_Motivation	.462	.231	.100	4.622	***
Public_Interest	←	Public_Service_Motivation	1.234	.905	.094	13.065	***
Compassion	←	Public_Service_Motivation	.888	.688	.075	11.872	***
Self_Sacrifice	←	Public_Service_Motivation	1.000	.786			
Parent_Volunteerism	←	Parent_Socialization	1.000	.786			
PM3	←	Policy_Making	1.000	.813			
PM2	←	Policy_Making	.758	.644	.057	13.355	***
PM1	←	Policy_Making	.886	.707	.064	13.785	***
PI4	←	Public_Interest	1.000	.744	.047		
PI3	←	Public_Interest	.918	.777	.052	17.798	***
PI2	←	Public_Interest	.884	.610	.062	14.349	***
PI1	←	Public_Interest	.884	.541	.069	12.747	***
PCOM3	←	Compassion	1.000	.775			
PCOM2	←	Compassion	.913	.768	.055	16.453	***
PCOM1	←	Compassion	.773	.630	.054	14.398	***
PSELF3	←	Self_Sacrifice	1.000	.855			
PSELF2	←	Self_Sacrifice	.620	.641	.039	15.821	***
PSELF1	←	Self_Sacrifice	.894	.700	.052	17.197	***
PVOL4	←	Parent_Volunteerism	1.000	.831			
PVOL3	←	Parent_Volunteerism	.839	.729	.042	19.825	***
PVOL2	←	Parent_Volunteerism	1.065	.810	.048	22.392	***
PVOL1	←	Parent_Volunteerism	.988	.753	.048	20.641	***
IPV	←	Political_Ideology	1.000	.972			
PPV	←	Political_Ideology	.491	.430	.041	11.883	***
CLOSE	←	Religious_Socialization	1.000	.929			
CHURCH	←	Religious_Socialization	.580	.593	,061	9.451	***
PAREMPR	←	Parent_Socialization	.273	.158	.116	2.351	.019*

*p<.05. **p<.01.***p<.001.

Table. 4.51. Covariances for the Proposed Structural Model

			Estimate	S.E.	C.R.	P
Religious_Socialization	↔	Parent_Socialization	.366	.042	8.803	***
Political_Ideology	↔	Parent_Socialization	-.029	.027	-1.074	.283
Political_Ideology	↔	Religious_Socialization	-.290	.050	-5.816	***

*p<.05. **p<.01.***p<.001.

Table 4.52. Correlations for the Proposed Structural Model

			Estimate
Religious_Socialization	↔	Parent_Socialization	.545
Political_Ideology	↔	Parent_Socialization	-.058
Political_Ideology	↔	Religious_Socialization	-.255

Table. 4.53. Variances for the Proposed Structural Model

	Estimate	S.E.	C.R.	P
Political_Ideology	.840	.049	17.249	***
Religious_Socialization	1.541	.173	8.916	***
Parent_Socialization	.292	.125	2.346	***
MAJOR2CAT	.234	.013	18.276	***
SLR	.445	.024	18.276	***
EXTRAC	2.860	.157	18.276	***
VOLSELF	7.791	.426	18.276	***
D3	.000			
D4	.130	.019	6.791	***
D5	.780	.078	9.941	***
D6	.069	.020	3.535	***
D7	.180	.022	8.224	***
D8	.127	.018	7.046	***
D2	.181	.122	1.482	.138
e72	.050			
e13	.422	.055	7.631	***
e12	.667	.047	14.248	***
e11	.648	.053	12.162	***
e24	.308	.023	13.537	***
e23	.212	.017	12.462	***
e22	.504	.031	16.067	***
e21	.723	.043	16.746	***
e33	.228	,021	11.114	***
e32	.198	.017	11.391	***
e31	.311	.020	15.266	***
e43	.122	.015	8.222	***
e42	.183	.012	15.609	***
e41	.278	.019	14.475	.009*
e54	.212	.018	12.012	***
e53	.294	.019	15.148	***
e52	.282	.022	12.913	***
e51	.352	.024	14.627	***
e71	.893	.050	18.034	***
e63	.244	.144	1.693	.090
e62	.954	.071	13.425	***
D1	.855	.048	17.946	***

*p<.05. **p<.01.***p<.001.

The proposed structural model's chi-square values and the fit indices are summarized in Table 4.54 below.

Table 4.54. Chi-square and Goodness of Fit Indices for the Proposed PSM Structural Model

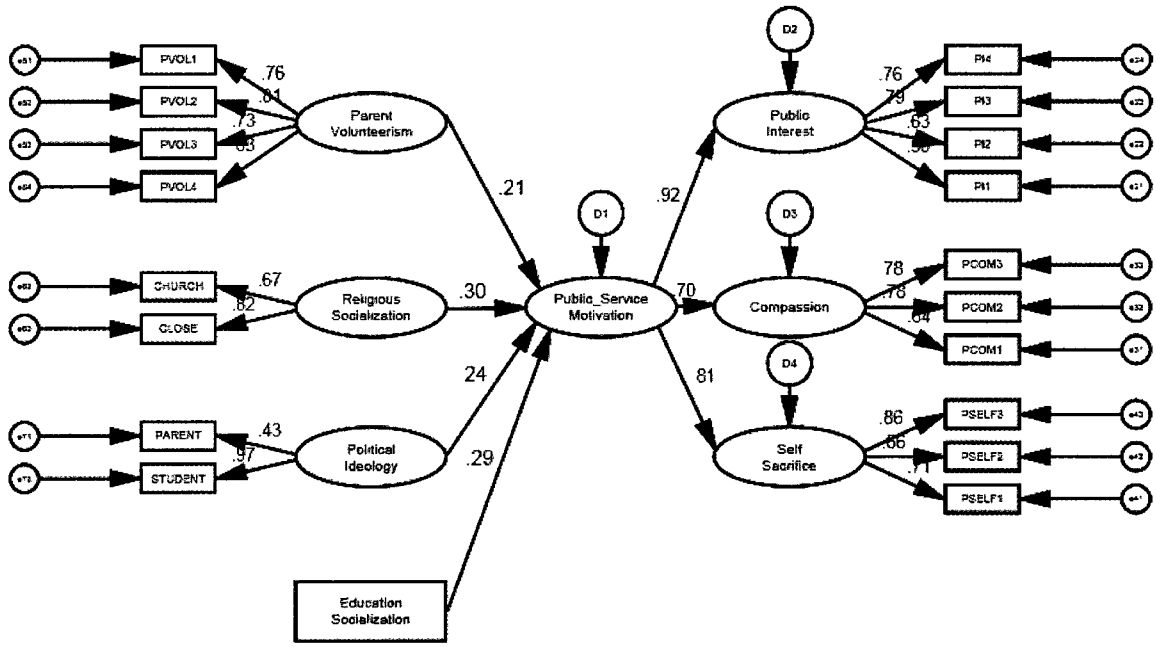
Index	Proposed
Chi Square	797.99
Degrees of Freedom	289.00
Significance	0.00
Normed chi-square (chi-square/df)	2.76
Adjusted Goodness of Fit Index (AGFI)	0.90
Tucker-Lewis Index (TLI)	0.89
Comparative Fit Index (CFI)	0.91
Root Mean Squared Error (RMSEA)	0.05
Lower Bound of 90% confidence interval	0.05
Upper Bound of 90% confidence interval	0.06
Standardized Root Mean Square Residual (SRMR)	0.07

Note. At $p < .001$, critical χ^2_{crit} (148) = 206.91.

While the RMSEA and SRMR were within acceptable parameters and the Normed chi-square was below three, the CFI, TLI, and AGFI were all under .95. Additionally, there was overall poor loading of the indicators onto their constructs in this model. Given these results, the proposed structural model did not fit the data well and the model was revised.

Revised Structural Model. The revised structural model had three main changes in form of deletions from the model. First, the revised model only retained the indicator variable of student volunteerism, because it was the driving predictor of the educational socialization latent construct. Additionally, both the parental employment indicator variable and the attraction to public policy-making latent construct were removed for low standardized loadings (below .50). Figure 4.4 shows the results of the revised structural model.

Figure 4.4. Results for the Revised PSM Structural Model.



Tables 4.55-4.58 display the regression weights, covariance, correlations, and variances of the revised structural model. In this revised structural model, all the indicators loaded satisfactorily on their constructs, though parental political ideology's standardized value was a little low (.43). The antecedent constructs of political ideology and religious socialization and the indicator variables of parental volunteerism and personal volunteerism had low standardized values, but were statistically significant with the PSM construct.

Table 4.55. Regression Weights for Revised Structural Model

			Estimate	Beta	S.E.	C.R.	P
Public_Service_Motivation	←	Parent_Volunteerism	.149	.212	.035	4.263	***
Public_Service_Motivation	←	Political_Ideology	.125	.235	.022	5.571	***
Public_Service_Motivation	←	VOLSELF	.050	.286	.008	6.454	***
Public_Service_Motivation	←	Religious_Socialization	.132	.297	.028	4.654	***
Public_Interest	←	Public_Service_Motivation	1.223	.916	.086	14.250	***
Self_Sacrifice	←	Public_Service_Motivation	1.000	.812			
Compassion	←	Public_Service_Motivation	.865	.700	.068	12.675	***
PI4	←	Public_Interest	1.000	.760			
PI3	←	Public_Interest	.918	.792	.048	19.027	***
PI2	←	Public_Interest	.884	.628	.058	15.243	***
PI1	←	Public_Interest	.882	.558	.065	13.505	***
PCOM3	←	Compassion	1.000	.782			
PCOM2	←	Compassion	.914	.777	.053	17.189	***
PCOM1	←	Compassion	.776	.642	.052	14.985	***
PSELF3	←	Self_Sacrifice	1.000	.863			
PSELF2	←	Self_Sacrifice	.621	.655	.037	16.737	***
PSELF1	←	Self_Sacrifice	.894	.712	.049	18.265	***
PVOL4	←	Parent_Volunteerism	1.000	.832			
PVOL3	←	Parent_Volunteerism	.836	.727	.042	19.801	***
PVOL2	←	Parent_Volunteerism	1.061	.808	.047	22.391	***
PVOL1	←	Parent_Volunteerism	.990	.756	.048	20.777	***
IPV	←	Political_Ideology	1.000	.972			
PPV	←	Political_Ideology	.492	.430	.041	11.890	***
CLOSE	←	Religious_Socialization	1.000	.820			
CHURCH	←	Religious_Socialization	.745	.673	.060	12.365	***

*p<.05. **p<.01.***p<.001.

Table. 4.56. Covariances for the Revised Structural Model

			Estimate	S.E.	C.R.	P
Political_Ideology	↔	Religious_Socialization	-.274	.048	-5.712	***
Parent_Volunteerism	↔	VOLSELF	.531	.083	6.362	***
Parent_Volunteerism	↔	Religious_Socialization	.355	.041	8.731	***
Religious_Socialization	↔	VOLSELF	1.269	.149	8.526	***
Parent_Volunteerism	↔	Political_Ideology	-.030	.027	-1.126	.260
Political_Ideology	↔	VOLSELF	-.128	.102	-1.251	.211

*p<.05. **p<.01.***p<.001.

Table 4.57. Correlations for the Revised Structural Model

			Estimate
Political_Ideology	↔	Religious_Socialization	-.273
Parent_Volunteerism	↔	VOLSELF	.276
Parent_Volunteerism	↔	Religious_Socialization	.471
Religious_Socialization	↔	VOLSELF	.415
Parent_Volunteerism	↔	Political_Ideology	-.048
Political_Ideology	↔	VOLSELF	-.050

Table 4.58. Variances for the Proposed Structural Model

	Estimate	S.E.	C.R.	P
Parent_Volunteerism	.474	.038	12.459	***
Political Ideology	.840	.049	17.249	***
Religious_Socialization	1.200	.125	9.623	***
VOLSELF	7.791	.426	18.276	***
D1	.145	.017	8.649	***
D2	.068	.020	3.483	***
D3	.184	.022	8.440	***
D4	.122	.018	6.886	***
e72	.050			
e24	.308	.023	13.600	***
e23	.211	.017	12.517	***
e22	.504	.031	16.099	***
e21	.724	.043	16.776	***
e33	.229	.020	11.220	***
e32	.198	.017	11.438	***
e31	.310	.031	15.260	***
e43	.123	.043	8.407	***
e42	.183	.020	15.675	***
e41	.278	.015	14.585	***
e54	.211	.012	11.996	***
e53	.296	.019	15.198	***
e52	.285	.022	13.019	***
e51	.348	.024	14.579	***
e71	.893	.050	18.033	***
e63	.586	.090	6.524	***
e62	.806	.064	12.567	***

*p<.05. **p<.01.***p<.001.

Table 4.59 depicts the chi-square and goodness of fit indices for the revised structural model. The revised structural model had no problems of non-convergence or

resulting non-positive definite matrices. The model fit the data well. The Normed chi-square was below three, the RMSEA and the SRMR were both low and within the acceptable ranges. Finally, CFI, TFI, and AGFI were all within the acceptable ranges.

Additionally, as discussed above, parental volunteerism ($\beta = .21, p<.001$), political ideology ($\beta = .24, p<.001$), student volunteerism, ($\beta = .29, p<.001$), and religious socialization ($\beta = .30, p<.001$), all significantly predicted PSM. This revised model fit the data better than the proposed model, $\Delta\chi^2 (148) = 359.15, p < .001$.

Table 4.59. Chi-square and Goodness of Fit Indices for the Revised Structural Model

Index	Revised
Chi Square	438.84
Degrees of Freedom	141.00
Significance	0.00
Normed chi-square (chi-square/df)	3.11
Adjusted Goodness of Fit Index (AGFI)	0.91
Tucker-Lewis Index (TLI)	0.92
Comparative Fit Index (CFI)	0.94
Root Mean Squared Error (RMSEA)	0.06
Lower Bound of 90% confidence interval	0.05
Upper Bound of 90% confidence interval	0.06
Standardized Root Mean Square Residual (SRMR)	0.05

Note. At $p < .001$, critical $\chi^2_{crit} (148) = 206.91$.

Table 4.60 shows the summary of the correlations between the exogenous constructs. The religious socialization construct (having more involvement in a religious organization and feeling close to God) was significantly, positively correlated with the

indicator of parental volunteerism while the indicator of student volunteerism was significantly, positively correlated with both parental volunteerism and the construct of religious socialization. The construct of political ideology (being more liberal) was significantly, negatively correlated with construct of religious socialization.

Table 4.60. Correlations between the Exogenous Constructs

Construct	Parental Volunteerism	Religious Socialization	Political Ideology
Parental Volunteerism			
Religious Socialization	.47***		
Political Ideology	-.05	-.27***	
Student Volunteerism	.28***	.42***	-.05

* $p < .05$. ** $p < .01$. *** $p < .001$.

Summary of Results

This chapter presented descriptive statistics of the variables of interest, factor analysis, the results of the hypotheses testing, and bivariate, multivariate, and SEM analysis of the data. The results of the data analysis yielded a wealth of information, all indicating the veracity of the PSM heuristic. Perry's (1997) antecedent model and the PSM literature were utilized to guide the data collection and the data analysis procedures. Factor analysis was used to determine the reliability of the survey instrument. Next, sixteen hypotheses were formulated to test the relationships between the independent variable, PSM score, and finally, the antecedent model incorporated four sources of predictors: family socialization, religious socialization, political ideology, and educational socialization.

First, Cronbach's Alpha was calculated for the survey instrument; which was .865, putting it within the acceptable range. Cronbach's Alphas were also acceptable within each of the four PSM dimensions: Attraction to Policy Making (3 items) = .741; Commitment to the Public Interest/Civic Duty (5 items) = .771; Compassion (8 items) = .737; and Self-Sacrifice (8 items) = .802. These scores indicate that the instrument is measuring PSM in this sample, thereby extending the validity of the PSM concept by extending the model to the population of students rather than professionals already practicing in the public sector.

Factor analysis was also performed in order to assess factor loadings for each of the dimensions of the PSM construct. Principal axis factor extraction with varimax (orthogonal) rotation verified the loadings of the various items into the PSM dimensions and assessed the reliability of these loadings. The factor analysis came back with five factors, versus the four factors of Perry's (1996) original results. The Cronbach's Alpha was .865 and it explained 53 percent of the variance. The increase of factors from four to five was the result of the compassion dimension breaking out into two factors, seemingly along the lines of personal exposure or first-hand familiarity versus a more abstract, less concrete idea of the experiences of others. When another factor analysis was run, forcing four factor extraction, the model explained less of the variance (48.65%). Given these results, the five-factor model is preferred. The results suggest that the variables are measuring the same underlying construct or dimensions that Perry (1996) found, though, with this sample of undergraduate students, the compassion dimension did break up into two factors.

Next, 16 hypotheses were tested. Of the 16 hypothesized relationships between the dependent variables and PSM levels, only three were unsupported. Parental modeling of altruism through volunteering, like Perry (1997) found, was positively associated with student PSM levels. However, parental employment sector did not have a significant relationship with a student's PSM levels. All of the religious socialization factor hypotheses were supported, except the hypothesis that students who are evangelical Protestants would have lowers mean PSM scores than students of other Protestant denominations. In the ideology factor, all three hypotheses were supported. A student's political ideology, their parent's parental ideology, and their trust in government were shown to have a significant relationship with PSM levels. Students who were liberal and students whose parents were liberal had higher mean PSM scores than conservative students and students whose parents were conservative. And, students who had a more positive view of government had higher mean PSM scores than students who held a negative view of government. In the educational socialization factor, all of the hypotheses were supported, except the hypothesis that students who participated in ROTC would have higher mean PSM scores than students who didn't participate in ROTC. The small number of respondents who indicated an affiliation with ROTC (n=33) made it impossible to infer any relationship between the variables. However, the other five hypotheses associated with the educational socialization factor were supported, lending credence to the idea that the student experience has an impact on one's PSM levels.

The multivariate regression model used to test the antecedent construct's socialization variables' relationships with both composite and dimensional PSM levels

allowed for the independent variables to be entered simultaneously, which enabled each independent socialization variable to be evaluated based on its contribution to the entire model. Overall, there was improvement over Perry's (1997) findings, both for the overall PSM construct and for the dimensions of PSM, in the adjusted R^2 values of the model. All of the significant relationships were in the hypothesized direction and several of the antecedent variables - parental modeling of altruism, closeness to God, and employment sector preference - were significant in overall PSM and three of the dimensions. These findings support Perry's (1997) original research, which found that parental modeling of altruism and closeness to God were positively, significantly related to PSM levels as well other studies which have also found parental volunteerism to be significantly, positively related to PSM (see Coursey et al., 2008; Perry et al., 2008; Vandenabeele, 2011).

Finally, SEM was undertaken to test the antecedent model put forth by Perry and modified using data obtained from a survey of junior and senior college students. SEM was utilized as a final step in analysis because it is a multivariate technique that incorporates both measured variables and latent constructs and explicitly specifies measurement error, allowing for a better assessment of overall model fit of the data. The original structural model was revised to better fit the data, with the indicator variable of student volunteerism, and the latent constructs of parental volunteerism, political ideology, and religious socialization all significantly predicting PSM levels in the students. The SEM analysis supports the multivariate regression findings as well as Perry's (1997) original research on antecedents, with regard to the importance of parental modeling of altruism through volunteerism and religion, specifically to the closeness one feels to God while engaging their communities.

Next, Chapter Five places the results in the context of the existing literature and discusses the implications of the current study as well as the study's limitations. Areas for future study are also identified.

Chapter V

CONCLUSIONS AND IMPLICATIONS

Introduction

This research focused on determining the levels of PSM in a sample of college juniors and seniors and then attempted to determine, using several different analytical methods, which antecedents most clearly explained their differing levels of PSM. While Perry's (1997) original antecedents of PSM focused on parental socialization, religious socialization, professional identification, political ideology, and individual demographics, this model modified his initial variables of parental socialization, religious socialization, political ideology, and individual demographics and substituted the variable of education socialization for Perry's professional identification .

The research questions sought to understand the distinctive character of motivations associated with pursuing careers in the public sector as well as what helps to develop this motivation through life experiences. As part of this research, there were sub questions associated with replicating and extending Perry's (1996, 1997) original PSM research. Of particular interest was whether a replication of Perry's (1996) original index of PSM provided explanatory power when applied to a sample of college students. In all, this study sought to replicate Perry's (1996) survey instrument in a population of undergraduate students, confirm the utility of a new antecedent construct of educational socialization, and determine which of the four antecedent constructs produced the most explanation for PSM levels in this sample.

The literature review provided discussion of the definition and development of PSM theory and the research agenda and findings of empirical studies in this area. Empirical evidence indicates that there are motivational factors, which differ between

individuals in government service and individuals in the private sector. The methodology chapter presented the study design and rationale for the methodology of this research. The survey instrument used to collect the data was discussed and the statistical methods utilized to analyze the data were described. Chapter Four provided descriptive information about the survey's respondents, including demographic characteristics and then presented the data and its analysis. Finally, this chapter begins with a summary of significant study findings, followed by a discussion of the limitations of the research and future research for the field with regard to PSM.

Significant Study Findings

Factor Analysis

The original survey instrument first utilized by Perry (1996) was employed in testing the PSM levels of undergraduate students at Old Dominion University. The Cronbach's Alpha scores, for the entire survey instrument and for each dimension, were acceptable and indicate that the instrument is accurately capturing PSM within this sample.

The factor analysis diverged slightly from Perry's (1996) findings. A five-factor model was preferred for this sample. The results suggest that the variables are measuring the same underlying construct or dimensions that Perry (1996) found, though the compassion dimension did split between two factors.

Hypotheses Testing

The 16 hypotheses were tested using correlation analysis, independent one –way Analysis of Variance (ANOVA) with planned comparisons, and Independent T-testing (see Table 4.37 for a summary of the hypotheses). Thirteen of the 16 hypothesized relationships were supported. Comparing the mean PSM scores of the student respondents showed that students whose parents volunteered, had a communal worldview, had higher levels of church involvement, professed a higher closeness to God, who were liberal, whose parents were liberal, who had a positive view of government, who majored in social sciences and/or humanities, who desired to work in the public sector, who participated in extra-curricular activities and volunteered, and who were women, all had significantly higher mean PSM scores than their contrasted peers.

Multivariate Regression Analysis

The adjusted R^2 for the overall multivariate model was .28, while the individual four dimensions adjusted R^2 ranged from .11 to .26 (self-sacrifice: .19; compassion: 26; commitment to the public interest/civic duty: .20; attraction to public policy-making: .11). Parental modeling of altruism, closeness to God, and student sector employment preference were the variables that had significant relationships with both the overall mean PSM score and at least three of the dimensions. However, neither parental modeling of altruism or sector preference were significantly related to attraction to public policy-making. Two of the political ideology socialization variables had significant relationships with several of the dimensions as well as the overall construct of PSM. Trust in government was significantly, positively related to the PSM construct and the

two dimensions of attraction to public policy-making and commitment to the public interest/civic duty. Additionally, a liberal political ideology was significantly, positively related to the PSM construct and the two dimensions of commitment to the public interest/civic duty and self-sacrifice. Perhaps most noteworthy were the significant relationships found between the variables of parental modeling of altruism and closeness to God to PSM levels, as these findings support the earlier work of Perry (1997) and carry their impact through to the SEM analysis of the data.

Antecedent SEM Model Analysis

The revised structural model fit the data well. The latent constructs of parental volunteerism, political ideology, and religious socialization and the indicator variable of student volunteerism, all significantly predicted higher PSM levels in the students. The SEM analysis bolsters some of multivariate regression findings as well as Perry's (1997) original research on antecedents, with regard to the importance of parental modeling of altruism through volunteerism and religion, specifically to the closeness one feels to God while engaging their communities.

Summary of Significant Findings

In summary, this study confirmed Perry's (1996) PSM construct by applying it to a group of undergraduate students. Perry (1997) found that closeness to God and parental modeling of altruism were significantly, positively related to the PSM construct. This study supports those findings in a sample of undergraduate students. Additionally, a modified political ideology construct had two variables with significant relationships with

overall PSM level in a multiple regression analysis – being liberal and having trust in government were positively related with overall PSM level as well as several of the dimensions (being liberal was positively, significantly associated with the dimensions of commitment to the public interest/civic duty, compassion, and self-sacrifice and trust in government was significantly, positively related to the dimensions of attraction to public policy-making and commitment to the public interest/civic duty).

The new educational socialization construct was also supported through both bivariate and multivariate analysis. Bivariate testing revealed that students who majored in the humanities or social sciences, who indicated a preference towards finding employment in the public sector, who participated in a service learning experience, and who participated in extra-curricular activities and volunteered (within or outside of their university experience) had higher mean PSM scores than those students who didn't. Our knowledge on students and the effects of the educational socialization process has been expanded and these findings provide a foundation for future inquiry into the motivations of our future public leaders.

Finally, volunteerism stood out as a powerful antecedent of PSM in the SEM analysis, both with regard to parental modeling of altruism in the parental socialization construct as well as personal volunteerism of the respondent in the educational socialization construct. Modeling of pro-social behavior in the home seems to be influential in developing one's valuation of the public interest and participating in a variety of volunteer activities within and outside of the educational setting is also correlated with higher levels of PSM, regardless of whether it is with a political, charitable, religious, or other volunteer activity (see also Clerkin et al., 2009).

Limitations of the Current Study

Several threats to the internal validity of this research were discussed in Chapter Three. First, the use of a non-probability sample with self-selected respondents, increases the possibility of selection bias. Because the sample was not randomly selected, it is not necessarily representative of the student population and cannot be generalized to other settings. However, given the exploratory nature of this investigation, the resultant data do provide a solid foundation for future research. Additionally, the opportunity to email every junior and senior at ODU aided in a large sample size (1,826 respondents out of 10,810 = 16.89 percent response rate).

Another concern with respondent bias is social desirability (Dillman et al., 2009). This phenomenon is often present when subjects respond to the survey because of peer group pressure or the desire to answer in a way that is deemed appropriate. Though often a challenge for survey researchers, this bias was overcome through the on-line administration of the survey, which allowed for complete anonymity.

Another limitation is related to the procedures and instrumentation employed in the study. The overall survey utilized mostly validated measures; however, the modified instrument in this study has not been validated. The survey questionnaire was developed from several sources, relying primarily on Perry (1996, 1997). However, given the reliability scores for Cronbach's Alpha as previously mentioned, this potential threat to validity is minimized.

Implications and Recommendations for Future Research

Perry (2000) has previously identified several specific inadequacies of motivational research, some of which include a strong bias towards rational theories of motivation that exclude intrinsic motivations and values of altruism and moral obligation towards others. PSM, as a "process theory," (Perry, 2000) offers an alternative research stream, a way to include socio-historical contexts (for example, the antecedents studied in this research), motivational context (values and ideology, incentive preferences), individual characteristics, and behavior to provide a more holistic view of individuals and what inspires them to make the choices they do about employment opportunities and their life's work. When examined through this lens, the assumption that there are meaningful differences between individuals, organizational environments, jobs, and employment sectors is foundational to PSM research. Both practical and scholarly applications support clearly identifying and understanding the construct of PSM.

This study took a confirmatory approach, testing whether Perry's (1996) original construct of PSM is supported by the data collected on this sample of undergraduate students, and whether this data showed a similar pattern of factor structure. The findings largely support Perry's (1996) results; however, using factor analysis with this data the compassion dimension suggested two factors, which seemed to be based on the immediacy of the interactions with the biggest departure being the compassion dimension breaking out into two factors in the factor analysis. One factor's items centered on personal exposure or first-hand familiarity while the other factor's items were more abstract and less concrete examples of empathy for the experiences of others. As mentioned before, this may be a result of the sample. Or, it may point to different facets

within the compassion dimension, which has exhibited low reliability in previous research (Perry and Hondeghem, 2008; Moynihan and Pandey, 2007). Perhaps it is a combination of both a younger sample and construct validity, since age and PSM are positively related. Regardless, future research could focus on parsing out the dimension of compassion through a variety of means, including more testing of the PSM construct in university settings.

This research aids in demonstrating Perry's (1996) PSM scale as a useful instrument for collecting and evaluating empirical evidence of PSM in a sample of undergraduate students, an important group for continued study for recruitment into the public workforce. Understanding what motivates young professionals is key to being able to tap into their aspirations to serve the public domain and therefore more accurately message public sector employment opportunities to them. Clearly, the desire to serve the public interest is exhibited in college juniors and seniors, what is less evident is whether or not these students feel like the public sector is the place where they will be able to satisfy those motivations.

So, beyond the positive impact to the validity of the PSM construct, there are two broad implications of this study to the scholarly pursuits of public administration research and practice of government in a democracy. First is the challenge to the self-interested model of human motivation, and second is broad application of the PSM concept to the whole of society. After all, many people not serving in government may also have motivation to serve the public. Indeed, in this sample, the students with the highest mean PSM scores preferred to work in the non-profit sector rather than the private sector or even the public sector.

Accordingly, Perry and Rainey (1988) cite the relevance of PSM studies to the field of public administration because of the implication of imposing public service values upon the private sector and, conversely, when private sector management techniques focusing on extrinsic measures, like management by objective and pay for performance procedures, are applied within the public sector. They cite studies by Fottler (1981) and Whorton and Worthley (1981), which posit that the distinctions between the two sectors are based upon significant differences in "organizational environments, constraints, incentives, and culture" (Perry and Rainey, 1988, p. 182). Following this logic, Houston (2000) contends that reform efforts in the public sector rewarding employees with incentives utilized in the private sector are likely to be unsuccessful. Gabris and Simo's (1995) call to abandon the study of PSM, then, seems to be both premature and erroneous. Their approach to employee motivation, which would not take PSM into consideration, would fail to include intrinsic rewards that satisfy the PSM of employees and would fall short because of its limited ability to appeal to public sector employee's range of values and desires. An effective motivation strategy should include a reflection the diversity and complexity that makes up the public sector – this is not to limit either extrinsic or intrinsic rewards, but at the very least, it should definitely provide for the intrinsic rewards that are so naturally available from public service work. Steen, in her study on volunteerism, remarked that campaigns targeted at attracting and retaining citizens to the public sector, "should nurture the altruistic elements of PSM while acknowledging the instrumental factors" (2006, p. 59).

Perry and Hondeghem (2008) have documented PSM's impact on civic participation and pro-social behavior as well as public servants' higher levels of empathy

and altruistic values. And, as Houston argues an, "ethic that embodies compassion, self-sacrifice, and a commitment to the public interest is likely to influence attitudes and behaviors of individuals in civic community" (2009, p. 177). How then can society encourage citizens to participate in organizations in their community, volunteer, get politically active, engage in society past their familial networks, and see past their differences to their commonalities as people living and working towards a greater future for their children? The process can start when society nurtures a culture that encourages meaningful civic engagement and a shared sense of community. Volunteerism and public service of any kind, with their accompanying democratic values of responsibility, duty, honor, and empathy is perhaps the most effective approach to developing an engaged, knowledgeable citizenry. And, as this study has shown, the two variables which seem to be a driving force behind a development of higher PSM levels, consistent among different levels of analysis, are parental modeling of altruism through volunteering and a higher feeling of being close to God while engaging with others. These findings support previous research (see Couresy et al, 2008; Perry et al., 2008; Vandenabeele, 2011) which found significant, positive relationships between parental volunteerism and PSM levels in their children.

Additionally, a vigorous civil society promotes prosperity and legitimate democratic government (Putnam, 2000). To this end, both service learning and civic literacy should be emphasized in our educational programs. Studies have shown how involvement in community service, such as volunteering at a shelter, motivates students to consider underlying political issues and develop habits of long-term civic participation (Owen, 2000). This study found the mean PSM score for students with service-learning

experience was statistically significantly higher than students who did not have a service-learning experience as were the mean PSM scores for those students involved in any volunteer or extra-curricular activities versus those who were not. And, Milner (2002) found that countries which provide opportunities that enhance and encourage civic literacy in turn support increased citizen participation in government which leads to more equitable socioeconomic outcomes. Justifiably, encouraging civic literacy through educational systems is widely supported by educational representatives (Kidwell, 2007). This type of citizenship education allows students, the leaders of tomorrow, to gain historical perspective and explore what it means to be part of something greater than themselves.

While Lewis and Frank (2002) saw part of the remedy to be new marketing techniques to attract the younger generations that include providing an easier, more transparent application process, that approach falls short of a holistic solution which would ideally aim to inculcate PSM into future generations through civil society's influences. Certainly, steps such as that will help, but focusing on the recruiting process falls short of the addressing the entire question of PSM. Besides the short term effects of poor job performance and retention, devastating long term effects could include permanent displacement of a public service ethic (Crewson, 1997). Hopefully, the findings of this study, empirically highlighting the influence of socialization constructs like parental modeling, religious development, political ideology, and educational experiences will help provide a guide for future research of PSM and its development within our citizenry.

It follows then, that academics and researchers can enhance our understanding of these important issues through nuanced analysis of PSM – specifically, how to capture its expansive dimensions and how to accurately analyze its effects. PSM is not something static that accompanies an employee to work like a lunchbox, but it is adaptive, with emotions and motivations that grow, shift, and can even diminish, over time. For the public sector to benefit from PSM, governmental and organizational leaders must learn how to recognize these motivations, how to attract the people who have them, and finally how to socialize and retain those people within the public sector workforce by satisfying their needs, both intrinsically and extrinsically. Furthermore, for our nation to benefit from its citizens' natural desire to serve others, more emphasis must be placed upon the cultivation of PSM within our civic, religious, educational, and organizational institutions as well as community networks. This study reveals just how influential parental socialization is to a student's PSM level. Educational experiences like participation in extra-curricular activities, volunteerism, and service-learning were also associated with increased mean PSM scores. More research could be centered on this educational socialization construct to develop it more clearly.

Bright (2005) claims future research should focus on uncovering the causal influences of PSM. Perry's (1997) initial search for antecedents of PSM shed light on the importance the socialization process has in instilling the valuation of public service and social responsibility in an individual. In this vein, some have suggested national initiatives for activating PSM in our youth. Programs that provide opportunities and rewards for public service, through high school or college requirements or through community organizations, are seen to be ways of inducing normative and affective bases

for PSM (Perry and Wise, 1990). Empirical evidence shows that involvement in community service, such as volunteering at a shelter, aids in developing long-term habits of civic participation (Owen, 2000). This study supports the argument that engagement of any kind, whether through extra-curricular activities or volunteering through church, politics, or charity or taking part in a service-learning experience is positively related to PSM. And, cultivating PSM through the national education system also has supporters. "Citizenship education" allows students to "explore their own identities and what it means to contribute to something larger than their individual lives" (Rhoads, 1998, p. 277). At the college level, one Harvard professor, concerned about his top students being lured by big paychecks and the prestige associated with corporate positions, has begun leading "reflection" seminars which will encourage students at Ivy League schools to consider public service and other careers instead of heading straight to Wall Street (Rimer, 2008). According to the same *NYTimes.com* article, other universities are expanding their public service fellowships and internships as well as emphasizing grants over loans so students don't feel pressure to pursue high-paying corporate jobs to pay off enormous student loan debt.

Finally, practitioners and students of public administration should reassess the assumption of market superiority with special emphasis on conceptual and normative compatibility and interchangeability, since many public service reforms have assumed a (false) co-alignment of their goals. Public service and our governmental arrangements provide for intangible, incalculable outcomes that don't always fit into a cost-benefit analysis. That these outcomes aren't able to be tallied in physical form makes them no less integral to the legitimacy of our democracy. At the end of the day, democratic

governance based upon accountability through legitimacy and ethical civic engagement need to be the background upon which policies are pursued, implemented with, and evaluated by. The extant literature has revealed that public employees place a higher value on helping others, serving the public interest, contributing to society, and intrinsic rather than pecuniary rewards than their private sector counterparts (e.g., Wittmer, 1991; Crewson, 1997; Houston, 2000). PSM's influence on quality and content of public sector output, its inherent place in the public/private distinction and its importance in encouraging civic engagement are all areas ripe for future research.

The implications of PSM for democratic governance and the legitimacy of public administration, cannot be overstated. In a democracy that promotes principles like equity, accountability, justice, and the public service ethic, the citizenry will be best served when being served by those who hold those principles in high esteem. We must continue to increase the emphasis of the study of PSM – its antecedents, its effects on public sector employees, and perhaps most importantly, how to nurture a culture which promotes the valuation of service, sacrifice, and a sense of a collective good. Society is progressed when its members develop and value a commitment to caring for and feeling a responsibility towards the wellbeing of others. Though idealistic, perhaps endeavoring toward a standard of a "partnership in virtue among all citizens" which Hart (1989) discusses is exactly what the study of public administration should now take the lead in establishing.

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Appendix A

PUBLIC SERVICE MOTIVATION SURVEY INSTRUMENT

This survey is part of a doctoral research project designed to determine the levels of public service motivation in a sample of college juniors and seniors as well as what life experiences most clearly help to explain their differing levels of public service motivation. Public service motivation is perhaps most succinctly defined as, "An individual's predisposition to respond to motives grounded primarily or uniquely in public institutions and organizations" (Perry and Wise, 1990, p. 368).

Your participation involves completing this survey, which should take 15-20 minutes. As an incentive, I will randomly award $50 to five respondents of this survey. There are no known or anticipated risks to participation in this survey. Participation is voluntary and confidential. The data will be summarized and no individual responses will be identified for reporting purposes.

This research is being conducted by Vivian Greentree, under the supervision of John Morris, Ph.D., of the Department of Public Administration and Urban Policy in the College of Business and Public Administration of Old Dominion University. If you have any questions about this study, please feel free to contact Vivian at vgree008@odu.edu. This study has been reviewed by, and received clearance through, the Institutional Review Board at Old Dominion University.

Thank you in advance for your participation. Given that democratic governance rests in large part on the willingness of citizens to serve the public interest, understanding one's motivation to serve this public interest is critical to recruitment of individuals into the public sector. Your input will provide insight into the next generation of our nation's leaders.

Public Service Motivation – Dimensions and Composite Score Questions

Self-sacrifice

1. Making a difference in society means more to me than personal achievements.

Strongly disagree *Disagree* *Somewhat disagree* *Neither* *Somewhat agree* *Agree* *Strongly agree*

2. I believe in putting duty before self.

Strongly disagree *Disagree* *Somewhat disagree* *Neither* *Somewhat agree* *Agree* *Strongly agree*

3. Doing well financially is definitely more important to me than doing good deeds (reverse score).

Strongly disagree *Disagree* *Somewhat disagree* *Neither* *Somewhat agree* *Agree* *Strongly agree*

4. Much of what I do is for a cause bigger than myself.

Strongly disagree *Disagree* *Somewhat disagree* *Neither* *Somewhat agree* *Agree* *Strongly agree*

5. Serving other citizens would give me a good feeling even if no one paid me for it.
Strongly disagree *Disagree* *Somewhat disagree* *Neither* *Somewhat agree* *Agree* *Strongly agree*

6. I think people should give back to society more than they get from it.
Strongly disagree *Disagree* *Somewhat disagree* *Neither* *Somewhat agree* *Agree* *Strongly agree*

7. I would risk personal loss to help someone else.
Strongly disagree *Disagree* *Somewhat disagree* *Neither* *Somewhat agree* *Agree* *Strongly agree*

8. I am prepared to make enormous sacrifices for the good of society.
Strongly disagree *Disagree* *Somewhat disagree* *Neither* *Somewhat agree* *Agree* *Strongly agree*

Compassion

9. I am rarely moved by the plight of the underprivileged (reverse score).
Strongly disagree *Disagree* *Somewhat disagree* *Neither* *Somewhat agree* *Agree* *Strongly agree*

10. Most social programs are too vital to do without.
Strongly disagree *Disagree* *Somewhat disagree* *Neither* *Somewhat agree* *Agree* *Strongly agree*

11. It is difficult for me to contain my feelings when I see people in distress.
Strongly disagree *Disagree* *Somewhat disagree* *Neither* *Somewhat agree* *Agree* *Strongly agree*

12. To me, patriotism includes seeing to the welfare of others.
Strongly disagree *Disagree* *Somewhat disagree* *Neither* *Somewhat agree* *Agree* *Strongly agree*

13. I seldom think about the welfare of people whom I don't know personally (reverse score).
Strongly disagree *Disagree* *Somewhat disagree* *Neither* *Somewhat agree* *Agree* *Strongly agree*

14. I am often reminded by daily events about how dependent we are on one another.
Strongly disagree *Disagree* *Somewhat disagree* *Neither* *Somewhat agree* *Agree* *Strongly agree*

15. I have little compassion for people in need who are unwilling to take the first steps to help themselves (reverse score).
Strongly disagree *Disagree* *Somewhat disagree* *Neither* *Somewhat agree* *Agree* *Strongly agree*

16. There are few public programs that I wholeheartedly support (reverse score).
Strongly disagree *Disagree* *Somewhat disagree* *Neither* *Somewhat agree* *Agree* *Strongly agree*

Public interest

17. It is hard for me to get intensely interested in what is going on in my community (reverse score).
Strongly disagree *Disagree* *Somewhat disagree* *Neither* *Somewhat agree* *Agree* *Strongly agree*

18. I unselfishly contribute to my community.
Strongly disagree *Disagree* *Somewhat disagree* *Neither* *Somewhat agree* *Agree* *Strongly agree*

19. Meaningful public service is very important to me.
Strongly disagree *Disagree* *Somewhat disagree* *Neither* *Somewhat agree* *Agree* *Strongly agree*

20. I consider public service my civic duty.
Strongly disagree *Disagree* *Somewhat disagree* *Neither* *Somewhat agree* *Agree* *Strongly agree*

21. I would prefer seeing public officials do what is best for the whole community even if it harmed my interests.
Strongly disagree *Disagree* *Somewhat disagree* *Neither* *Somewhat agree* *Agree* *Strongly agree*

Public-policy making
22. Politics is a dirty word (reverse score).
Strongly disagree *Disagree* *Somewhat disagree* *Neither* *Somewhat agree* *Agree* *Strongly agree*

23. The give and take of public policy making doesn't appeal to me (reverse score).
Strongly disagree *Disagree* *Somewhat disagree* *Neither* *Somewhat agree* *Agree* *Strongly agree*

24. I don't care much for politicians (reverse score).
Strongly disagree *Disagree* *Somewhat disagree* *Neither* *Somewhat agree* *Agree* *Strongly agree*

Antecedent Questions

Parental Socialization
25. Are (or were) either of your parents employed in the:
A. Non-profit
B. Public sector – government non-military
C. Public sector - military
D. Private sector – for-profit business
E. Other
F. Don't know

26. My parents rarely donated money to charitable causes.
Strongly disagree *Disagree* *Somewhat disagree* *Neither* *Somewhat agree* *Agree* *Strongly agree*

27. My father treated his job as one in which he tried to help other people.
Strongly disagree *Disagree* *Somewhat disagree* *Neither* *Somewhat agree* *Agree* *Strongly agree*

28. My parents actively participated in volunteer organizations (such as the Red Cross, March of Dimes, etc.)
Strongly disagree *Disagree* *Somewhat disagree* *Neither* *Somewhat agree* *Agree* *Strongly agree*

29. My mother treated her job (in home an/or out-of home) as one in which she helped other people.
Strongly disagree *Disagree* *Somewhat disagree* *Neither* *Somewhat agree* *Agree* *Strongly agree*

30. In my family, we always helped one another.
Strongly disagree *Disagree* *Somewhat disagree* *Neither* *Somewhat agree* *Agree* *Strongly agree*

31. My parents very frequently donated money to people who collected money door to door (Such as March of Dimes, Heart Fund, etc.)

Strongly disagree *Disagree* *Somewhat disagree* *Neither* *Somewhat agree* *Agree* *Strongly agree*

32. Concerning strangers experiencing distress, my parents generally thought that it was more important "not to get involved."
Strongly disagree *Disagree* *Somewhat disagree* *Neither* *Somewhat agree* *Agree* *Strongly agree*

33. My parents frequently discussed moral values with me (values like the "Golden Rule," etc.)
Strongly disagree *Disagree* *Somewhat disagree* *Neither* *Somewhat agree* *Agree* *Strongly agree*

34. When I was growing up, my parents told me I should be willing to "lend a helping hand."
Strongly disagree *Disagree* *Somewhat disagree* *Neither* *Somewhat agree* *Agree* *Strongly agree*

35. My parents often urged me to donate money to charities.
Strongly disagree *Disagree* *Somewhat disagree* *Neither* *Somewhat agree* *Agree* *Strongly agree*

36. When I was younger, my parents very often urged me to get involved with volunteer projects for children (for example, UNICEF, walkathons, etc.)
Strongly disagree *Disagree* *Somewhat disagree* *Neither* *Somewhat agree* *Agree* *Strongly agree*

Religious Socialization
Religious Worldview

37. Choose the statement that probably or most closely describes your opinion:
"The best way to address social problems is to change the hearts of individuals" (individualistic)
OR
"The best way to address social problems is to change social institutions (such as religious institutions, educational institutions, governmental institutions, etc.)" (communal).

38. Choose the statement that that probably or most closely describes your opinion:
"Individuals are poor because of their inadequacies" (individualist)
OR
"Individuals are poor because of social, economic, and political factors (communal).

Spirituality and Closeness to God
39. To what extent do you consider yourself a spiritual person? Are you...
A. Very spiritual
B. Moderately spiritual
C. Slightly spiritual
D. Not spiritual
E. Not applicable
F. Don't know

Religious Preference
40. Do you consider yourself (choose one):

A. Catholic
B. Mainline Protestant (such as Methodist, Episcopalian, Lutheran, Presbyterian, American Baptist, Congregational)
C. Evangelical/Fundamentalist/Pentecostal (such as Southern Baptist, Non-denominational)
D. Black Protestant (such as African Methodist Episcopal, National Baptist Convention)
E. Other Christian (Church of Jesus Christ of Latter Day Saints, 7th Day Adventists, Jehovah's Witnesses)
F. Jewish
G. Muslim
H. Atheist/Agnostic
I. Other _____

How Close to God do you feel (from not at all close to extremely close) while:
41. Being with a person you love?
Not at all close *Not very close* *Somewhat close* *Moderately close* *Extremely close*

42. Gathering with the congregation during services?
Not at all close *Not very close* *Somewhat close* *Moderately close* *Extremely close*

43. Obeying church rules?
Not at all close *Not very close* *Somewhat close* *Moderately close* *Extremely close*

44. Helping individuals in need?
Not at all close *Not very close* *Somewhat close* *Moderately close* *Extremely close*

45. Being absolved or anointed, etc?
Not at all close *Not very close* *Somewhat close* *Moderately close* *Extremely close*

46. Working for justice and peace?
Not at all close *Not very close* *Somewhat close* *Moderately close* *Extremely close*

Church involvement (A yes count to 3 of the 4 items will form the scale.)
47. Are you a member of a church or synagogue?
48. Do you take part in any of the activities or organizations of your church (synagogues) other than attending service?
49. Did you get any of your grade or high school education in parochial or other schools run by religious groups?
50. When you were growing up, did you attend Sunday school or religious instruction classes regularly, most of the time, some of the time, or never? (regularly and most of the time were counted as a "yes" response)

Political Ideology
51. Where would you place yourself on the following scale of different political points of view?
Very Liberal *Liberal* *Moderate, middle of the road* *Conservative* *Very Conservative*

52. Where would you place your parents on the following scale of different political

points of view?
Very Liberal *Liberal* *Moderate, middle of the road* *Conservative* *Very Conservative*

53. How much do you agree or disagree with the following statement?
Most government administrators can be trusted to do what is best for the public interest?
Strongly Agree *Agree* *Neither Agree Nor Disagree* *Disagree* *Strongly Disagree*

Educational Socialization
54. What college is your major in?
A. Arts and Letters
B. Business and Public Administration
C. Education
D. Engineering and Technology
E. Health Sciences
F. Sciences
G. Don't know

55. Please fill in your major _____

56. Are you a member of the Reserve Officer Training Corps (ROTC)?
A. Yes
B. No

57. If you are not a member of the ROTC, are you:
A. A veteran
B. Currently on active duty
C. National Guard or Reserves
D. None of the above
E. Other

58. Have you participated in service-learning in either high school or college? (*Service learning, for the purposes of this survey, is defined as an experience where:*
1. You participated in thoughtfully organized service that was conducted in and meets the needs of a community
2. It was coordinated with an elementary school, secondary school, or an institution of higher education, and with the community.
3. It must have been integrated into the academic curriculum of an academic course in which you are or were).
A. Yes
B. No
C. Don't know

59. Do you see yourself finding employment in the:
A. Non-profit
B. Public sector – government non-military
C. Public sector - military
D. Private sector – for-profit business

E. Other
F. Don't know

60. How many extra-curricular activities (through the university) do you currently participate in?

_____

61. How many associations, organizations, or groups do you belong to outside of the university?
A. none
B. 1-2
C. 3-5
D. 6 or more
E. Don't know

62. Have you done any voluntary activity in the past 12 months in any of the following areas? Voluntary activity is unpaid work, not just belonging to an organization or group. It should be of service or benefit to other people or the community and not only to one's family or personal friends. During the last 12 months did you do volunteer work in any of the following areas:

I. Political activities (helping political parties, political movements, election campaigns, etc.)
A. No
B. Yes 1-2 times
C. Yes 3-5 times
D. Yes 6/More times
E. Not Applicable
F. Don't know

II. Charitable activities (helping the sick, elderly, poor, etc.)
A. No
B. Yes 1-2 times
C. Yes 3-5 times
D. Yes 6/More times
E. Not Applicable
F. Don't know

III. Religious and church related activities (helping churches and religious groups)
A. No
B. Yes 1-2 times
C. Yes 3-5 times
D. Yes 6/More times
E. Not Applicable
F. Don't know

IV. Any other kind of voluntary activities
A. No
B. Yes 1-2 times
C. Yes 3-5 times
D. Yes 6/More times
E. Not Applicable
F. Don't know

Demographic Information
63. Gender
A. Male
B. Female

64. What is your current age?
A. under 25
B. 26-35
C. 36-50
D. 51-65
E. over 65

65. Are you an international student?
A. Yes
B. No

66. Racial/Ethnic Group:
A. American Indian/Alaska Native
B. Asian
C. Black/African-American
D. Hispanic or Latino/a
E. Native Hawaiian or other Pacific Islander
F. White – Non-Hispanic
G. Other

If you would like to be entered into a random drawing, in which five respondents will win $50, please enter your email below. After the data collection phase ends, I will contact the five winners through their email accounts.

_____

Thank you for your participation. If you have any questions, concerns, or would like to see the final product for this research project, please contact Vivian at vgree008@odu.edu.

Appendix B

Hypothesis	Socialization Factor	Survey Questions	Source
Questions 1-24 are used to measure the dependent variable – both a composite score and the four dimensions of: • Attraction to Policy Making • Commitment to the Public Interest/Civic Duty • Compassion • Self-Sacrifice	NA	Questions 1-24 Questions 22-24 Questions 17-21 Questions 9-16 Questions 1-8	Perry (1996)
H1: Having a parent volunteer will have a positive correlation to a student's PSM levels.	Parental Socialization	Questions 26-36	Perry (1997)
H2: Having a parent work in the public sector will have a positive correlation to a students PSM levels.	Parental Socialization	Question 25	Original
H3: A communal worldview will correlate positively to a student's PSM levels.	Religious Socialization	Questions 37-38	Perry (1997)
H4: Higher levels of church involvement will correlate positively with a student's PSM levels.	Religious Socialization	Questions 47-50	Perry (1997)
H5: Professing a 'closeness to god' outlook will correlate positively with a student's PSM levels.	Religious Socialization	Questions 40-46	Q. 46, Davis, Smith, and Marsden (1972-2008) Q. 47-52 Perry (1997)
H6: Having an evangelical Protestant religious background will correlate negatively with a student's PSM levels.	Religious Socialization	Question 39	Davis, Smith, and Marsden (1972-2008)
H7: Liberalism will correlate positively with a student's PSM levels.	Political Ideology	Question 51	Perry (1997)
H8: Having parents who are more liberal will correlate positively with a student's PSM levels.	Political Ideology	Question 52	Adapted from Perry (1997)
H9: Having a positive view of government will correlate positively with a student's PSM levels	Political Ideology	Question 53	Davis, Smith, and Marsden (1972-2008)
H10: Having a major within the humanities and social sciences will correlate positively with a student's PSM levels.	Educational Socialization	Questions 54-55	Original

Hypothesis	Socialization Factor	Survey Questions	Source
H11: Participation in Reserve Officer Training Corps (ROTC) will correlate positively with a student's PSM levels	Educational Socialization	Question 56-57	Original
H12: Participation in a service learning experience will correlate positively with a student's PSM levels.	Educational Socialization	Question 58	Original
H13: A preference to work in the public sector will correlate positively with a student's PSM levels.	Educational Socialization	Question 59	Original
H14: Participation in extra-curricular activities will correlate positively with a student's PSM levels.	Educational Socialization	Questions 60-61	Original
H15: Having volunteer experience will correlate positively with a student's PSM levels.	Educational Socialization	Question 62	Davis, Smith, and Marsden (1972-2008)
H16: Being female will correlate positively with a student's PSM levels	Demographic Factor	Question 63	Perry (1997)
Questions 64-66 are demographic questions of age, international student status, and race/ethnicity. No hypotheses are made about these variables.	Demographic Factor	Questions 64-66	Original

Appendix C

Table 4.3. Descriptive Statistics of Public Service Motivation: Self-Sacrifice

Variable		(N)	Percent
SS1. Making a difference in society means more to me than personal achievements.		(1,403)	
	Strongly Agree	218	15.5
	Agree	842	60.0
	Neutral	148	10.5
	Disagree	174	12.4
	Strongly Disagree	21	1.5
SS2. I believe in putting duty before self.		(1,398)	
	Strongly Agree	176	12.6
	Agree	905	64.7
	Neutral	149	10.7
	Disagree	151	10.8
	Strongly Disagree	17	1.2
SS3. Doing well financially is definitely more important to me than doing good deeds.		(1,393)	
	Strongly Agree	29	2.1
	Agree	336	24.1
	Neutral	211	15.1
	Disagree	679	48.7
	Strongly Disagree	138	9.9
SS4. Much of what I do is for a cause bigger than myself		(1,401)	
	Strongly Agree	222	15.8
	Agree	753	53.7
	Neutral	223	15.9
	Disagree	187	13.3
	Strongly Disagree	16	1.1
SS5. Serving other citizens would give me a good feeling even if no one paid me for it.		(1,401)	
	Strongly Agree	414	29.6
	Agree	862	61.5
	Neutral	63	4.5
	Disagree	50	3.6
	Strongly Disagree	12	0.9
SS6. I think people should give back to society more than they get from it		(1,403)	
	Strongly Agree	370	26.4
	Agree	814	58.0
	Neutral	130	9.3
	Disagree	76	5.4
	Strongly Disagree	13	0.9
SS7. I would risk personal loss to help someone else.		(1,396)	
	Strongly Agree	165	11.8
	Agree	840	60.2
	Neutral	194	13.9

Disagree	176	12.6
Strongly Disagree	21	1.5
SS8. I am prepared to make enormous sacrifices for the good of society.	(1,401)	
Strongly Agree	96	6.9
Agree	693	49.5
Neutral	286	20.4
Disagree	281	20.1
Strongly Disagree	45	3.2

Table 4.4. Descriptive Statistics of Public Service Motivation: Compassion

Variable	(N)	Percent
Comp 1. I am rarely moved by the plight of the underprivileged.	(1,401)	
Strongly Agree	16	1.1
Agree	173	12.3
Neutral	130	9.3
Disagree	736	52.5
Strongly Disagree	346	24.7
Comp 2. Most social programs are too vital to do without.	(1,397)	
Strongly Agree	157	11.2
Agree	695	49.7
Neutral	211	15.1
Disagree	287	20.5
Strongly Disagree	47	3.4
Comp 3. It is difficult for me to contain my feelings when I see people in distress.	(1,396)	
Strongly Agree	134	9.6
Agree	769	55.1
Neutral	184	13.2
Disagree	270	19.3
Strongly Disagree	39	2.8
Comp 4. To me, patriotism includes seeing to the welfare of others.	(1,399)	
Strongly Agree	214	15.3
Agree	868	62.0
Neutral	149	10.7
Disagree	137	9.8
Strongly Disagree	31	2.2
Comp 5. I seldom think about the welfare of people whom I don't know personally.	(1,397)	
Strongly Agree	36	2.6
Agree	275	19.7

	Neutral	145	10.4
	Disagree	746	53.4
	Strongly Disagree	195	14.0
Comp 6. I am often reminded by daily events about how dependent we are on one another.		(1,398)	
	Strongly Agree	171	12.2
	Agree	834	59.7
	Neutral	212	15.2
	Disagree	152	10.9
	Strongly Disagree	29	2.1
Comp 7. I have little compassion for people in need who are unwilling to take the first steps to help themselves.		(1,400)	
	Strongly Agree	208	14.9
	Agree	600	42.9
	Neutral	123	8.8
	Disagree	376	26.9
	Strongly Disagree	93	6.6
Comp 8. There are few public programs that I wholeheartedly support.		(1,401)	
	Strongly Agree	82	5.9
	Agree	500	35.7
	Neutral	292	20.8
	Disagree	49	32.0
	Strongly Disagree	78	5.6

Table 4.5. Descriptive Statistics of Public Service Motivation: Commitment to the Public Interest/Civic Duty

Variable		(N)	Percent
PI1. It is hard for me to get intensely interested in what is going on in my community.		(1,403)	
	Strongly Agree	23	1.6
	Agree	360	25.7
	Neutral	154	11.0
	Disagree	700	49.9
	Strongly Disagree	166	11.8
PI2. I unselfishly contribute to my community.		(1,405)	
	Strongly Agree	84	6.0
	Agree	738	52.5
	Neutral	274	19.5
	Disagree	284	20.2
	Strongly Disagree	25	1.8
PI3. Meaningful public service is very important to me.		(1,398)	
	Strongly Agree	159	11.4

Agree	929	66.5
Neutral	185	13.2
Disagree	107	7.7
Strongly Disagree	18	1.3
PI4. I consider public service my civic duty.	(1,403)	
Strongly Agree	119	8.5
Agree	782	55.7
Neutral	287	20.5
Disagree	185	13.2
Strongly Disagree	30	2.1
PI5. I would prefer seeing public officials do what is best for the whole community even if it harmed my interests.	(1,406)	
Strongly Agree	136	9.7
Agree	781	55.5
Neutral	267	19.0
Disagree	195	13.9
Strongly Disagree	27	1.9

Table 4.6. Descriptive Statistics of Public Service Motivation: Attraction to Policy Making

Variable	(N)	Percent
PM1. Politics is a dirty word.	(1,405)	
Strongly Agree	110	7.8
Agree	449	32.0
Neutral	361	25.7
Disagree	371	26.4
Strongly Disagree	114	8.1
PM2. The give and take of public policy making doesn't appeal to me.	(1,405)	
Strongly Agree	98	7.0
Agree	516	36.7
Neutral	401	28.5
Disagree	314	22.3
Strongly Disagree	76	5.4
PM3. I don't care much for politicians.	(1,405)	
Strongly Agree	208	14.8
Agree	615	43.8
Neutral	275	19.6
Disagree	244	17.4
Strongly Disagree	63	4.5

Table 4.8. Public Service Motivation Dimension Variable Means, Standard Deviations and Item-Total Correlations of Perry (1996) and the Current Study

	Mean		Standard Deviation		Item-Total Correlation	
Variable	Perry (1996)	Current	Perry (1996)	Current	Perry (1996)	Current
SSI	3.49	3.76	1.08	0.91	0.43	0.55
SS2	3.56	3.77	1.04	0.85	0.32	0.49
SS3	3.79	3.40	1.01	1.02	0.38	0.21
SS4	3.60	3.70	1.08	0.93	0.46	0.53
SS5	3.94	4.15	1.00	0.73	0.47	0.55
SS6	3.86	4.03	0.91	0.81	0.48	0.58
SS7	3.48	3.68	1.03	0.89	0.44	0.54
SS8	2.94	3.37	1.02	0.98	0.55	0.64
Comp1	4.18	3.87	0.99	0.96	0.42	0.49
Comp2	3.19	3.45	1.20	1.04	0.32	0.42
Comp3	3.46	3.49	1.09	1.00	0.33	0.44
Comp4	3.89	3.78	0.99	0.90	0.49	0.52
Comp5	3.77	3.56	1.12	1.04	0.40	0.40
Comp6	4.10	3.69	0.90	0.90	0.45	0.37
Comp7	2.48	2.68	1.27	1.21	0.38	0.41
Comp8	3.11	2.96	1.19	1.06	0.39	0.37
PI1	3.73	3.45	1.11	1.05	0.42	0.44
PI2	3.50	3.41	0.96	0.93	0.46	0.54
PI3	3.81	3.79	0.99	0.79	0.64	0.67
PI4	3.46	3.55	1.02	0.90	0.58	0.67
PI5	3.82	3.57	0.94	0.91	0.45	0.37
PM1	3.13	2.95	1.32	2.95	0.31	0.55
PM2	3.06	2.82	1.19	2.82	0.40	0.53
PM3	2.74	2.53	1.22	2.53	0.31	0.63

*Used Corrected Item-Total Correlation

Table 4.9. Descriptive Statistics of Parental Socialization

Variable		(N)	Percent
PW. Are (or were) either of your parents employed in the:		(1,383)	
	Non Profit	60	4.3
	Public Sector (Govt. non-military)	265	19.2
	Public Sector (Govt. military)	362	26.2
	Private Sector	338	24.4
	Other	193	14.0
	Don't Know	165	11.9

PV1. My parents rarely donated money to charitable causes.		(1,401)	
	Strongly Agree	66	4.7
	Agree	328	23.4
	Neutral	176	12.6
	Disagree	577	41.2
	Strongly Disagree	254	18.1
PV2. My father treated his job as one in which he tried to help other people.		(1,397)	
	Strongly Agree	256	18.3
	Agree	574	41.1
	Neutral	289	20.7
	Disagree	211	15.1
	Strongly Disagree	67	4.8
PV3. My parents actively participated in volunteer organizations (such as the Red Cross, March of Dimes, etc.).		(1,399)	
	Strongly Agree	142	10.2
	Agree	459	32.8
	Neutral	221	15.8
	Disagree	447	32.0
	Strongly Disagree	130	9.3
PV4. My mother treated her job (in home an/or out-of home) as one in which she helped other people.		(1,403)	
	Strongly Agree	390	27.8
	Agree	679	48.4
	Neutral	171	12.2
	Disagree	117	8.3
	Strongly Disagree	46	3.3
PV5. In my family, we always helped one another.		(1,393)	
	Strongly Agree	569	40.8
	Agree	644	46.2
	Neutral	83	6.0
	Disagree	78	5.6
	Strongly Disagree	19	1.4
PV6. My parents very frequently donated money to people who collected money door to door (Such as March of Dimes, Heart Fund, etc.).		(1,400)	
	Strongly Agree	135	9.6
	Agree	492	35.1
	Neutral	243	17.4
	Disagree	381	27.2
	Strongly Disagree	149	10.6
PV7. Concerning strangers experiencing distress, my parents generally thought that it was more important "not to get involved."		(1,402)	
	Strongly Agree	45	3.2
	Agree	326	23.3

Neutral	319	22.8
Disagree	577	41.2
Strongly Disagree	135	9.6
PV8. My parents frequently discussed moral values with me (values like the "Golden Rule," etc.).	(1,400)	
Strongly Agree	488	34.9
Agree	637	45.5
Neutral	130	9.3
Disagree	107	7.6
Strongly Disagree	38	2.7
PV9. When I was growing up, my parents told me I should be willing to "lend a helping hand."	(1,401)	
Strongly Agree	384	27.4
Agree	728	52.0
Neutral	143	10.2
Disagree	116	8.3
Strongly Disagree	30	2.1
PV10. My parents often urged me to donate money to charities	(1,403)	
Strongly Agree	131	9.3
Agree	415	29.6
Neutral	370	26.4
Disagree	367	26.2
Strongly Disagree	120	8.6
PV11. When I was younger, my parents very often urged me to get involved with volunteer projects for children (for example, UNICEF, walkathons, etc.)	(1,403)	
Strongly Agree	174	12.4
Agree	487	34.7
Neutral	299	21.3
Disagree	318	22.7
Strongly Disagree	125	8.9

Table 4.10. Descriptive Statistics of Religious Socialization

Variable	(N)	Percent
I_C1. Choose the statement that most closely describes your opinion:	(1,401)	
The best way to address social problems is to change the hearts of individuals	809	57.7
The best way to address social problems is to change social institutions (such as religious institutions, educational institutions, governmental institutions, etc.)	592	42.3
I_C2. Chose the statement that most closely describes your opinion:	(1,395)	

Individuals are poor because of their inadequacies.	311	22.3
Individuals are poor because of social, economic, and political factors.	1,804	77.7
Rel. Do you consider yourself:	(1,403)	
Catholic	218	15.5
Mainline Protestant/Christian	347	24.7
Evangelical/Fundamentalist/Pentecostal	261	18.6
Black Protestant	43	3.1
Other Christian	57	4.1
Jewish	13	0.9
Muslim	8	0.6
Atheist/Agnostic	200	14.3
Other	82	5.8
None	174	12.4
Spirit. To what extent do you consider yourself a spiritual person? Are you...	(1,404)	
Very Spiritual	291	20.7
Moderately Spiritual	479	34.1
Slightly Spiritual	373	26.6
Not Spiritual	171	12.2
Not Applicable	59	4.2
Don't Know	31	2.2
CTGod1. How close to God do you feel while being with a person you love?	(1,387)	
Not At All Close	294	21.1
Not Very Close	113	8.1
Somewhat Close	303	21.8
Moderately Close	336	24.2
Extremely Close	341	24.6
CTGod2. How close to God do you feel while gathering with the congregation during services	(1,381)	
Not At All Close	293	21.2
Not Very Close	88	6.4
Somewhat Close	241	17.5
Moderately Close	320	23.2
Extremely Close	439	31.8
CTGod3. How close to God to you feel while obeying church rules?	(1,376)	
Not At All Close	331	24.1
Not Very Close	131	9.5
Somewhat Close	293	21.3
Moderately Close	310	22.5
Extremely Close	311	22.6
CTGod4. How close to Go do you fell while helping individuals in need?	(1,379)	
Not At All Close	257	18.6

Not Very Close	49	3.6
Somewhat Close	208	15.1
Moderately Close	305	22.1
Extremely Close	560	40.6
CTGod5. How close to God do you feel when being absolved or anointed, etc.?	(1,365)	
Not At All Close	343	25.1
Not Very Close	110	8.1
Somewhat Close	274	20.1
Moderately Close	281	20.6
Extremely Close	357	26.2
CTGod6. How close to God do you feel while working for justice and peace?	(1,371)	
Not At All Close	281	20.5
Not Very Close	76	5.5
Somewhat Close	280	20.4
Moderately Close	369	26.9
Extremely Close	365	26.6
ChurchMem. Are you a member of a church or synagogue?	(1,400)	
Yes	664	47.4
No	736	52.6
ChurchAct. Do you take part in any of the activities or organizations of your church (synagogues) other than attending service?	(1,397)	
Yes	467	33.4
No	930	66.6
ChurchSch. Did you get any of your grade or high school education in parochial or other schools run by religious groups?	(1,398)	
Yes	230	16.5
No	1,168	83.5
ChurchSS. When you were growing up, did you attend Sunday school or religious instruction classes regularly, most of the time, some of the time, or never?	(1,404)	
Yes	775	55.2
No	629	44.8

Table 4.11. Descriptive Statistics of Political Ideology

Variable	(N)	Percent
IPV. Where would you place yourself on the following scale of different political points of view?	(1,402)	
Very Liberal	91	6.5
Liberal	318	22.7
Moderate	644	45.9
Conservative	286	20.4
Very Conservative	63	4.5

PPV. Where would you place your parents on the following scale of different political points of view?	(1,398)	
Very Liberal	58	4.1
Liberal	251	18.0
Moderate	481	34.4
Conservative	432	30.9
Very Conservative	176	12.6
GovtTherm. Most government administrators can be trusted to do what is best for the public interest?	(1,401)	
Strongly Agree	23	1.6
Agree	253	18.1
Neither	413	29.5
Disagree	516	36.8
Strongly Disagree	196	14.0

Table 4.12. Descriptive Statistics of Educational Socialization

Variable	(N)	Percent
College. What college is your major in?	(1,391)	
Arts and Letters	391	28.1
Business and Public Administration	228	16.4
Education	218	15.7
Engineering and Technology	161	11.6
Health Sciences	121	8.7
Sciences	258	18.5
Don't know	14	1.0
Major. What is your major?	(1,329)	
Business	212	16.0
Social Sciences	549	41.3
Fine Arts	80	6.0
Hard Sciences	125	9.4
Engineering	204	15.3
Health Sciences	147	11.1
Don't Know	12	0.9
ROTC. Are you a member of the Reserve Officer Training Corps (ROTC)?	(1,400)	
Yes	33	2.4
No	1,367	97.6
MilAffil. If you are not a member of the ROTC, are you:	(1,304)	
A veteran	111	8.5
Currently on active duty	29	2.2
National Guard or Reserves	16	1.2
Spouse	19	1.5
None of the above	1,129	86.6
SL. Have you participated in service-learning in either high school or college?	(1,402)	
Yes	472	33.7

No	726	51.8
Don't know	204	14.6
IndEmpl. Do you see yourself finding employment in the:	(1,400)	
Non-profit	171	12.2
Public sector - government non-military	396	28.3
Public sector - government military	85	6.1
Private Sector	345	24.6
Other	136	9.7
Don't know	267	19.1
ExtraC. How many extra-curricular activities (through the university) do you currently participate in?	1,273	
None	636	50.0
1 to 2	389	30.6
3 to 5	225	17.6
6 or more	23	1.8
VAPol. Have you done any voluntary work in the past 12 months with political activities?	(1,398)	
No	1,186	84.8
Yes, 1-2 times	122	8.7
Yes, 3-5 times	33	2.4
Yes 6 or more times	29	2.1
Not Applicable	21	1.5
Don't know	7	0.5
VAChar. Have you done any voluntary work in the past 12 months with charitable activities?	(1,400)	
No	519	37.1
Yes, 1-2 times	377	26.9
Yes, 3-5 times	211	15.1
Yes 6 or more times	275	19.6
Not Applicable	9	0.6
Don't know	9	0.6
VARel. Have you done any voluntary work in the past 12 months with religious or church related activities?	(1,395)	
No	824	59.1
Yes, 1-2 times	233	16.7
Yes, 3-5 times	110	7.9
Yes 6 or more times	196	14.1
Not Applicable	23	1.6
Don't know	9	0.6
VAOther. Have you engaged in any other kind of voluntary activities?	(1,402)	
No	488	34.8
Yes, 1-2 times	352	25.1
Yes, 3-5 times	241	17.2
Yes 6 or more times	288	20.5
Not Applicable	10	0.7
Don't know	23	1.6

Appendix D

Parcel Compositions

Compassion

1. Parcel 1 – Comp4 and Comp6
2. Parcel 2 – Comp1, Comp3, and Comp8
3. Parcel 3 – Comp2, Comp5, and Comp7

Self-Sacrifice

1. Parcel 1 – SS3 and SS8
2. Parcel 2 – SS2, SS5, and SS6
3. Parcel 3 – SS1, SS4, and SS8

Parental Volunteerism

1. Parcel 1 – PV7R, PV10
2. Parcel 2 – PV2, PV6, and PV11
3. Parcel 3 – PV4, PV8, and PV9
4. Parcel 4 – PV1R, PV3, and PV5

VITA

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Publication

Greentree, V., Morris, J. and Lombard, J. (2011). A Comparative Analysis of the Determinants of State Reproductive Health Care Policies." *American Review of Politics*, 32 (Winter): 281-299.

Honors and Awards

3/2011	**Phi Kappa Phi** – Outstanding Scholar Award Old Dominion University
4/2010	**Military Spouse Taking Action Award** WTKR NewsChannel 3
3/2010	**Phi Kappa Phi** Old Dominion University
9/2009	**Pindur Scholarship, College of Business and Public Administration** Old Dominion University
8/2009	**Ted Constant Scholarship, College of Business and Public Administration** Old Dominion University