2017

Information and Communication Technologies (ICTs) and Citizenship

Kathrin Michaela Auzinger-Hotzel
Walden University

Walden University

College of Social and Behavioral Sciences

This is to certify that the doctoral dissertation by

Kathrin Auzinger-Hotzel

has been found to be complete and satisfactory in all respects,
and that any and all revisions required by
the review committee have been made.

Review Committee
Dr. Karen Shafer, Committee Chairperson,
Public Policy and Administration Faculty

Dr. Anne Hacker, Committee Member,
Public Policy and Administration Faculty

Dr. Tanya Settles, University Reviewer,
Public Policy and Administration Faculty

Chief Academic Officer
Eric Riedel, Ph.D.

Walden University
2017

Abstract

Information and Communication Technologies (ICTs) and Citizenship

by

Kathrin Auzinger-Hotzel

MA, University of Maryland University College, 2012

BS, University of Maryland University College, 2009

Dissertation Submitted in Partial Fulfillment

of the Requirements for the Degree of

Doctor of Philosophy

Public Policy & Administration

Walden University

February 2017

Abstract

Democracy depends on the civic and political engagement of individuals. Despite a growing body of research analyzing political engagement in the United States, little attention has been paid to the relationship between information and communication technologies (ICTs) and perceptions of citizens concerning civic participation. The purpose of this quantitative study was to examine the relationship between ICTs, perceptions of citizenship, and participatory preferences for 18- to 35-year-olds in the United States. Applying Olson's theory of collective action, the goal of the study was to understand how ICT use influenced changes in perceptions of citizenship between 2004 and 2014. A repeated cross-sectional design, pooling secondary data retrieved from the U.S. General Social Survey database, was used to answer the research questions on the effect of ICT use on perceptions and actions concerning citizenship and participation. The hypotheses were tested using multiple linear regression analysis. Study findings suggested that ICT use had no notable effect on changes in perceptions of citizenship. More specifically, results indicated that changes in perceptions and actions between 2004 and 2014 were not the result of ICTs, despite increasing ICT usage over the period. These findings indicate that ICTs are just tools, rather than agents of change. Acknowledging ICT use as a form of expression permits practitioners to deploy ICTs as tools to support civic engagement. Benefits from leveraging them as tools are likely to accrue individuals, society, and practitioners alike. The resulting implications for positive social change include increased participation as well as the adoption of democratic practices reflective of modern participatory demands and behaviors.

Information and Communication Technologies (ICTs) and Citizenship

by

Kathrin Auzinger-Hotzel

MA, University of Maryland University College, 2012

BS, University of Maryland University College, 2009

Dissertation Submitted in Partial Fulfillment

of the Requirements for the Degree of

Doctor of Philosophy

Public Policy & Administration

Walden University

February 2017

Dedication

To my children, Constantin and Magdalena—may you be blessed with boundless curiosity and imagination. Never stop asking questions and learning about the world.

Acknowledgments

My deepest gratitude goes out to the following:

Dr. Shafer, who has been perfectly wonderful. Thank you for your support, encouragement, guidance, and patience. It was an honor and privilege to have you as my chair and mentor throughout this arduous process.

Dr. Hacker, for providing me with invaluable guidance and scholarly input. I feel honored to have had you on my team.

My husband, Justin Hotzel. Thank you for being there for me—through both the defeats suffered and the joys of success. Without you, I would not have realized that to fly, I needed to lose the ground beneath my feet.

Lastly, I would like to thank all my friends and family who had to—willingly and unwillingly—listen to me talk about my dissertation. Thank you for lending me your ear and offering words of encouragement.

Table of Contents

List of Tables

List of Figures

Chapter 1: Introduction to the Study

Introduction

Political engagement and civic participation are broad topics on which diverse opinions exist. These pertain not only to what constitutes participation and why people might (or should) feel motivated to engage, but also the state of political engagement in society. Particularly in the United States, the debate has centered on the commitment of citizens to democracy. Not surprisingly, academics have repeatedly inquired into and explored topics associated with civic participation and forms of political action to understand how, where, and why people engage. Nevertheless, findings have remained inconclusive and divisive, announcing growing civic apathy as well as the expansion of participatory repertoires. Apart from diverging research findings, a review of U.S. Census data illustrated a steady decline in voter registrations and voting (File, 2014; U.S. Census, 2012, 2013). Indeed, mounting empirical evidence indicated that comparatively fewer people engage in traditional forms of democratic participation today, such as casting their votes for candidates, than 40 years ago (Putnam, 1995, 2000; Smith, 2010; U.S. Census, 2013). Voter registration in the United States has never exceeded 70% of the eligible population at any given time since the 1930s, and less than two-thirds of those registered have actually participated in presidential elections since the 1970s (U.S. Census, 2013). For this reason, studies detailing the rise of political apathy seem credible, and concerns about declining citizen participation in democratic processes appear to be supported (Branstetter, 2011; Coffé & Van Der Lippe, 2010; Macedo et al., 2005; McBeth, Lybecker, & Garner, 2010).

These views, however, have been neither wholeheartedly embraced by all scholars nor supported across research studies. Depending on the direction of inquiry taken, research has either suggested a decline in citizen participation and political activities or the emergence of new patterns of engagement. Research by Dalton (2006, 2008, 2009, 2015), for example, emphasized that while participation in voting has declined, other forms of political action and engagement have emerged. As such, citizens are not necessarily apathetic or disengaged but have adopted a new, modified engagement repertoire. Given the discordant findings, opinions pertaining to modern political participation remain divided, fostering a lively debate concerning the meaning and impact of the same (Dalton, 2006, 2008, 2009; Gimmler, 2001; Leighninger, 2011; McAtee & Wolak, 2011; McBeth et al., 2010; Smith, 2010; U.S. Census, 2012, 2013).

Against this background, I sought to advance research pertaining to modern democratic participation. I explored the relationship between information and communication technologies (ICTs), citizenship norms, and dimensions of citizenship and investigated whether the increasing sophistication and ubiquity of ICTs have affected the categories and dimensions of citizenship. Although it was not within the scope of this study to reconcile the discordant findings in academia or furnish an unequivocal answer to questions about the state of civic engagement, the inquiry extends insights into the relationship between ICTs and citizenship norms. Rather than perpetuating the assumption that certain dimensions of citizenship norms increase the likelihood of virtual forms of engagement, I focused on and evaluated the influence of ICTs on citizenship norms and dimensions.

Applying Olson's (1965) theory of collective action, I explain how ICT use has affected changes in civic participation over the past 10 years. Research findings are expected to refine existing knowledge regarding civic engagement, political behaviors, and participatory repertoires. Additionally, I hope to generate social change through the examination of the relationship between ICTs, citizenship norms, and the rise of engaged citizenship. By providing actors in academia and those involved in the democratic processes with critical insights, I wish to enable them to leverage changes in civic activism to respond to modern democratic demands, essentially permitting them to become more efficacious and impactful in their efforts. Consequently, the research findings are expected to significantly contribute to society and academia by deciphering the role of ICTs in changing citizenship norms and dimensions.

To provide the foundation upon which I built this study, I outline the background, problem, and purpose statement in this chapter. I also discuss the research questions and hypotheses, as well as the theoretical framework guiding the inquiry into modern democratic participation. In addition, I describe the nature of the study, highlight potential limitations and delimitations, and explore the anticipated significance of the results. The chapter concludes with a summary of the main points before transitioning to the literature review.

Background

Civic and political participation are commonly understood as the repertoire of actions and behaviors used by citizens to influence government and the political sphere (Arnstein, 1969; Carpentier, 2012; Van Deth, 2014; Verba, Schlozman, & Brady, 1995).

Research on and interest in the matter date back to ancient Greece, where beginning with Plato and Aristotle, philosophers explored democratic citizenship and the role of citizens (Blaug & Schwarzmantel, 2001; Held, 2006; Tercheck & Conte, 2001). Although research in antiquity often concentrated on the kind of knowledge and training required of citizens to engage democratically, it also addressed adequate degrees and types of engagement, as well as norms guiding participation. Early discussions by Plato, Aristotle, Cicero, and others further highlighted the infirmities and pitfalls of democracy as well as threats to the same. Interestingly, many of these research traditions continue today and remain as relevant as in ancient Greece and the Roman Empire.

In contrast to the philosophers of antiquity, the writers of the Middle Ages were less concerned about the role of citizens in a democracy. Rather than debating the values and pitfalls of civic participation, political philosophers such as Machiavelli contemplated the proper form of government and the roles of rulers and subjects (Blaug & Schwarzmantel, 2001; Held, 2006; Tercheck & Conte, 2001). During the Renaissance, Reformation, and Enlightenment, past ideas and ideals of political involvement of the public reemerged. While perceptions on the matter deviated, a resurgence of interest in democracy and civic engagement took place. During this time, writers explored the necessity of civic participation as a protective measure for private property, as pointed out by Bentham; as a means to attain better outcomes, as put forth by Mill; and as an antidote to citizen apathy or an uniformed, uneducated public whose members were too self-interested to act for the public good, as suggested by Locke, Hobbes, and Rousseau (Blaug & Schwarzmantel, 2001; Held, 2006; Tercheck & Conte, 2001). In addition to

discussions concerning citizens' aptitude, competence, and interest in political matters, Madisson, Marx, and others reflected on issues concerning the elites versus the masses (Blaug & Schwarzmantel, 2001; Held, 2006; Tercheck & Conte, 2001).

Beginning in the 1970s, research displayed a particular interest in the spectrum of activities as well as the levels of political engagement. Accordingly, studies have investigated how individuals participate, the types and levels of engagement, as well as changes in civic activities (Arnstein, 1969; Dalton, 2006, 2008, 2009; Putnam, 1995; Schlozman, Verba, & Brady, 2010). Studies covering issues related to the types and levels of participation have been divided into two opposing camps. On one side have been pessimists painting a picture of a postdemocratic dystopia resulting from democratic enfeeblement and the failing of modern democratic systems due to political disengagement and apathy (Bennett, 2008; Branstetter, 2011; Macedo et al., 2005; Putnam, 1995, 2000), and on the other have been optimists emphasizing the changing nature of democratic participation and the transformation of citizenship norms (Dalton, 2006, 2008, 2009, 2011; Hooghe & Oser, 2015b; Loader, Vromen, & Xenos, 2014; McBeth et al., 2010; Rahim, Pawanteh, & Salman, 2012; Vissersa & Stolle, 2014). Indeed, the groups' findings and conclusions could not have been more different. While Putnam (1995, 2000), Macedo et al. (2005), Coffé and Van der Lippe (2010), and Branstetter (2011) lamented the cumulative effects produced by democratic disengagement, citizen apathy, and declining voter turnout, Dalton (2006, 2008, 2009, 2011), McBeth et al. (2010), Rahim et al. (2012), and Vissersa and Stolle (2014) celebrated the transformation and growth of participatory behaviors resulting from social

transformations and technological innovations. Thus, as one group anticipated and braced itself for the inevitable downfall of democracy, the other sought to understand the evolution of citizenship norms beyond the traditional avenues of participation.

Interestingly, scholars from both sides of the debate have attributed changes in citizenship norms and participatory behaviors to technological innovations, such as the emergence, proliferation, and sophistication of ICTs. Putnam (1995, 2000) and his peers maintained that ICTs were a root cause for disengagement, either due to time being wasted online rather than being devoted to civic affairs or as a result of disillusionment and distrust arising from information overflow created by ICTs (Gil de Zúñiga & Valenzuela, 2011; Papacharissi, 2009; Schlozman et al., 2010). Contrary to this assertion, Dalton (2006, 2008, 2011, 2012) and his associates contended that ICTs are promoting participation through increased access to information, new opportunities to engage, and the creation of social capital through more diverse, far-reaching virtual social networks.

Findings increasingly supported Dalton's (2006, 2008, 2009) contentions of a transformation and expansion of civic participation. Nevertheless, further exploration into the matter revealed several issues of concern. These particularly centered on interactions between ICTs and civic engagement, including participatory and digital divides as well as content quality, diversity of opinions, and the effects of content sharing and collaboration. Furthermore, findings indicated the existence of barriers to participation, such as the inability to access virtual participatory forums, the mastery of new skills to effectively engage, and a general need for media efficacy surrounding modern forms of political participation (Min, 2010; Morris & Morris, 2013; Nam, 2012; Norris, 2001;

Schlozman et al., 2010, 2011; Sylvester & McGlynn, 2009). Likewise, representativeness and diversity of opinion as well as quality of discourse emerged as elements of consternation. What remained intriguing and puzzling about findings in this area was that research supported both the negative concomitants, such as the occurrence of opinion clusters and the triviality of online engagement, as well as the positive effects of online engagement on political knowledge, efficacy, and civic activism (Boulianne, 2009; Branstetter, 2011; Conroy et al., 2012; Halpern & Gibbs, 2013; Xenos & Moy, 2007).

Given that research had noted the emergence of new behaviors and attributed these developments broadly to social transformations and technological innovations, I narrowly focused on the relationship between ICTs and citizenship norms in this study. Contrary to previous research, I did not evaluate the effectiveness or quality of online and offline civic participation but investigated potential changes in participatory preferences and dimensions of engagement (traditional vs. engaged citizenship), and how these may relate to ICT use.

Problem Statement

Despite a growing body of research exploring changing citizenship norms and the impact of citizenship dimensions on modes and venues of engagement, researchers mainly concentrated on understanding the various pieces of modern democratic participation. As such, they approached the topic from a variety of angles, selectively and discretely analyzing distinct aspects or expressions of modern democratic participation, often circumventing a complete or meticulous investigation into the relationship between ICTs and citizenship. For instance, one research direction focused singularly on

participatory spaces, shared governance, and its impact on communities (Acharya et al., 2004; Buccus et al., 2008; Harrison, 2012; Imraan et al., 2008). Another centered on the domain of ICTs and its democratic potential, while a third area explored changing citizenship norms in adolescents and newly democratic countries (Coffé & Van Der Lippe, 2010; Dejaeghere & Hooghe, 2009; Gaventa & Barrett, 2012). Furthermore, research findings confirmed that individuals subscribing to certain categories of citizenship norms are more likely to use ICTs and engage virtually than others and that demographic differences exist between those who engage online and those who do not (Bentivegna, 2006; Hirzalla & Van Zoonen, 2010; Morris & Morris, 2013; Nam, 2012; Schlozman et al., 2010; Singh, 2013; Sylvester & McGlynn, 2009). In addition, distinctions between various forms of engagement have been elaborated on and described (Gibson & Cantijoch, 2013; Gil de Zúñiga & Valenzuela, 2011; Kavanaugh, Kim, Pérez-Quiñones, Schmitz, & Isenhour, 2008; O'Neill, 2010).

Nevertheless, little attention has been paid to the relationship between ICTs and citizenship norms—the shifts and changes in the underlying categories of participation, autonomy, solidarity, and social order and the dimensions of traditional and engaged citizenship—past these isolated endeavors. Thus far, research has inquired into each area separately, often assessing changes at a singular point in time, using citizenship norms as the starting point for investigation. As a result, what has been missing from the literature is a comprehensive analysis of the relationship between ICTs and changing citizenship norms and dimensions over time. In this research study, I therefore sought to venture

beyond the ongoing debate and the contradictory views concerning civic participation and political engagement.

Accordingly, it was my intent to expand current understanding and fill the gap in the literature by investigating potential links between ICT use and citizenship norms and dimensions. By refining existing knowledge and decoding how ICTs influence civic participation and perceptions of good citizenship, I hope to shift the focus of the ongoing debate from lamentation to adaptation. Moreover, by generating a better understanding of the influence of ICTs on citizenship norms and dimensions, I aspired to refine previously held perceptions as well as provide the impetus for policy and process innovation. Rather than adding to the existing literature on the beneficial and deleterious effects of ICTs, I explored the relationship between ICT use and changes in dimensions of citizenship by analyzing and comparing pooled cross-sectional data from 2004 and 2014. More precisely, I sought to understand whether the increasing sophistication and pervasiveness of ICTs influence citizenship norms as well as how new technologies might have nurtured engaged citizenship behaviors through shifting dimensions of citizenship.

Purpose of the Study

The purpose of this quantitative repeated cross-sectional study was the examination of the relationship between ICTs, citizenship norms, and dimensions of citizenship for 18- to 35-year-olds in the United States. By pooling cross-sectional data from the U.S. General Social Survey (GSS) from 2004 and 2014, I sought to determine how ICTs have affected citizenship norms and what influence they may have had on participatory preferences (citizenship dimensions). Based on the premise that ICTs are

transforming citizenship norms, the aim of this quantitative research study was to discover and understand changes in democratic participation for 18- to 35-year-olds in the United States over the past 10 years. I sought to uncover the extent to which ICT use has impacted citizenship norms and enabled engaged citizenship behaviors. Within the scope of this study, one independent variable was used to investigate the influence of ICTs on citizenship norms and dimensions. ICTs functioned as the concept summarizing a group of related, independent variables and were measured via a composite indicator derived from time spent on the Internet and using email, computer and Internet use, and source of information.

In addition to ICTs, the model included two other variables: Year and the interaction term ICTs * Year. The variables captured how changes in ITC use had impacted citizenship norms over the 10-year period. Similarly, the various aspects of citizenship norms constituted the dependent variables. These concepts of citizenship were operationalized through eight distinct variables consisting of composite indicators summarizing the categories and dimensions of citizenship norms. The composite indicators were constructed based on earlier research by Dalton (2006, 2008, 2009, 2015) and included participation, autonomy, solidarity, and social order, as well as the clusters of traditional and engaged citizenship norms, respectively. Principal component analysis (PCA), applied to the pooled GSS data, was used to construct the composite indicators. Last, the study controlled for a variety of covariates, including gender, education, income, political views/identification (ranging from extremely liberal to extremely conservative), and race/ethnicity.

Research Questions and Hypotheses

Because I intended to explore the relationship between ICTs, changes in citizenship norms, and the evolution of engaged citizenship behaviors in this study, I developed the following two research questions to expand existing insights into the topic. In addition, I sought to contribute answers concerning the effect of ICTs on citizenship norms and perceptions about civic participation, an area in which research was absent.

Research Question 1

As a result of ICTs, how did citizenship norms change for 18- to 35-year-olds between 2004 and 2014?

H_01_A. The relationship between ICT use (a composite indicator synthesized from time spent on the Internet and using email, computer and Internet use, and source of information) and the citizenship category of participation (a composite indicator synthesized from voting in elections, being active in social and political organizations, and political consumerism) remained constant for 18- to 35-year-olds between 2004 and 2014.

H_a1_A. The relationship between ICT use and the citizenship category of participation did not remain constant for 18- to 35-year-olds between 2004 and 2014.

H_01_B. The relationship between ICT use (a composite indicator synthesized from time spent on the Internet and using email, computer and Internet use, and source of information) and the citizenship category of autonomy (a composite indicator synthesized from the need to keep watch on government and form an independent opinion) remained constant for 18- to 35-year-olds between 2004 and 2014.

H_a1_B. The relationship between ICT use and the citizenship category of autonomy did not remain constant for 18- to 35-year-olds between 2004 and 2014.

H_01_C. The relationship between ICT use (a composite indicator synthesized from time spent on the Internet and using email, computer and Internet use, and source of information) and the citizenship category of social order (a composite indicator synthesized from the importance of paying taxes and adhering to laws and regulations) remained constant for 18- to 35-year-olds between 2004 and 2014.

H_a1_C. The relationship between ICT use and the citizenship category of social order did not remain constant for 18- to 35-year-olds between 2004 and 2014.

H_01_D. The relationship between ICT use (a composite indicator synthesized from time spent on the Internet and using email, computer and Internet use, and source of information) and the citizenship category of solidarity (a composite indicator synthesized from the importance of helping others in the United States and abroad) remained constant for 18- to 35-year-olds between 2004 and 2014.

H_a1_D. The relationship between ICT use and the citizenship category of solidarity has not remained constant for 18 to 35-year-olds between 2004 and 2014.

Research Question 2

As a result of ICTs, how did perceptions and actions concerning the dimensions of citizenship (traditional vs. engaged) change for 18- to 35-year-olds between 2004 and 2014?

H_02_A. The relationship between ICT use (a composite indicator synthesized from time spent on the Internet and using email, computer and Internet use, and source of

information) and the significance attributed to dutiful/traditional citizenship norms (a composite indicator synthesized from voting in elections, paying taxes, and obeying the law/regulations) remained constant for 18- to 35-year-olds between 2004 and 2014.

H_a2_A. The relationship between ICT use and the significance attributed to dutiful/traditional citizenship norms did not remain constant for 18- to 35-year-olds between 2004 and 2014.

H_02_B. The relationship between ICT use (a composite indicator synthesized from time spent on the Internet and using email, computer and Internet use, and source of information) and levels of dutiful/traditional citizenship actions (a composite indicator synthesized from voting in elections, being active in political and voluntary organizations, and keeping watch on government) remained constant for 18- to 35-year-olds between 2004 and 2014.

H_a2_B. The relationship between ICT use and levels of dutiful/traditional citizenship actions did not remain constant for 18- to 35-year-olds between 2004 and 2014.

H_02_C. The relationship between ICT use (a composite indicator synthesized from time spent on the Internet and using email, computer and Internet use, and source of information) and the significance attributed to engaged citizenship norms (a composite indicator synthesized from trying to understand others' reasoning, helping others, being active in politics and voluntary organizations, and political consumerism) remained constant for 18- to 35-year-olds between 2004 and 2014.

H_a2_C. The relationship between ICT use and the significance attributed to engaged citizenship norms did not remain constant for 18- to 35-year-olds between 2004 and 2014.

H_02_D. The relationship between ICT use (a composite indicator synthesized from time spent on the Internet and using email, computer and Internet use, and source of information) and levels of engaged citizenship actions (a composite indicator synthesized from being active in politics and voluntary organizations, political consumerism, and protest) remained constant for 18- to 35-year-olds between 2004 and 2014.

H_a2_D. The relationship between ICT use and levels of engaged citizenship actions did not remain constant for 18- to 35-year-olds between 2004 and 2014.

Theoretical Framework

Olson's (1965) theory of collective action was used as the theoretical framework guiding the exploration into the relationship between ICTs, citizenship norms, and dimensions of citizenship. Although the theory has its roots in rational choice theory presented by Hobbes, Rousseau, and Rothschild, and early group theories such as those of Arrow, Dahl, and Buchanan and Tullock, it is different from both in that it acknowledges the limitations of assuming that individuals are rational and self-interested, making logical decisions (Blaug & Schwarzmantel, 2001; Cunningham, 2002; Green & Shapiro, 1994; Oppenheimer, 2008; Voss & Abraham, 2000). Indeed, Olson's analysis suggested that in spite of self-interest—the personal desire for and benefits derived from a public good—individuals often act against their collective interest, even if both align. The theory of collective action, therefore, explores "the basic conflict between self-

interest and any ‘natural coming together’ of individuals to solve group problems” (Oppenheimer, 2008, p. 7). Its proponents seek to understand and offer insights into the occurrence of collective action in light of the costs and disincentives discouraging organized efforts.

Since the theory aids in explaining group behaviors through an analysis of factors motivating and discouraging the pursuit of a shared objective, its application to the study aided in explaining modern participatory behaviors. It also granted insights into key factors shifting citizenship norms while providing for a holistic investigation of the relationship between ICTs and citizenship dimensions. Specifically, Olson’s (1965) exploration of less than rational behaviors contributed a practical framework for the analysis of engagement choices and perceptions of good citizenship. In addition, because the theory focuses on participation and phenomena related to public goods and open society, it was applied to decipher the relationship between the variables and assess the influence of ICTs on citizenship norms and dimensions of citizenship. Moreover, Olson’s discussion of disincentives to collective action as well as factors prohibiting the same aided in investigating the increasing prevalence of engaged citizenship. A detailed discussion of the theoretical model follows in Chapter 2.

Nature of the Study

To determine the relationship between ICTs, citizenship norms, and dimensions of citizenship, I used a quantitative research approach. More specifically, a repeated cross-sectional design was used to effectively explore the research questions and address the purpose of this study. The repeated cross-sectional design was appropriate within the

context of this study, as it permitted an analysis of change at the aggregate level of the population or group of interest (Myers, 2013; Steel, 2008). In addition, the design allowed for an analysis of change over time without sacrificing sample representativeness and by avoiding issues relating to sample attrition or conditioning bias.

Composite indicators were synthesized for ICTs and the various components of citizenship norms by applying PCA to the pooled GSS data from 2004 and 2014. The variables underlying the concept of ICTs, the independent variable, consisted of three separate factors, namely time spent on the Internet and using email, computer and Internet use, and source of information. Additionally, a dummy variable for the year the survey data were collected (Year) was used to assess change over time, while an interaction term (ICTs * Year) was added to determine whether the relationship among the variables had changed from 2004 to 2014. Citizenship norms constituted the dependent variables and were measured via six items (Figure B1). These included the composite indicators for participation (measured via voting in elections, being active in social and political organizations, and political consumerism), autonomy (measured by the need to keep watch on government, form an independent opinion, and follow public affairs), solidarity (measured via the importance of helping others in the United States and abroad), and social order (measured by the importance of paying taxes, adhering to laws and regulations) to test the hypotheses associated with Research Question 1 (RQ1). RQ2 included composite indicators covering the clusters of traditional citizenship (voting, obeying the law, and serving in the military) and engaged citizenship (forming an independent opinion, helping others, being active in politics and voluntary

organizations, and political consumerism) at the perceptual (significance) and activity level for each. In addition, the study controlled for a variety of covariates, such as gender, education, income, political views/identification (ranging from extremely liberal to extremely conservative), and race/ethnicity (Table A1). Further details on the measures are provided in the definitions section.

Lastly, secondary data were used to conduct the analysis. Although the use of secondary data imposed certain limitations concerning data availability and analysis, collecting survey data for past time periods proved challenging. Furthermore, a primary study of this extent, covering a 10-year period, would have been not only resource intensive, but also exceedingly time consuming and costly. Keeping these preventing factors in mind, I decided to use secondary data retrieved from the National Opinion Research Center (NORC). More specifically, I used data collected within the scope of the U.S. General Social Survey (GSS) to explore and analyze the relationship between ICT use, citizenship norms, and dimensions of citizenship. Although the dataset contains comprehensive data on the general population, the study focused on a subset of the same, namely the 18- to 35-year-old respondents included in the survey data. The decision to concentrate on this subgroup followed from research by Bolzendahl and Coffé (2013), Coffé and Bolzendahl (2010), and Gil de Zúñiga and Valenzuela (2011) suggesting that age was linked to participatory preferences (prevalence of engaged behaviors in younger generations) and generational differences influencing the adoption of new technologies. Furthermore, because the dataset contains randomly sampled cross-sections of individuals, the data were pooled to increase sample size, elevate the precision of

estimators and test statistics, and trace changes in the relationship between the variables over time (Wooldridge, 2013).

To analyze the relationship between the independent and dependent variables, I conducted a series of statistical tests. For instance, to assess whether a significant change in ICT use occurred between 2004 and 2014, a *t* test was conducted. Furthermore, multiple linear regression analysis was used to individually test the hypotheses associated with RQ1 and RQ2. Each hypothesis contained a singular dependent variable, assessing changes in one of the categories of citizenship norms (participation, autonomy, solidarity, and social order) or one of the dimensions of citizenship (traditional vs. engaged citizenship) for 18- to 35-year-olds between 2004 and 2014 as a result of ICTs.

Definitions

Autonomy: Referring to independence and the absence of controlling influences, autonomy involves citizens' political perceptions. Measures of autonomy inquire into citizens' understanding of public and political affairs, the need to keep watch over government, independent opinion forming, and understanding the reasoning of others (Dalton, 2006, 2008, 2009, 2015).

Citizenship norms: Notwithstanding the variety of possible meanings and interpretations, citizenship norms are defined as the actions, behaviors, and meanings associated with being a good citizen (Rahim et al., 2012). As such, citizenship norms should be perceived as a spectrum of possibilities consisting of the perceptions and action repertoires of individuals. In addition, citizenship norms are an umbrella term covering

both the categories of citizenship norms (participation, autonomy, solidarity, and social order) as well as the dimensions of citizenship (traditional and engaged; Figure B1).

Engaged citizenship: The idea of engaged citizenship entails active involvement in social and political matters outside the traditional, prescribed dimensions of democratic participation (Dalton, 2006, 2008, 2009; McBeth et al., 2010; Rahim et al., 2012; Schlozman et al., 2010; Vissersa & Stolle, 2013). It includes forming an independent opinion, helping others, being active in politics and voluntary organizations, and political consumerism (Dalton, 2006, 2008, 2009, 2015).

Good citizen and *good citizenship*: Both terms refer to perceptions and expectations concerning civic participation in a democracy. Accordingly, the concepts are subject to change and bound by geographical, temporal, and moral ideals. If one keeps these limitations in mind, good citizenship can generally be defined as the extent to which an individual fulfills his or her role in society and as a citizen (Bolzendahl & Coffé, 2013; Dalton 2006, 2008, 2008, 2015).

Information and communication technologies (ICTs): ICTs include a variety of elements that facilitate the transmission of data, communication, collaboration, and interaction between and across individuals and organizations in virtual space. They encompass computers, smartphones, social media, blogs, websites, and the soft- and hardware underlying their use and operation. Because the variable consists of several components, it is broken down into computer and Internet use, time spent on the Internet and using email, and source of information to assess the impact of ICTs on citizenship norms (Bimber, 2003, 2012; Suoronta, 2004).

Participation: As the act of taking part in something, participation describes individuals' role and actions within the democratic process. It includes measures pertaining to voting; being active in voluntary, political, and civil organizations; political consumerism; and political action (Dalton, 2006, 2008, 2009, 2015).

Social order: The term explores societal structures and is concerned with "the acceptance of state authority as part of citizenship" (Dalton, 2006, p. 3). Correspondingly, the variable includes obeying the law, regulations, and rules; as well as the willingness to serve in the military and on jury duty.

Solidarity: Referring to the presence of unity and social cohesion, solidarity concentrates on social citizenship through measures associated with helping others in the community and globally (Dalton, 2006, 2008, 2009, 2015).

Traditional/dutiful citizenship: The concept of dutiful citizenship stresses orthodox citizenship roles, emphasizing citizens' democratic duties and responsibilities (Feezell, Conroy, & Guerrero, 2013). The variable is composed of voting, obeying the law, and serving in the military (Dalton, 2006, 2008, 2009, 2015).

Assumptions

Like all research, this study was based on several underlying assumptions. One of these related to the rationale and purpose of the study, specifically the assumption of the existence of a relationship between ICTs, citizenship norms, and citizenship dimensions. More specifically, I based this study on the premise that ICTs are contributing to the transformation of citizenship norms. This meant that, in contrast to previous research, I sought to understand the relationship between ICT use, citizenship norms, and the

emergence of new participatory patterns. I did not presume engaged citizenship simply to exist, nor did I succumb to the simplification that those practicing engaged citizenship are more inclined to use ICTs for civic engagement. Additionally, I did not assume that the choice of ICT use for political engagement was solely the result of convenience or availability. However, I presumed the existence of a relationship between the growing use and integration of ICTs into daily life and shifts in citizenship norms. Likewise, I assumed that ICT use was positively linked to the adoption of engaged citizenship norms by 18- to 35-year-olds in the United States. Because I supposed that the variables were linked and a relationship between them existed, validity and reliability of findings may have been challenged through the introduction of conformation bias. To confront this issue, I based inferences and conclusions about the relationship between the variables solely on the findings produced by the statistical analysis.

In addition, I made certain assumptions concerning the use of secondary data. These particularly concerned the quality of the data retrieved from NORC and their use for research and analysis. As such, I assumed that GSS data were accurate, valid, reliable, and free of bias. I further presumed that the data collected truthfully reflected participants' views and that respondents answered the survey questions honestly and accurately. While some of these assumptions can and have been verified through the codebook and the information provided by NORC, other aspects have been assumed as existing. This related particularly to the consistency in data collection procedures, coding, and cleaning of data, as well as to the sincerity and truthfulness of participants. Furthermore, certain biases, such as sampling and nonsampling errors, in the data could

not be accurately assessed due to lack of access to the raw data. With this in mind, I made assumptions about the quality, reliability, and accuracy of the data collected by and obtained from NORC.

Lastly, the decision to focus the examination on the relationship between ICTs, citizenship norms, and engaged citizenship of 18- to 35-year-olds was based on the supposition that generational differences influence the adoption of new technologies. In other words, this particular subset of the population was chosen based on the premise that 18- to 35-year-olds are still in a stage of formation and growth. They are more likely to try new and evolving technologies; they are typically more exposed to emerging and advanced innovations; and they are also more likely to integrate recently developed technologies into their lives (Bolzendahl & Coffé, 2013; Nam, 2011). Moreover, 18- to 35-year-olds are still developing patterns of civic participation and political engagement. For this reason, measuring if and how ICTs were changing participatory patterns for this group over the course of 10 years contributed insights into the relationship between ICT use, citizenship norms, and dimensions of citizenship.

Scope and Delimitations

To date, no research study has examined the influence of ICTs on citizenship norms. More accurately, studies thus far have largely concentrated on understanding the various pieces of modern democratic participation, such as invited spaces, the role of social media, and virtual participation, largely disregarding relationships between the elements of the puzzle. As a result, what was missing from the current literature was an analysis of the relationship between ICTs, changing citizenship norms, and shifting

dimensions of citizenship. Hence, this study was unique in its examination of the influence of ICT use on changes in citizenship norms and the emerging popularity of engaged citizenship. Besides, the repeated cross-sectional design permitted measuring change over time. Although the design generally does not answer the question of "why" changes may be occurring, it allows for an evaluation of the magnitude and directionality of change as well as expands the current understanding of modern democratic participation through a trend assessment.

The scope of the study was determined by the secondary data source used (the GSS) as well as the parameters of this research study. The study therefore had delimitations concerning the population included in the dataset as well as the survey data available. Additionally, this study did not specifically inquire into changes in participatory behaviors for the general population. Rather, it focused on the influence of ICT use on the dimensions of citizenship and the potential relationship between the emergence and increasing ubiquity of ICTs and changes in citizenship norms for 18- to 35-year-olds in the United States between 2004 and 2014. Accordingly, results were only valid and generalizable to the specific population group under investigation. They were not generalized to other groups, countries, populations, or time periods.

Limitations

Within the context of the study, I confronted and addressed several limitations. The first set of limitations pertained to the repeated cross-sectional research design, which was used to measure change over the course of 10 years. Although the chosen approach averted issues relating to attrition, mortality, and conditioning bias inherent in

longitudinal studies, it did not sufficiently establish causal order or provide detailed insights into why changes were occurring (Steel, 2008). Furthermore, because data were collected from random samples of the population at two distinct points in time, change at the individual level or duration of a condition could not be traced or assessed. Nevertheless, the repeated cross-sectional design had the advantage of providing "more precise estimates of prevalence and therefore more precise estimates of change over time" (Myers, 2013, p. 1). Correspondingly, the approach provided insights into change by comparing population characteristics, permitting for general inferences to be made. Because I sought to understand the changes occurring in the population rather than at the individual level, this characteristic aided in the analysis of the relationship between ICTs, citizenship norms, and dimensions of citizenship. Moreover, to confront limitations associated with the research design, no inferences were made beyond the scope or outside the parameters of this study.

Similar to the research design, the use of secondary data imposed limitations. Even though NORC is a reputable source and its data collection methods have been assessed as valid and representative, the sampling strategy, sample size, and frame used could have introduced bias or limited the accuracy of inferences made. Adding to this, disparities in the research purpose driving data collection contributed to disparities between desired and available data. These not only necessitated analytical compromises (i.e., alignment of research questions with available data), but also limited the scope by confining research to accessible data. Likewise, issues pertaining to internal validity, such as the inclusion of a disproportionately large number of participants with unusual scores

or particular characteristics, might have adversely affected the validity of the study as well as undermined the generalizability of findings (Frankfort-Nachmias & Nachmias, 2008). Adding to this, the selection of confidence intervals, significance levels, and statistical tools might have negatively impacted the data analysis, contributing to false inferences and culminating in erroneous conclusions. To manage limitations pertaining to the use of secondary data, research questions and variables were aligned with the data contained in the GSS. Moreover, appropriate confidence intervals, significance levels, and power were selected to assure accuracy, generalizability, and reliability of findings.

Lastly, limitations resulting from research and personal bias were addressed and mitigated. These included the failure to account for all variables and acknowledging design limitations as well as personal beliefs, ideas, and expectations. Most of the imperfections in the research design, such as secondary data use, repeated cross-sectional design, and validity, have been outlined above. However, I might not have included all applicable variables—either due to the absence of available data, lack of a discernible relationship, or inability to include all possible variables. Therefore, any interpretation of the relationship between ICT use, changes in citizenship norms, and transforming citizenship dimensions may be inadequate, unable to provide a holistic analysis of the matter. Likewise, personal beliefs, ideas, or preexisting perceptions about the relationship between the variables may have adversely impacted research and findings. It may have, for instance, steered the selection or emphasis of variables or led to idealized interpretations of statistical output. Moreover, expectations of certain results and relationships between variables may have deprived me of the ability to objectively

analyze findings. To mitigate and confront these limitations, all inferences and conclusions were based on the statistical analysis. Again, the selection of appropriate confidence intervals, significance levels, and power assured accuracy, generalizability, and reliability of research findings. Moreover, personal bias was confronted through self-awareness and acknowledgment of existing beliefs and expectations.

Significance

The present study is significant, as it is intended to add to the ongoing debate concerning changes in citizenship norms, the growing prevalence of engaged citizenship, and the transformation of participatory repertoires. Instead of entering the debate over civic apathy versus the evolution of engagement begun by Putnam (1995) and Dalton (2006) or adding to the literature outlining the maladies caused by new technologies versus their benefits and positive impact on civic participation as discussed by Min (2010), Morris and Morris (2013), Branstetter (2011), and others, I sought to extend the existing body of research by exploring the relationship between ICT use and citizenship norms. I specifically focused on the potential effects of ICTs on the dimensions of citizenship, and whether these may have modified or transformed perceptions of good citizenship and altered participatory repertoires. The findings generated fill a gap in the literature by going beyond prevailing assumptions concerning ICTs and citizenship norms. This means that this study does not perpetuate the conclusion that certain dimensions of citizenship norms increase the likelihood of virtual engagement or that political apathy is on the rise due to the deleterious effects of ICTs. Quite in contrast, this

study extends prevailing insights by examining the influence of ICT use on categories and dimensions of citizenship.

As existing research has indicated, citizenship norms influence civic engagement, political behaviors, and democratic structures and processes. They not only modify perceptions of the meaning of being a good citizen, but also influence individuals' participatory repertoires, the desire for involvement, and public policy processes. Indeed, findings suggested that changes in citizenship norms contribute to evolving civic engagement rationales and lead to new forms and forums of engagement. Therefore, filling the gap in the literature and expanding the current understanding of the relationship between ICT use and citizenship norms contributes both theoretically and practically to the ongoing debate. The findings of this study were expected to refine existing knowledge regarding civic engagement, political behaviors, and participatory repertoires.

From a theoretical point, exploring how citizens engage and what characteristics and norms are being promoted by ICTs adds new insights to the ongoing discussion concerning political apathy, the dwindling of social capital, and the decline of civic engagement. Findings from the study may improve practitioners' understanding of participatory choices, refine existing views on civic engagement and citizenship norms, and yield new policy approaches by pursuing a fresh avenue of investigation into the relationship between ICTs and citizenship norms. Besides contributing new insights to the field, discoveries aid in revising previously held perceptions about the limits of direct democracy and the role of the Internet through the exploration of the relationships

between ICT use, citizenship norms, and dimensions of citizenship over time. For policy makers and political actors, the findings support policy and process innovation by demonstrating the potential of ICTs and their influence on citizenship norms.

Likewise, from a practical point of view, deciphering changing citizenship norms, characteristics of engaged citizenship, and the role of ICTs has become crucial as knowledge and insights gained from exploring these subjects promote understanding of modern engagement repertoires and interaction between actors. Decoding how ICT use influences perceptions of good citizenship may contribute to policy improvements and democratic adaptations, permitting actors to catch up with and integrate contemporary participatory patterns, demands, and objectives. The findings may foster improvements to existing engagement paths as well as contribute to the creation of new avenues for civic and political participation.

Implications for Social Change

Findings from this study may lead to positive social change by indicating how ICT use affects citizenship norms and transforms perceptions of good citizenship. Because research has already indicated the capacity of ICTs to inform and mobilize individuals, the results may further social change by tracing the influence of ICTs on citizenship dimensions. In turn, the findings may result in policy reforms and innovations by aiding social and political actors in devising new pathways to engage with constituents. It may contribute to new policy approaches anchored in principles of direct democracy, promote participation beyond elite groups and traditionally represented demographics, and enable practitioners to achieve positive social change by leveraging

new technologies and platforms. By extension, social change may be realized, as changed perceptions and approaches may expand civic participation, promote inclusion, and allow for collaboration among individuals with shared goals. Additionally, demands, concerns, and issues arising at the local, national, or global level may be advanced and resolved in new, more effective ways by engaging laterally, overcoming bureaucratic structures, and connecting with diverse actors. Likewise, the findings may be used to give political voice to the public, bridge information and feedback gaps, enable political actors and citizens to engage directly, and motivate both by providing meaning, empowerment, and transparency.

Based on the theoretical and practical implications previously outlined, the results of this study may equip practitioners in academia and those involved in politics with critical insights to adapt democratic practices to modern, engaged behaviors and participatory demands. The findings may even enable those involved to leverage changes in engagement repertoires and civic activism to launch transforming social change initiatives by effectively leveraging resources, tools, and constituents to achieve collective objectives. Early examples of the same are already available today—be it John Oliver's call to contact the Federal Communications Commission to uphold net neutrality (Brody, 2015; Bruinius, 2015; McDonald, 2014) or concerted efforts using Change.org, Twitter, Facebook, and other networking sites to promote conservation, seek equality, or voice grievances and demand action. In light of these and similar examples, deciphering the role of ICTs and changes in citizenship norms may inspire positive social change by identifying the characteristics of engaged citizenship, essentially permitting actors to

become more efficacious and impactful. Indeed, the contribution to society may be a surge in collective action, anchored in the virtual spaces created by ICTs and aimed at achieving socially desired goals. Initiatives such as bathroom access for transgender children on Change.org, Twitter and Facebook petitions discouraging organizations from doing business with certain individuals or entities, or requests for new gun regulations via WhiteHouse.gov may become more prevalent, impactful, and far reaching.

Summary

Civic participation and political engagement remain topics of interest and contestation. Despite research covering various aspects related to the subject, little is understood about the relationship between ICT use, changes in citizenship norms, and shifts in citizenship dimensions. To bridge the gap in literature and expand insights into modern democratic participation, this study explored the influence of ICTs on citizenship norms and the dimensions of citizenship. Moreover, I sought to provide more holistic comprehension of the matter by investigating how the relationship between the variables had evolved over a 10-year period. With this in mind, I have discussed the background, problem statement, and purpose in this chapter of the study. I have outlined the research questions and hypotheses as well as identified Olson's (1965) theory of collective action as the theoretical framework guiding the research. Additionally, I have briefly described the nature of the study, the underlying assumptions, the potential limitations and delimitations, and the anticipated significance.

To support the research study, I present a comprehensive account of the existing literature and prevailing ideas concerning citizenship, civic participation, and ICTs in the

chapter following. Accordingly, Chapter 2 includes a discussion of research pertaining to citizenship, perceptions of good citizenship, and citizenship norms. It details prevalent ideas concerning civic participation and motivators as well as describes emerging forms of engagement. Lastly, it presents research covering ICTs and their influence on political engagement, digital democracy, on- and offline engagement, and social media.

Chapter 2: The Literature Review

Introduction

Discussions of political participation have been ongoing since Plato. Already in ancient Greece, contradictory and opposing views characterized the debate surrounding democratic participation. Philosophers, beginning with Plato, Aristotle, and Cicero, notably disagreed on the type of knowledge and training required of citizens to democratically engage, the adequate degree of engagement, and the beliefs and norms guiding participation. This discussion continues today, concentrating on a particularly contentious aspect of the debate: the declining engagement and apparent political apathy of the public.

Underlying and inciting the contemporary debate are research studies and U.S. Census data chronicling changes in citizenship norms, participation, and engagement over the past decades. However, the findings are neither conclusive nor definite. Depending on the view taken by scholars, research either suggests a decline in citizen participation and political activities or the emergence of new patterns of engagement. Indeed, the discordance in findings is confounding, dividing opinions and fostering a lively debate concerning the meaning and impact of the same (Dalton, 2006, 2008, 2009; Gimmler, 2001; Leighninger, 2011; McAtee & Wolak, 2011; McBeth et al., 2010; Smith, 2010; U.S. Census, 2012, 2013).

Although variations exist, the debate can be divided broadly into two opposing camps. One the one side are the pessimists painting a picture of a postdemocratic dystopia resulting from democratic enfeeblement and the failing of modern democratic

systems as a result of political disengagement and apathy (Bennett, 2008; Branstetter, 2011; Macedo et al., 2005; Putnam, 1995, 2000). At least for this group of scholars, C. Wright Mills's (1951) words describing the disengaged citizen who is inattentive to political concerns and a "stranger to politics" remain confirmed (p. 328). Their research focus further validated these views, as findings by Putnam (1995, 2000), Macedo et al. (2005), Coffé and Van der Lippe (2010), and Branstetter (2011) confirmed Mills's (1951) declaration that citizens "are not radical, not liberal, not conservative, not reactionary; they are inactionary; they are out of it" (p. 328). They particularly lamented the cumulative effects produced by democratic disengagement and apparent citizen apathy, coupled with a decline in citizen participation in elections, voting, and fulfilling jury duty, which inevitably leads to the dismantling of democratic structures and the downfall of democracy (Bentivegna, 2006; Coffé & Van der Lippe, 2010; Macedo et al., 2005; Pateman, 2012; Savić, 2012; Shier, 2008; Taylor, 2007). In other words, these authors viewed political disengagement as the first domino in the chain reaction leading to the desolation of democracy.

At the optimistic end of the spectrum are findings by Dalton (2006, 2008, 2009, 2011), McBeth et al. (2010), and others emphasizing the changing nature of democratic participation and the transformation of citizenship norms. According to this group, citizenship norms "simply" evolved (Dalton, 2006, 2008, 2011; Loader et al., 2014; McBeth et al., 2010; Rahim et al., 2012; Vissersa & Stolle, 2014). The changes observed were reflective of dramatic social transformations, fueled in part by evolving ICTs overcoming existing barriers of scale and scope previously associated with direct

democracy (Cornwall, 2002, 2004; Dunne, 2010; Gaventa, 2006; Gaventa & Pettit, 2011; Hilbert, 2009; Meijer, 2012; Nam, 2011; Speer, 2012). These scholars further proposed that new, alternative forms of engagement counterbalance declines in traditional citizenship activities (Dalton, 2006; Gimmler, 2001; Leighninger, 2011; McAtee & Wolak, 2011; McBeth et al., 2010).

Interestingly, scholars from both sides of the debate have attributed changes in citizenship norms and participatory behaviors to ICTs. Putnam (1995, 2000) and his fellows maintained that ICTs are a root cause for disengagement, either due to time spent online rather than engaging in social organizations and creating the necessary social capital to support a healthy democracy (replacement theory) or as a result of disillusionment and distrust resulting from information overflow created by ICTs (media malaise theory). Contrary to this assertion, Dalton (2006, 2008, 2009, 2011) and his followers contended that ICTs promoted participation through increased access to information, new opportunities to engage, and the creation of social capital through more diverse, far-reaching virtual social networks. Given this ongoing debate and the contradictory views, it was the intent of this study to expand the current understanding and fill the gap in the literature by investigating potential links between ICTs, citizenship norms, and dimensions of citizenship. Hence, the purpose of this quantitative study using pooled cross-sections was to discover and understand changes in democratic participation for 18- to 35-year-olds in the United States over the past 10 years. I sought to uncover how ICT use has impacted citizenship norms and enabled engaged citizenship behaviors, primarily exploring the nature of the relationship between the variables.

Beginning with the literature research strategy and the theoretical framework, this chapter establishes the foundation for the ensuing analysis. First, a discussion of the theoretical framework outlines the origin of the theory of collective action, highlighting central assumptions and how these relate to the topic of inquiry. Next, I discuss citizenship and citizenship norms, linking the concepts to civic participation and delineating their influence on the same. This is followed by a close examination of participation, providing frameworks for analysis. The section also offers insights into varying explanations for engagement, as well as the rationale and motivators for civic participation. While the last segment of the chapter specifically focuses on democracy and ICTs, each of the sections contributes insights into how the concepts have been affected by the Internet and digital technologies. Finally, I address literature focusing on democracy and ICTs, summarizing central ideas, developments, and findings pertaining to modern democratic participation.

Literature Research Strategy

Since political participation and its antecedents affect a variety of social science areas, I used multiple databases to gather information. The search predominantly focused on electronic databases. Additionally, reference lists of relevant articles and research documents were used for further exploration and data collection. Although most of the data collection was conducted using electronic sources, some materials containing vital data were purchased due to their unavailability online.

Databases used during the research process included ABI/INFORM Complete, Academic Search Complete, Annual Reviews, Dissertations and Theses, Political Science

Complete, ProQuest, Sage, ScienceDirect, and Taylor and Francis Online. In addition, Google Scholar was used to supplement and augment the findings from the electronic library databases accessible via the Walden University portal.

The primary research period occurred between September and October 2014. I used the following research terms: *citizenship norms, active citizenship, engaged citizenship, political participation/engagement, democratic participation/engagement, civic participation/engagement, levels of participation/engagement, spaces of participation/engagement, power, social capital, digital divide, democratic divide, technology and democracy, information communication technologies,* and *social media*. These keywords were searched individually as well as in combination with one another. Furthermore, the research strategy entailed a search for works written by specific authors known to be well acquainted with the topic area, such as Dalton, Norris, Verba, Schlozman, and Brady, as well as others. While the focus was on publications since 2010, contributing or impactful older literature was included as well.

Theoretical Framework

The theoretical framework guiding the research study was Olson's (1965) theory of collective action. The origin of the theory can be traced back to rational choice theory and early group theories. It combines ideas from economics, politics, and social sciences in an attempt to explain individual behavior and group action. Especially, the application of the theory to diverse fields of study and its continued relevance in explaining individual behavior make it suitable for the exploration of the relationship between ICT use and citizenship norms (Bimber, 2016; Congleton, 2015). With regard to the study,

Olson's (1965) theory is relevant and appropriate, as society and government are inherently efforts of collective action. The theory of collective action confronts deficiencies in both, rational choice theory and other group theories, by combining concepts to overcome limitations in each as well as accounting for less than rational and extrarational individual behavior. Therefore, even though the theory would not predict individual engagement patterns or choices, it can shed light on the influence of ICT use on changing citizenship norms and shifting dimensions through its focus on individual and group behavior as well as motivators and disincentives. As such, the theory of collective action aligned with the research purpose of the study.

Theory of Collective Action

The theory of collective action has its roots in rational choice theory, as put forward by Hobbes, Rousseau, and Rothschild, and early group theories such as those of Arrow, Dahl, and Buchanan and Tullock (Blaug & Schwarzmantel, 2001; Cunningham, 2002; Green & Shapiro, 1994; Oppenheimer, 2008; Voss & Abraham, 2000). Components of the theory originating from group theory posit that individuals will form groups to act collectively for the purpose of achieving a shared goal (Hardin, 1982; Olson, 1965; Ostrom, 2003). This implies that, if it is in their best interest, individuals will come together, form groups, and cooperate to realize a common objective. It further postulates that group members will act supportive of group interests and serve the group because each individual would be better off if the shared goals were attained (Hardin, 1982; Olson, 1965). Interestingly, this assertion presumes rational individuals making logical decisions, an oversimplification that is rarely reflected in human actions.

The belief in the rational, self-interested individual derives from rational choice theory, which proposes that people "have preferences and choose according to those" (Levin & Milgrom, 2004, p. 3). More accurately, the theory presumes that individuals will rationally evaluate situations and choose those courses of action that align with their personal preferences, produce the greatest amount of utility, and from which they derive the most sizable personal benefit.

Like its predecessors, collective action theory is built on the economic principles of the rational individual, self-interest, and utility maximization put forth by Hobbes, Hume, Smith, and Mill. Yet it recognizes that self-interest and utility maximization tend to be in conflict with group interests. As early as *A Treatise of Human Nature*, Hume (1854) examined this particular problem. He told the story of two neighbors and their intent to drain a meadow they shared. Noting that it is easy for both of them to collaborate, Hume described the difficulty in achieving an initiative once the number of people increases exponentially, as "each [will] seek a pretext to free himself of the trouble and expense, and would lay the whole burden on others" (p. 311). Indeed, to achieve a group goal, individuals may have to act altruistically and selflessly rather than in a self-interested fashion. Besides, they may have to forgo individual rewards and disregard personal welfare to advance a collective objective (Olson, 1965). Adding to this, Hume's parable essentially captures the free-rider problem inherent in groups and society at large, as well as the looming tragedy of the commons, which Olson (1965) further expanded upon (Hardin, 1968; Hume, 1854). However, the example also accentuates another vital point: Society is a collective effort. Notwithstanding that

individuals form groups and states based on shared interests (i.e., social, economic, and political interest), they also agree to cooperate to attain shared goals. By this rationale, it can be argued that civic participation and political engagement are expressions of collective action. After all, individuals assemble into groups of common interest (i.e., political parties or NGOs) pursuing shared objectives (e.g., lower taxes or environmental protection).

Olson's (1965) inquiry into collective action essentially picked up where Hume (1854) left off. It had its starting point in the tensions and discord between individual and group interests, exploring "the basic conflict between self-interest and any 'natural coming together' of individuals to solve group problems" (Oppenheimer, 2008, p. 7). More specifically, the theory examines group and organizational behavior, concentrating on the conflict between personal and group interests. Olson closely examined and analyzed the factors motivating and discouraging collective action as well as the degree of burden to which individuals with a shared interest will commit to attain a common good. The focus of the theory, therefore, is the pursuit of a collective objective in spite of the costs and disincentives discouraging organized efforts. It seeks to understand the "extrarational" motives and beliefs that overcome impediments and culminate in collective action (Finkel, Muller, & Opp, 1989).

Theoretical propositions underlying the theory of collective action relate to collective goods and the common interest. Indeed, for collective action to take shape, a collective good must exist, and individuals must share a common interest in obtaining the same. According to Olson (1965), a collective good is such that "an individual cannot

exclude the others in the group from the benefits of that amount of public good he provides for himself" (p. 28). Simply put, a collective good is one that cannot be enjoyed solely by one individual but inadvertently benefits a group. Likewise, a common interest exists when a group of individuals share a single purpose or objective that cannot or can only inadequately be advanced through individual, unorganized action (Olson, 1965).

Because it takes a group of people with shared interests to achieve a collective good, group characteristics and size impact collective action efforts. Intuitively, it would seem logical to assume that large groups have an advantage over smaller ones in obtaining collective rewards. However, Olson (1965) illustrated that this is not necessarily the case. Applying game theory and economic principles, he demonstrated that small groups have an advantage over large groups. First, in small groups, members tend to be more interdependent for action with more highly correlated interests, which in turn positively impacts efforts to attain a collective good (Olson, 1965). Furthermore, organizational costs, such as communication and maintenance, may render large groups ineffective. Aside from the ease of organization of small groups, members are also less likely to game the system and benefit from the input of others. In fact, as total benefits accumulating to individuals are greater per share in smaller groups, group members are encouraged to engage rather than free-ride on the efforts of others. This essentially avoids issues relating to performance failure of collective action initiatives and the overuse of common resources (Olson, 1965). Nevertheless, small groups may fall victim to their size, providing a suboptimal level of public goods due to having too few members to adequately advance shared interests.

By contrast, large groups may be insufficiently equipped to effectively achieve a common objective. Due to highly unequal degrees of interest, increasing organizational and maintenance costs, as well as communicatory restrictions, the rational, self-interested members may be more inclined to forgo action (Olson, 1965). Specifically, as the impact of individual contribution declines and the costs of participation exceed the benefits obtained from achieving the common good, members of large groups will be tempted to free ride on the accomplishments of the collective. After all, if individual efforts only make an imperceptible contribution, individual utility will be maximized through free riding (Hardin, 1968, 1982; Olson, 1965; Reuben, 2003). Accordingly, both Olson (1965) and Hardin (1968) argued that individuals would not contribute for the benefit of attaining a common good without an incentive or by means of coercion. This, in fact, reinforces Hume's (1854) assertion that while individuals may share a common goal with others in a group, they each also have conflicting, personal interests that need to be overcome to achieve a collective objective. It also resonates with another aspect of Hume's treatise, namely the need for a managing entity authoritative and powerful enough to induce coercion (i.e., government to manage society).

Over the years, Olson's (1965) theory has been used to examine various phenomena related to political participation. Finkel, Muller, and Opp (1989), for instance, explored the effects of personal influence and collective rationality on collective action. Noting that the simple grievance model does not explain collective action, the authors found that the perception of making an individual contribution to the provision of public goods and duty to the group explains its occurrence to some degree. Opp (2001) also

inquired into the link between collective action and political protest, noting shortcomings in Olson's theory concerning the role of selective incentives and expanding it by permitting a wide variety of preferences and perceptions to determine human behavior. In a similar fashion, Putnam (1993) inquired into incentives and motivators for collective action. He noted that it is only rational to defect "in the absence of coordination and credible mutual commitment" (Putnam, 1993, p. 35). Therefore, for groups to achieve common goals, they need to first generate social capital through civic engagement. These assertions were sustained by Ostrom (2000), who maintained, "collective action fails when social norms are crowded out" (p. 26). Adding to this, Klandermans and Roggeband (2007) analyzed collective action via structural and cultural approaches, seeking to understand the formation of social movements, while Lawford-Smith (2011) pondered the feasibility of the same, contending that the impetus for working toward a common goal is based on the moral obligations of members to the group.

Interestingly, motivators and group size have remained the most debated aspects of Olson's (1965) original theory, particularly as theoretical propositions do not always neatly align with observations of every day life. For instance, the group size paradox centers on Olson's suppositions that small groups are more effective than large ones. However, examples from politics and other areas illustrate that there are exceptions to the rule owing to selective incentives, the perceived saliency of the issue, and the degree of rivalry (Pecorino, 2015; Sandler, 2015). Likewise, the zero contribution thesis insists that individuals need "externally enforced rules to achieve their own long-term self-interest" (Ostrom, 2014, p. 137). Again, the thesis contradicts observations of every day life, as

people organize themselves voluntarily to achieve collective goals (Ostrom, 2014). Nevertheless, these debates do not invalidate the theory. Rather, they add to the theory of collective action by modifying it and expanding its applicability. By providing and changing the context the criticisms offer new or alternate explanations—explanations as to why some interests are more effectively represented and why individuals may contribute voluntarily in the absence of obvious incentives (Opp, 2001; Ostrom, 2014; Pecorino, 2015; Sandler, 2015). Accordingly, research into collective action since Olson has evolved beyond a mere matter of cooperation into a shared undertaking to achieve collective efforts.

Despite the variations in evaluating components of collective action, the theories generally share an interest in how collaborative efforts of groups materialize. Many of them are, therefore, concerned with the free-rider problem, addressing it either directly or tangentially. Indeed, most of the concerns outlined in prior studies and analysis of collective action are carried over into contemporary discussions. Of course, changes in citizenship norms, the formation of grassroots groups and civic organizations demanding inclusion, and the expanding role of ICTs in connecting diverse people have contributed to a reevaluation of motivators and incentives for collective action. Accordingly, some scholars suggest that changing citizenship norms aided by ICTs are creating the conditions for collective action by overcoming rational egoists' temptation to free-ride by diluting the deleterious effects of disincentives (Ostrom, 2000, 2003; Stern, Dietz, Abel, Guagnano, & Kalof, 1999).

Although some experts maintained that ICT-based collective action may remain ephemeral with peripheral impact, research generally shows that ICTs are effectively used for and integrated into collective action initiatives (Agarwal, Lim, & Wigand, 2011; Bennett & Segerberg, 2012; Bimber, Flanagin, & Stohl, 2005; Hu, Cui, Lin, & Qian, 2014; Van Laer & Van Aelst, 2010). Often provided examples supporting this claim include the Arab Spring, the Occupy Movement, and Spain's *Indignados* (Bennett, 2011; Bennett & Segerberg, 2012; Valenzuela, 2013). Yet, ICTs have also shown to influence civic participation and collective action in more subtle ways. Studies have revealed ICTs as fuelling collective action by improving opportunities to engage and expanding individuals' social connectivity (Agarwal et al., 2011; Hu et al., 2014; Van Laer & Van Aelst, 2010). As it happens, in the process collective action, as envisioned by Olson (1965), has also evolved and adapted. Research by Segerberg and Bennett (2011) found that ICTs have transformed collective action by allowing for personalization. In addition, modern efforts of collective action reflect changed attitudes and behaviors that circumvent the necessity of developing a shared, collective identity by emphasizing the common goal over the group (Bennett, 2012; Bennett & Segerberg, 2011, 2012;). The result is a personalized form of collective action, where ICTs function as organizational agents of collective action and mechanisms for organization (Segerberg & Bennett, 2011).

In this study, I applied the theory of collective action to explore and gain insights into contemporary participatory behaviors, obtain a holistic understanding of the relationship between ICTs and changes in citizenship norms and dimensions. Although

the theory did not predict individual engagement choices, it did shed light on the influence of ICTs on transforming citizenship norms and shifting dimensions of citizenship. Specifically, Olson's (1965) exploration of less than rational behaviors served as a practical framework for the analysis of engagement choices. Likewise, his discussion of incentives and disincentives to collective action aided in investigating changes in citizenship norms and the dimensions of citizenship. Lastly, because the theory focused on participation and aspects related to public goods and open society, it was applied to decipher the relationship between the variables, assessing the influence of ICT use on participation, autonomy, solidarity, and social order as well as the clusters of traditional and engaged citizenship, respectively.

Information and Communication Technologies (ICTs)

As noted in the Chapter 1, ICTs summarize a broad concept consisting of a variety of elements that facilitate the transmission of data, communication, collaboration, and interaction between and across individuals and organizations in virtual space. The term encompasses computers, smartphones, social media, blogs, websites, and the soft- and hardware underlying their use and operation. Because the variable consists of numerous components, it was broken down and measured via several indicators. These included computer and Internet use, time spent on the Internet and using email, and source of information to assess the impact of ICTs on citizenship norms.

The rationale guiding the selection and inclusion of these specific variables built upon the findings of scholarly research. For instance, research by Leighninger (2011), Bailard (2012), and Morris and Morris (2013) into the enabling effects of ICTs and the

Internet, suggesting that new technologies contribute to the development of political knowledge and increased individual capacity to engage, drove the selection of the variables time spent on the Internet and using email, computer and Internet use, and source of information. The inclusion of the first two variables, computer and Internet use as well as time spent on the Internet and using email, was further supported by research from Mihailidis and Thevenin (2013) pointing to the importance of Internet access and ICT literacy for involvement in modern democratic processes. Even though time spent on the Internet and computer/Internet use did not directly measure digital literacy or the application of ICTs for civic engagement, the variables were indicators of the same (user experience and generation of social capital; Hooghe & Oser, 2015a). As a result, both were used to analyze the relationship between ICT use and changes in citizenship norms and dimensions. Research by Gil De Zúñiga et al. (2009) and Rojas and Puig-i-Abril (2009) revealed that online news consumption follows a similar logic to its offline counterpart in motivating political participation. Thus, the third variable, source of information, was selected to evaluate the effect of ICTs through changes in news consumption on the dependent variables.

Together, these measures related to ITCs were synthesized into a composite independent variable. Variable creation entailed the use of pooled cross-sectional data to alleviate year specific variations in the index. The composite indicator was used to ascertain how the proliferation and increasing sophistication of ICTs related to changes in modern democratic participation. Admittedly, the variables selected were neither perfect nor comprehensive, all-encompassing measures of ICTs, but they were adequate,

consistent, and representative variables to assess the influence of ICT use on citizenship norms and dimensions for 18- to 35-year-olds between 2004 and 2014.

Citizenship and Citizenship Norms

Central to any inquiry into political and civic participation are the concepts of citizenship and citizenship norms. Accordingly, an understanding of the role of citizens is crucial, as different interpretations yield disparate and contrasting views pertaining to acceptable and desired citizen behaviors, beliefs, and social norms. Put differently, the function assigned to individuals determines who, how, and where participation takes place. It establishes the parameters of engagement, turning citizens either into passive recipients of services or actors expected to engage, influence, or even set the direction of government. It specifies their roles in terms of, as Innes and Bohr (2004) put it, act or react—self-government or government by elites. Even more so, the role assigned to citizens determines the meaning of citizenship and stipulates the conditions of civic participation and political engagement.

Citizenship

At its most basic, citizenship conjures images of countries and cultures, rights, duties, and obligations (Coffé & Bolzendahl, 2010; Marshall, 1950). It implies membership in a group and belonging to a community. Additionally, it simultaneously hints at equality as well as the hierarchies and power relations between individuals. While community may evoke images of a peaceful setting, saturated with consensus, rather the opposite applies: community is a place of contest and struggle, where public, social, and individual interests collide and citizenship is constructed “in and through the

contradictions of community" (Staeheli, 2007, p. 18). In many ways, this definition suggests that citizenship is as much a political relationship as it is a geographical, social, cultural, and economic one (Staeheli, 2007).

With regard to democratic participation and political engagement, citizenship confers rights and authority (Coffé & Bolzendahl, 2010). It is a prerequisite for participation as it builds upon community, creates the moral obligations for engagement, and functions as the origin of social and political activism (Coffé & Van der Lippe, 2010). Accordingly, citizenship conveys meaning beyond community, essentially influencing patterns of participation through shaping individuals' perceptions of what it means to be a good citizen (Dalton, 2006, 2007, 2008, 2009). Not only does it function as a frame of reference for political decision-making, but it also serves as the foundation for understanding policy issues (McBeth et al., 2010). In other words, citizenship is based on perceptions of civic mindedness and participation as well as the conceptualization and meaning of good citizenship (Coffé & Van der Lippe, 2010; Dalton, 2006, 2007, 2008). It is embedded in community, derived from civic virtues, and based on moral obligations. Together, these give rise to the citizenship norms that define political participation and civic engagement.

Citizenship Norms

Defining citizenship norms through the relationship between individuals and society, "as a shared set of expectations about the citizen's role in politics," gives rise to contrasting perceptions about engagement (Dalton, 2008, p. 78). The definition further implies that citizenship norms are dynamic and evolving. They reflect contemporary

social, cultural, economic, and political conditions as well as citizens' interpretations of good citizenship (Dalton, 2008; Dalton & Kittilson, 2012; Hooghe & Oser, 2015b; Rahim et al., 2012). Moreover, they underlie and shape participatory patterns and are revealed through the paths of engagement chosen by individuals (Bolzendahl & Coffé, 2013). Of course, this suggests that participatory patterns are not consistent over time. New patterns replace old ones as the meaning of citizenship is transformed. Accordingly, assertions by Putnam (1995, 2000) and others that "old forms of political participation are in a downward spiral" come as no surprise (Coffé & Van der Lippe, 2010, p. 484). Likewise, claims relating to a lack of commitment to established citizenship norms and assertions of declining voter participation and political party engagement are all but expected (Bentivegna, 2006; Coffé & Van der Lippe, 2010; Macedo et al., 2005; Oser et al., 2013). Nonetheless, in spite of scholars' contentions of a disconnected, disengaged, and apathetic citizenry, research has mostly sided with Dalton's (2006, 2007, 2008, 2009, 2011) assertions pertaining to a shift in citizenship norms from dutiful to engaged, and the emergence of new participatory patterns. Dalton (2006, 2007, 2008, 2009) summarized these in the transformation of citizenship dimensions, outlining the dichotomy between dutiful, traditional citizenship norms and emerging, neoteric forms of engagement.

Dutiful, traditional, or duty-based citizenship in this context refers to orthodox citizenship roles. This type of engagement stresses social order and includes activities such as "voting, performing watchdog functions over government, and obeying the law" (Dalton, 2006, 2008; McBeth et al., 2010, p. 5). It emphasizes traditional concepts of

citizenship, such as the duties and responsibilities of citizens (Feezell et al., 2013). Dutiful norms assign citizens a peripheral, indirect role in the political process, confined to the realms of electing representatives and consumers of government products (Coffé & Van der Lippe, 2010).

Contra to dutiful norms, engaged citizenship entails active involvement, volunteerism, and participation outside the traditional, prescribed dimensions of democratic participation (Dalton, 2006, 2008, 2009, 2015; McBeth et al., 2010; Rahim et al., 2012; Schlozman et al., 2010; Vissersa & Stolle, 2013). Those subscribing to engaged citizenship norms seek to contribute to the political process. Rather than delegating decision-making to elected officials and trust that these will act in their interest, this group demands to be involved in shaping the environment (Dalton, 2008; Feezell et al., 2013; Kittilson & Dalton, 2011). As a result, engaged citizens are expressive participants, either acting on their own, with others, or through formal organizations (Coffé & Van der Lippe, 2010; Schlozman et al., 2011; Vissersa & Stolle, 2013). Moreover, these cognitively mobilized individuals tend to be more politically active and exhibit an expanded repertoire of political action compared to those exhibiting dutiful citizenship norms (Dalton, 2006; Dalton & Kittilson, 2012; Leighninger, 2011; McAtee & Wolak, 2011).

Even though citizenship norms are portrayed as having two distinct appearances, research by McBeth et al. (2010) suggests, “citizenship is more of a continuum than a dichotomy” (p. 15). Put differently, individuals may attribute importance to aspects underlying both concepts, thus leading them to engage in behaviors on both sides of the

spectrum. Citizenship dimensions should, therefore, be viewed as a repertoire of actions as well as regulators of social and political behavior (Bolzendahl & Coffé, 2013). They reflect a continuum of meanings of good citizenship and the role of citizens in politics rather than a classification system (Bolzendahl & Coffé, 2013; Dalton & Kittilson, 2012; McBeth et al., 2010; Staeheli, 2007).

Tying it together, citizenship norms and dimensions reflect citizens' relationship with the community. Because perceptions of individuals differ, communities will display contradicting expressions of good citizenship and forms of engagement. This in turn fuels the dynamic nature of the concepts, both with regard to the evolving patterns of participation over time as well as the variations in paths of engagement. As such, dutiful and engaged citizenship are just two expressions of civic participation, each containing a particular repertoire of participatory behaviors and actions. Nevertheless, despite the emphasis on two opposing types of citizenship, engagement takes shape across the spectrum of actions available. People may, therefore, vote and attend jury duty as well as petition the government, boycott products, and volunteer depending on the issue and surrounding circumstances.

Social Capital

Related to citizenship and citizenship norms is the discussion concerning social capital. According to Putnam (1995, 2000), social capital "refers to features of social organization such as networks, norms, and social trust that facilitate coordination and cooperation for mutual benefit" (p. 66). This makes social capital the product of community, socialization, and social connections (Putnam, 1995; Sander & Putnam,

2010). It is the sum of networks, norms, and trust produced by a community and constitutes the resources for political action and engagement (Coleman & Gotze, 2001; Putnam, 1995; Sander & Putnam, 2010). It is considered the basis and impetus for civic participation and an influential component in shaping perceptions of good citizenship through its effect on citizenship norms and dimensions. Consequently, social capital is a fundamental aspect of democracy, political participation, and civic engagement. By the same logic, a potential decline in the same is expected to undermine democratic principles and threaten the logic of democratic systems.

Social Capital, Citizenship Norms, and ICTs

Because social capital is created through social interaction and connecting with others, Putnam (1995) claims that declining participation in community affairs is linked to the psychological disengagement from government and politics. His analysis suggests that shrinking networks and diminishing membership in social groups is connected to the deterioration of political involvement (Putnam, 1995, 2000). Because social groups also function as standard setting entities, providing political information and motivating participation, greater use of ICTs has been found to contribute to the weakening of partisanship and civic involvement (Dalton, 2007; Gibson & McAllister, 2013). In point of fact, individuals nowadays depend less on formal organizations to obtain data on issues on the political agenda than previously. They perceive no need to seek counsel from traditional institutions or aid in shaping opinions on political matters (Dalton, 2007). Instead, they have moved to inform themselves using technological innovations. As such, the Internet and digital resources have greatly enhanced citizen's ability to access

information as ICTs have both, lowered the costs of obtaining information as well as improved access, thus making civic organizations superfluous in their role of transmitting party cues and shaping political opinions (Dalton, 2007, 2012; Harris, Wyn, & Younes, 2010).

In addition to accounts pertaining to political apathy and disengagement, declining membership in civic organizations has also been explained by the emergence of modern media. Some scholars suggest that the rise of ICTs and the expansion of modern news media have greatly contributed to the decline in social capital (Kraut et al., 1998; Macedo et al., 2005; Putnam, 1995, 2000). However, initial assessments of the negative relationship between the Internet and social capital have been deemed erroneous and incomplete. Rather than diminishing social capital, ICTs have been found to create social capital comparable to offline civic activities (Gibson & McAllister, 2013; Hooghe & Oser, 2015a; Kittilson & Dalton, 2011; Nam, 2012). Specifically, the transformation of the web from a predominantly read-only environment to an interactive, connective, social medium has been credited with producing the necessary conditions to generate social capital. Because it is rooted in community and the social connections among individuals, digital technologies are uniquely able to cultivate civic participation and political engagement (Gibson & McAllister, 2013; Hooghe & Oser, 2015a; Kittilson & Dalton, 2011). Research has demonstrated that the expansion of social networks beyond geographic proximity and the inclusion of diverse actors have the potential to add new dimensions to social capital (Conroy et al., 2012; Hirzalla & Van Zoonen, 2010; Kittilson & Dalton, 2011). Put another way, the locus of social capital formation and creation has

changed. Where once civic organizations and assemblies supplied the party cues for shaping political opinions, today individuals obtain their information about political issues online. This may or may not be in the form of joining an online forum or virtual group on one of the many social media sites. Likewise, it may be in the form of accessing the vast amounts of data and information available online.

Adding to this, research has found that changing citizenship norms and the cognitive mobilization of individuals has considerably enhanced the public's ability to process political information, form an opinion, and act upon the same (Dalton, 2007; Gibson & McAllister, 2013; Kittilson & Dalton, 2011; Morris & Morris, 2013). These advances were greatly facilitated by the emergence, spread, and increasing sophistication of ICTs. Growing access to information has not only contributed to greater transparency and alleviated information asymmetry, but it has also given citizens the tools "to deal with the complexities of politics and reach their own political decisions without reliance on affective, habitual party cues or other external cues" (Dalton, 2007, p. 276). It has encouraged individuals to form independent opinions, judging issues and candidates separate from existing community or party loyalties.

ICTs have also changed citizenship norms by going beyond simply reproducing existing participation patterns in the virtual environment (Dalton & Kittilson, 2012; Kittilson & Dalton, 2011; Loader et al., 2014; Schlozman et al., 2011; Vissersa & Stolle, 2013). By creating new possibilities for communication, engagement, and the dissemination of information they have connected previously disconnected individuals (Vissersa & Stolle, 2013). Through lowering entry barriers, they have reduced the

historical underrepresentation of minorities and younger citizens (Dahlgren, 2012; Schlozman et al., 2011). Moreover, by increasing the speed of information sharing, expanding network size, and overcoming organizational limitations the Internet has made it easier to engage politically (Bentivegna, 2006; Gil de Zúñiga & Valenzuela, 2011; Mihailidis & Thevenin, 2013; Rojas & Puig-i-Abril, 2009; Schlozman et al., 2011). Adding to this, research has linked digital media use to "engagement-oriented citizenship norms by enabling individualistic expressive acts that operate outside the traditional forums of political activity" (Bimber, 2012; Feezell et al., 2013, p. 2). In summary, ICTs have expanded citizens' engagement repertoire.

Given these findings, it should not be particularly surprising that the use of ICTs and virtual social activity has become "a significant predictor of participation … [and is] positively associated with several forms of political engagement" (Dalton & Kittilson, 2012, p. 26). Indeed, research has discovered that social networking sites can generate social capital similar to that created in offline settings (Gibson & McAllister, 2013; Gil de Zúñiga & Valenzuela, 2011; Kittilson & Dalton, 2011). Specifically, virtual interactions foster "weak ties, bridging ties, and more dispersed networks, while offline, in-person social group activity generally produces strong, bonding ties and more homogeneous locally based networks" (Dalton & Kittilson, 2012, p. 27). Therefore, ICTs not only expand the size and reach of social networks, but also contribute to the inclusion of diverse actors and exposure to a sundry of views, which in turn has a politically mobilizing effect (Bennett, 2008; Dalton & Kittilson, 2012; Gibson & McAllister, 2013; Gil de Zúñiga & Valenzuela, 2011; Vissersa & Stolle, 2013).

Lastly, the transformation of citizenship concepts and norms is observable throughout American society. Although some attribute recent changes in civic participation and political action to technological innovations, others maintain that they are reflective of the dramatic social transformations that have reshaped society (Bentivegna, 2006; Fung, Gilman, & Shkabatur, 2013; McBeth et al., 2010; Nam, 2012). Regardless of the view taken, one aspect remains consistent, contemporary trends in political participation and civic engagement incorporate both, changes in levels of participation as well as new styles and types of the same (Dalton, 2006; Dalton & Kittilson, 2012; Fung et al., 2013; Vissersa & Stolle, 2013).

Civic and Political Participation

Without civic participation, democracy would not exist. In fact, in the absence of participation, democracy would morph into tyranny. Accordingly, this study could not move forward without establishing criteria for political engagement and a framework of participation. However, civic participation is not a discrete concept. On the contrary, it is linked to citizenship norms, which enumerate the conditions and parameters of the same and influence the degree, type, and level of political activism. Additionally, ideas, meanings, and definitions relating to civic participation and political engagement are diffuse, containing a multitude of descriptions, behaviors, and social constructs.

Civic Participation

Generally, civic participation is a broad term describing the involvement of citizens in political activities. It is an abstract concept, encompassing a myriad of definitions and variations. Although many of these share core concepts and ideas, they

differ in their interpretation of what activities and actions constitute participation. Some scholars, for instance, maintained that political participation is present where citizens participate in elections or vote on public policy, where they fulfill their citizen duties of adhering to laws and serving on jury duty, or join a political organization (Coffé & Van der Lippe, 2010; Macedo et al., 2005; Putnam, 1995, 2000). Correspondingly, another group asserts that civic participation includes political activism, volunteerism, public service, civic learning, and political consumerism (Dalton, 2006, 2008, 2009; McBeth et al., 2010; Rahim et al., 2012; Schlozman et al., 2010; Vissersa & Stolle, 2013).

In addition to defining civic participation by virtue of citizen activities, it can also be described through the interactions and relationships between actors. Arnstein (1969), for example, conceived participation as a purposeful act, aimed at influencing government action. She defined political participation via the power relationships between citizens and government, through the interactions between actors and opportunities to affect change (Arnstein, 1969). Her ladder of participation ranges from the absence of citizen participation and lack of power at the bottom of the ladder to citizen control at the top (Arnstein, 1969).

Along similar lines, Carpentier (2012) characterized participation as "a political process where the actors involved in decision-making processes are positioned towards each other through power relationships that are (to an extent) egalitarian" (p. 164). In his view, participation is the struggle between representation and participation, with frameworks of engagement deriving from institutional, legal, and cultural logics (Carpentier, 2012). Like Arnstein (1969), Carpentier acknowledged and analyzed the

inhibiting and enabling effects of power on participation. However, his definition of participation also incorporates the ideological struggles stemming from embedded social and political realities as well as a differentiation between access, interaction, and participation—with the former two being preconditions for the latter (Carpentier, 2012).

Verba, Schlozman, and Brady (1995) took a slightly different view on citizen participation. The authors maintained that political engagement culminates in political voice focused on influencing government action. In contrast to Arnstein (1969), however, they narrowed the participatory spectrum to the transmission of information from citizens to government by limiting citizen influence to conveying concerns, demands, and needs to political leaders through political activism (Schlozman et al., 2011; Verba, Schlozman, Brady, & Nie, 1993). In more succinct terms, the authors viewed participation as a one-directional activity, assigning individuals a passive role in the democratic process.

Building on earlier research and scholars, Van Deth (2014) arrived at a composite definition of participation. He described participation as "an abstract concept (measured as a continuum) covering specific modes of participation as manifestations or expressions (or positions on a continuum)" (p. 351). This connotes that participation is an activity or action, voluntarily engaged in by individuals or groups in their roles as citizens, in an effort to influence government either through interaction or information sharing (Van Deth, 2014). This view of participation integrates earlier conceptions by Arnstein (1969), Putnam (1995), and Verba et al. (1995). It combines and coalesces definitions of participation based on activities and interaction rather than emphasizing one view. As a result, this definition accounts for changes in the types of engagement as well as

acknowledges the dynamic role of citizens. Moreover, it consolidates perceptions about intents, actions, and ideological struggles—essentially providing a holistic conception of participation by accounting for variations in the underlying social constructs and meanings about the role of citizens.

Participation Motivators

Besides Arnstein's (1969), Carpentier's (2012), and others' invaluable contributions in stressing the importance of power, positions of power alone (or perceptions thereof) do not singularly explain civic participation and political engagement. As illustrated in several research studies, participation is not equally distributed across citizen groups, leading to greater engagement of some actors compared to others (Bakker & de Vreese, 2011). Specifically, socioeconomic factors, such as race and ethnicity, gender, social class, education, and others have been found to influence the degree of participation and type of engagement (Innes & Bohr, 2004; John, Fieldhouse, & Liu, 2011; Morris & Morris, 2013; Oser et al., 2013; Shelton & Garkovich, 2013). Findings suggest that an increase in resources such as time, money, and education positively contribute to civic and political knowledge, and thus participation (Gaventa & Barrett, 2012; Verba et al., 1995). In contrast, gender, age, race, and social class act as mechanisms for social sorting, meaning that group membership serves as an indicator of the likelihood of participation and type of engagement (Bolzendahl & Coffé, 2013; Coffé & Bolzendahl, 2010; Gil de Zúñiga & Valenzuela, 2011). Accordingly, research links increasing age to traditional, dutiful political behaviors, suggests women and younger

persons (individuals under 30 years) tend to favor engaged citizenship norms, and indicates that political activism intensifies with growing social status and class.

Furthermore, attitudes, beliefs, and cultural norms have been identified as affecting the basis of participatory acts (Gil de Zúñiga & Valenzuela, 2011). John et al. (2011), for instance, emphasized the importance of civic attitudes as an imperative motivating political participation. The authors noted that sociopsychological elements may not only prompt political behaviors, but also be a factor in sustaining continued engagement (John et al., 2011). Similarly, McAtee and Wolak (2011) as well as Shelton and Garkovich (2013) discovered that personal interests and attitudes are associated with participation in local government and politics. Adding to this, research repeatedly links lack of trust in government and institutions to increased civic participation. Although the relationship generally applies, it correlates most strongly with civic collective action such as taking action and protesting against institutions (John et al., 2011).

Finally, individual choices to invest energies in political acts are also influenced by political interest, opportunities for engagement, and recruitment (McAtee & Wolak, 2011; Savić, 2012). Moreover, they are often motivated by rewards. This implies that motives prompting action are either based on the expectation of material, social, selective, or collective rewards or any combination thereof. Correspondingly, people do not only engage for the sake of participation, to fulfill a moral obligation, or to influence government, but to satisfy a personal need and to obtain compensation for their efforts (Innes & Bohr, 2004; McAtee & Wolak, 2011; Savić, 2012).

As this review about motivators illustrated, civic participation is a complicated and multifaceted concept. Activism is not simply the result of a specific set of demographic, socioeconomic, and sociopsychological elements, which motivate individuals to select a befitting set of behaviors from the repertoire of participation. Rather, it is the product of complex interactions between motivators and a combination of triggering elements. Consequently, age, gender, race, education, attitudes, and trust remain but indicators of the likelihood for civic engagement, as opposed to predictors. Nevertheless, research has confirmed their influence on engagement and participatory expressions. Thus, to control for the potential influence of these elements within the research context of this study, age, gender, education, income, political views/identification (ranging from extremely liberal to extremely conservative), and race/ethnicity constitute the control variables.

Participation and ICTs

Participation is not a static concept or activity. Research illustrates that it evolves and changes over time (Bakker & de Vreese, 2011; Dalton, 2008; Dalton & Kittilson, 2012). It responds to cultural changes, transforms through technological advancements, and adapts to socioeconomic developments. Citizen participation is dynamic, generationally branded, marked by those in power and empowered, and the product of innovation (Innes & Bohr, 2004; Leighninger, 2011; Schlozman et al., 2011; Shelton & Garkovich, 2013). The latter is particularly visible nowadays.

The digital and virtual environment of the Internet has altered how citizens participate and politically engage. Leighninger's (2011) research, for instance, indicated

that the Internet and ICTs have enabled those wishing to participate. According to him, ICTs have provided individuals with "a much greater ability to find the information, resources, and allies they need to make an impact on issues or public decisions they care about" (Leighninger, 2011, p. 20). Put differently, new technologies have contributed to the development of political knowledge and increased individuals' capacity to engage (Bailard, 2012; Morris & Morris, 2013). They have strengthened social ties and created new connections, while simultaneously making it easier to maintain and sustain flexible, adaptive networks (Bakker & de Vreese, 2011; Baumgartner & Morris, 2009; Leighninger, 2011). Correspondingly, they have positively impacted citizen participation and political engagement (Bakker & de Vreese, 2011; Fung et al., 2013).

Likewise, Morris and Morris (2013) maintained that the opportunities presented by the Internet and ICTs, in both information availability and avenues to express political voice, have critically contributed to individuals' political knowledge and in turn transformed modern democratic participation. The Internet and associated technologies have not only expanded participation into the virtual sphere, but also contributed to participation in offline forums (Mossberger, Tolbert, & McNeal, 2008; Oser et al., 2013). Still, online participation is based on a different rationale that "does not simply reinforce patterns of offline participation" (Oser et al., 2013, p. 99). Rather than being passive viewers and recipients of government goods, those participating online seek to engage laterally, interactively, continuously, and inclusively (Rushkoff, 2013; Shelton & Garkovic, 2013; Straughn & Andriot, 2011). This, in turn, has led researchers to view and treat virtual participatory efforts as distinct and different from offline participation.

Democracy and Information and Communication Technologies (ICTs)

Researchers generally concur that digital technologies, the Internet, and virtual spaces are transforming political participation and politics (Fung et al., 2013; Singh, 2013; Vissersa & Stolle, 2013). By all accounts, ICTs have had a profound impact on democracy through increasing access to information, generating shared knowledge, and empowering individuals and groups to take personalized collective action. They have not just opened up new avenues for participation and discourse, but have also changed patterns and behaviors of engagement. Ultimately, they have radically changed the ways individuals, organizations, and governments communicate, collaborate, and engage as well as frame and verbalize issues (Garrett, 2006).

ICTs and Political Engagement

Scholarly research presents both utopian and dystopian views of the influence of ICTs on the social, economic, and political spheres of life. As usual, some scholars contended that ICTs further exacerbate existing patterns of political disengagement by distracting individuals with popular culture and entertainment, thus keeping them from engaging in political activity (time-replacement thesis; Gil de Zúñiga & Valenzuela, 2011; Hirzalla & Van Zoonen, 2010; O'Neill, 2010). Likewise, others noted that offline participatory patterns are replicated online. Rather than making a significant contribution to civic engagement or expanding the participant pool, digital technologies perpetuate demographic divisions (normalization thesis; Gibson & Cantijoch, 2013; Hirzalla & Van Zoonen, 2010; Schlozman et al., 2010). Correspondingly, the media malaise hypothesis suggests that political apathy is the result of overexposure to media, breeding cynicism

and distrust in politics and political actors (Bennett, 2008; Gil De Zúñiga, Puig-I-Abril, & Rojas, 2009; Livingstone & Markham, 2008; Norris, 2001, 2002). Particularly the last aspect led Bennett (2008) to conclude that ICTs represent just another way for citizens to disconnect from government. He lamented that the "politicians have poisoned the public well (particularly in the United States) with vitriol and negative campaigning" (Bennett, 2008, p.1). Moreover, their inauthentic, staged performances breed cynicism, distrust, and incredulity that contributes to the withdrawal of citizens from politics (Bennett, 2008).

To the contrary, the optimist strand of research asserted that ICTs possess a positive transformative power. They have and continue to create numerous new ways to mobilize, motivate, realize opportunities, frame issues, and engage in political action (Boulianne, 2009; Fung et al., 2013; Garrett, 2006; Meijer, 2012; Morris & Morris, 2013). Similarly, ICTs foster interaction among individuals and between government and citizens. They promote a coming together to achieve common purposes and facilitate the same through lowering maintenance and organizational costs, promoting network fluidity and flexibility, and ease of diffusion (Fung et al., 2013; Garrett, 2006; Loader & Mercea, 2011; Singh, 2013). In addition, digital technologies enrich public debate by including new voices and new content. They add transparency, legitimacy, and sustainability to government and social action (Fung et al., 2013; Garrett, 2006; Grill, 2011; Hilbert, 2009; Singh, 2013; Tumin & Fung, 2011).

Modern technology has also been able to address longstanding limitations to political participation by overcoming existing barriers of scale and scope (Fung et al.,

2013; Nam, 2012; Singh, 2013). Adding to this, the introduction of novel capabilities, such as crowdsourcing, collaborative production, and multichannel communication, has led to greater involvement of individuals in governmental processes. By enabling individuals to engage synchronically as well as asynchronically, ICTs have added new dimensions to civic participation and public discourse (Halpern & Gibbs, 2013; Hilbert, 2009; Nam, 2012). Together, these contributions do not only function as a catalyst for democracy, but have also profoundly transformed the identity of actors and issues (Bentivegna, 2006; Morris & Morris, 2013; Singh, 2013).

Likewise, the expansion of the Internet and increased access to the same has served to some degree as an equalizing agent for citizen involvement. It has afforded individuals more opportunities to express their political voice and partake in civic discourse (Gil de Zúñiga, Veenstra, Vraga, & Shah, 2010; Milakovich, 2010; Morris & Morris, 2013; Schlozman et al., 2010). While some inequalities certainly remain, expectations of ICTs "as a source of greater inequality" have not materialized (Morris & Morris, 2013, p. 597; Nam, 2012). To the contrary, a positive link exists between Internet use and political knowledge and efficacy as well as Internet use and civic engagement (Boulianne, 2009; Morris & Morris, 2013; Nam, 2012; Norris, 2005).

Altogether, neither the pessimist prophecies nor the optimist hopes pertaining to ICTs have fully materialized. Regardless of their contribution to public cynicism and disenchantment with politics, ICTs also enrich the civic debate and contribute to the generation of political knowledge and efficacy. Besides allegations of further exacerbating existing divides, digital technologies and the Internet have contributed to

transparency and added new avenues for participation. ICTs too have decreased barriers to participation, while concurrently overcoming existing obstacles relating to scale and scope.

Digital Democracy and e-Participation

Despite the contributions of ICTs to democracy, expectations pertaining to digital democracy and e-participation have yielded mixed findings. While digital democracy and related applications have been able to attenuate democratic tradeoffs between scale and scope, group size versus depth of argument, they are not always desired or have a favorable impact on government and political processes (Hilbert, 2009). Put differently, digital democracy is only valuable if it goes beyond "push-button democracy" and includes the views of citizens, reflecting the common will (Hilbert, 2009). However, herein lies the problem. The common will is not easily discerned from the myriad of diverse voices and unstructured chatter (Branstetter, 2011; Hilbert, 2009; Hindman, 2009; Milakovich, 2010). Besides, public irrationality, emotional and ill-informed opinions, poorly equipped public institutions pose impediments to the translation of public discourse into action (Branstetter, 2011). Adding to this, both individuals and government institutions have to acknowledge their respective responsibilities and roles in the democratic process (Milakovich, 2010). This implies that contributions by the public have to be valuable and constructive on the one hand, and embraced by government agencies and incorporated into decision-making on the other (Milakovich, 2010; Tumin & Fung, 2011). Likewise, both sides have to accept and embrace the dispersal of power,

the distribution of political and social control, away from government and administrative institutions and across the public (Milakovich, 2010; Tumin & Fung, 2011).

Finally, expectations built on the Latin saying *si tu id aeficas, ei venient* (if you build it, they will come) have overlooked fundamental aspects underlying the logic of civic participation. Indeed, merely building a participatory platform and expecting citizens to get involved has shown to be futile (Bannister & Connolly, 2012; Dunne, 2010). Notwithstanding that online forums built by government institutions to counteract political disengagement tend to fail in reversing the same, they are also typically unsuccessful in expanding political participation beyond the elite and traditional groups that dominate the offline environment (Bentivegna, 2006; Dunne, 2010; Milakovich, 2010). These spaces of invited participation often flounder to exceed the confines of being information providers and fail to become productive, interactive forums (Bannister & Connolly, 2012; Dunne, 2010). Simply put, participation is the result of political interest, will, and ability to engage, which these platforms tend not to encourage or inspire. Hence, despite the possibilities afforded by ICTs, virtual technologies, and the Internet, many expectations of digital democracy and e-participation have yet to be realized. Much of what could advance and elevate government-governed interaction has yet to be integrated into the process by both, institutions and citizens alike.

Digital, Democratic, and Participatory Divides

Similar to digital democracy, the growing integration of ICTs into the participatory portfolio has raised questions pertaining to fairness and equality of participation. Since democracy is based on the premise “that the preferences and interests

of all citizens be given equal consideration in the policy formation and the policy implementation process," issues pertaining to inclusion and exclusion are of paramount importance (Schlozman et al., 2010, p. 488). Subsequently, one of the primary concerns pertaining to ICTs and civic engagement relates to equal access and opportunities for participation for all citizens (Dunne, 2010; Katz & Rice, 2002; Min, 2010; Nam, 2012; Norris, 2001; Schlozman et al., 2011). Put differently, following the emergence and continued integration of ICTs into the participatory portfolio, scholars, politicians, and activists began to worry about engagement gaps. Accordingly, several studies explored the potential of a digital divide between those willing and able to master ICTs for civic and political participation and those who do not (Farrell, 2012; Min, 2010; Nam, 2012; Norris, 2001; Schlozman et al., 2010, 2011).

Findings indicate there are customarily three reasons for citizens not to become civically involved and politically active: either they cannot or will not participate or they lack an invitation (Schlozman et al., 2010). Ordinarily, the "cannot" category consists of factors related to the exclusion of some citizens from the political process as a consequence of ICTs. Exclusion, in this context, is the product of preventing factors. These may originate either in a skill deficiency or the inaccessibility of the Internet due to the absence of a physical infrastructure (Min, 2010; Morris & Morris, 2013; Nam, 2012; Norris, 2001; Schlozman et al., 2010, 2011; Sylvester & McGlynn, 2009). The former refers to the insufficient capacities to research, process, and act on the information discovered, whereas the latter points to the absence of computers, smartphones, and Internet-enabled devices as well as Internet connectivity constraints (O'Neill, 2010).

Additionally, access quality, such as Internet speed and ease of access, influence participation. Taken together, these limitations are considered to be at the root of the digital divide (Min, 2010; Nam, 2012; Norris, 2001).

Aside from the digital divide, online political participation has also been accused of languishing from a democratic divide. This partition between participating and disengaged individuals occurs along similar lines of access, use, and consequence as the digital divide (Min, 2010; Sylvester & McGlynn, 2009). Yet, it is also the product of the second category of nonparticipation, the "will not" category. In this case, it is "individuals' differential use of the Internet for politics" that defines patterns of participation (Min, 2010, p. 26).

Additionally, Nam (2012), Min (2010), and Norris (2001) reported on the existence of a participatory divide deriving from sociodemographic inequalities in participation. Nam (2012), in particular, insisted that the Internet reinforces existing participation patterns, virtually accusing ICTs of "failing to fundamentally remedy offline participatory inequality" (p. S91). Similarly, Schlozman et al. (2010) concluded that digital technologies and the Internet are not the revolutionary force "disrupting the association between socioeconomic advantage and political participation" (p. 488). Indeed, research repeatedly confirmed the presence of demographic differences between individuals who engage politically and those that choose not to (Hindman, 2009; Hirzalla & Van Zoonen, 2010; Nam, 2012; Schlozman et al., 2010; Sylvester & McGlynn, 2009). Specifically, race, age, gender, education, and income have shown to be reliable predictors of political activity and civic engagement.

Notwithstanding the limitations of the digital, democratic, and participatory divides, research has repeatedly shown that greater access to the Internet narrows the participatory gap. Not only are new groups gaining access to the Internet, but also previously underrepresented groups, such as the young (individuals under 30 years), minorities, and those of lower economic status, are getting politically involved online. As such, research highlights the capacities of ICTs to simultaneously empower citizens and expand their opportunities for participation, while also restricting involvement in public life and reinforcing existing engagement paradigms (Papacharissi, 2009). Indeed, conclusions relating to the divides are neither unequivocal nor straightforward. Admittedly, ICTs have the potential to advance and further equality and inclusiveness. Yet, they also have a propensity to reinforce existing patterns of participation. Rather than attracting new members and ameliorating participatory gaps, digital technologies have a tendency to enhance and augment political activities of existing participants (Nam, 2012; Schlozman et al., 2011). Nevertheless, as the normalization of ICTs continues, they will likely continue on their path to reduce existing divides and participatory gaps (Boulianne, 2009).

Online Versus Offline Participation

Arising from inquiries into the digital divide and ICT application, researchers are increasingly interested in the value of online participation and its influence on political action. Although some academics and scholars proclaimed that the Internet promotes disengagement and distract individuals from fulfilling their civic duties, research has shown the opposite to be true. Indeed, certain web uses have been found to motivate civic

participation and increase political knowledge (Boulianne, 2009; Gibson & McAllister, 2013; Gil De Zúñiga et al., 2009; Kavanaugh et al., 2008).

To say that digital technologies have changed the way citizens participate in politics is too abstract to yield meaningful insights. Surely, "the capability of networked structures to compose a new morphology of society, modifying relationships, economic production and political power …, facilitating horizontal communication where everyone potentially can participate in the public sphere … [have] influence[d] the democratic process" (Gil De Zúñiga et al., 2009, p. 555). Likewise, ICTs have widened social networks, connected activists, individuals, and government, as well as heightened public deliberation. Nevertheless, they have also created a dependency relationship in which media literacy is imperative for civic participation and modern democracy (Mihailidis & Thevenin, 2013). Without the skills for participation and an understanding of online platforms as place, community, and democracy—without the development of "critical thinkers, creators and communicators, and agents of social change" individual engagement will remain unstructured chatter (Min, 2010; Mihailidis & Thevenin, 2013, p. 1614; Morris & Morris, 2013). In other words, involvement in modern democratic processes "depend[s] on engagement with media to facilitate participation in civic life" (Mihailidis & Thevenin, 2013, p. 1617). This pertains to both, basic access to the Internet and media literacy.

Interestingly, online participation is not decidedly different from its offline counterpart. Admittedly, certain forms of engagement are impossible to replicate and some mobilizing initiatives have to be transformed and adapted; however, other core

elements of engagement remain the same. For example, research has shown that online news consumption follows a similar logic to its offline counterpart (Gil De Zúñiga et al., 2009; Morris & Morris, 2013; Rojas & Puig-i-Abril, 2009). Adding to this, online participation has comparable effects to offline engagement and results in forms of civic engagement "above and beyond the effects of traditional media use" (Gil De Zúñiga et al., 2009, p. 565). Likewise, Vissersa and Stolle (2013) as well as Nam (2012) discovered that users of social networking sites are not particularly different from nonparticipants, except in that they tend to prefer the Internet for news consumption.

Taken together, research mostly confirms that ICTs contribute to civic engagement and mobilize citizens. They increase news consumption and enhance public discourse as well as strengthen personal interaction and foster political efficacy (Conroy et al., 2012; Dalton & Kittilson, 2012; Gil De Zúñiga et al., 2009; Gil de Zúñiga et al., 2010; Kittilson & Dalton, 2011; Vissersa & Stolle, 2013). In fact, online participation is in many aspects identical to offline forms, even producing similar effects pertaining to social capital and impact on political processes (Conroy et al., 2012; Hirzalla & Van Zoonen, 2010; Nam, 2012). Likewise, varying types of online engagement are differentiable, notwithstanding the emergence of dominant forms (Gibson & Cantijoch, 2013; Norris, 2005). Furthermore, Gil de Zúñiga et al.'s (2010) research suggested, "online participation seems to serve not as an endpoint of participation, but fosters greater participation in a variety of settings" (p. 46). The authors' findings are confirmed by Hirzalla and Van Zoonen (2010) as well as Kahne, Lee, and Feezell (2013), who detected

that involvement in online political activities functions as a gateway to other forms of civic participation and political engagement.

In spite of the similarities, research has also shown online participation to be categorically different from offline engagement. Both, online and offline activities, follow a distinct rationale and are characterized by unique sociodemographic predictors (Gibson & Cantijoch, 2013; Gil de Zúñiga & Valenzuela, 2011; Kavanaugh et al., 2008; O'Neill, 2010). Although engagement in the spheres may overlap and complement another, online and offline participation have been identified as distinctive forms of participation (Gibson & Cantijoch, 2013; Gil de Zúñiga et al., 2010).

Research further supports assertions suggesting that participation "in online political groups is strongly correlated with offline political participation" (Conroy et al., 2012, p. 1535). While some citizens may fall victim to selective exposure, most individuals participating online are exposed to a variety of opinions and have contact with diverse actors (Conroy et al., 2012; Farrell, 2012; Halpern & Gibbs, 2013; Kahne et al., 2013). Exchanging views, sharing insights, or being confronted with divergent ideas aids in the formation of social capital and the exercise of political voice. Both are integral to civic engagement and political participation. Together, these forms of a political Internet and supporting ICTs take participation across the virtual border to the offline sphere (Mossberger et al., 2008; Rojas & Puig-i-Abril, 2009; Xenos & Moy, 2007).

Although academic consensus pertaining to the importance of online participation has yet to be achieved, research has been investigating the value generating and contributing effects of digital technology and online media. For better or worse, ICTs

continue to modify personal and political relationships, shift political power, and broaden social spheres. They contribute to the public debate, enhance political knowledge, and have similar effects on the generation of social capital to offline activities. Even though online activities are distinct from offline ones, following a distinctive rationale, they share similarities and have comparable effects on the political process. Nevertheless, value creation through online activism and virtual civic engagement depends on the critical thinkers, creators and communicators, and agents of social change. It hinges on public debate that has progressed beyond unstructured, trivial chatter.

Social Media and Social Networking Sites

With regard to the value of online participation, social media and connective platforms have added a new dimension. Over the past two decades, digital technologies have transformed the Internet from a passive, informing environment into an interactive, collaborative sharing one. ICTs have taken on an informing capacity that goes beyond traditional media by expanding the boundaries of the possible (Gimmler, 2001; Grill, 2011; Norris, 2005; O'Neill, 2010). They have not only replicated offline forms of engagement, but also widened the repertoire of political participation (Boulianne, 2009; Gibson & Cantijoch, 2013). These two developments have disrupted existing structures and process by dispersing and shifting power. Moreover, they have fostered the emergence of new deliberative frameworks by creating novel spaces for engagement (Gaventa, 2006; Taylor-Smith, 2012).

Adding to the informing capacity of the Internet, social networking sites (SNS) have added an interactive dimension to online political participation. SNS in particular

afford citizens with opportunities to exercise political voice and a forum to express their views (Meijer, 2012; Valenzuela, 2013). They allow individuals to connect with both likeminded and diverse people and groups around the world, share and exchange ideas, as well as converse and collaborate (Meijer, 2012). Because many of these exchanges are shared throughout participants' networks, viewed and accessed by connected members, the flow of information between and among diverse audiences is diffuse, enhancing data exchange (Bailard, 2012; Halpern & Gibbs, 2013). Likewise, research on social media indicates that "the written and asynchronous characteristics of the medium may support more reflexive, rational and argumentative conversations" (Halpern & Gibbs, 2013, p. 1160). Particularly, these characteristics of social media and SNS result in the diffusion of diverse viewpoints and egalitarian debates across different audiences (Boulianne, 2009; Halpern & Gibbs, 2013; Norris, 2002). It also encourages the formation of grassroots spaces, where citizens connect to share experiences, address common concerns, or pursue collective goals (Cornwall, 2002, 2004; Gaventa, 2006; Pantazidou, 2012).

While Hilbert (2009) declared that content sharing and collaborative efforts in the expansive social networking community lead to the production of quality content and shared knowledge, O'Neill (2010), Xenos and Moy (2007), as well as Conroy et al. (2012) doubted the transformative powers of ICTs and SNS. Indeed, the authors argued that digital technologies might not only connect diverse individuals and deepen social ties. They may also have the opposite effect, namely the capacity to exacerbate existing cleavages between sociocultural, economic, and demographic groups, essentially

contributing to the creation of gaps rather than bridging existing ones. Similarly, Branstetter's (2011) research explored how virtual formats and freedoms have stunted society's capacity to reason collectively. In an effort to monetize the economic value of content and grab the attention of a wide audience, users settle for irrational and outrageous statements, abandoning rational arguments in favor of attention grabbing ones (Branstetter, 2011). Accordingly, "the emancipatory potential of [ICTs] depends on the capacity for demands to reach the public's attention," implying that issue visibility depends on social networks' abilities to publicize issues and promote messages (Branstetter, 2011, p. 160).

To recapitulate, social media and connective platforms have the capacity to enhance civic engagement as well as become virtual forums of division and trivial chatter. They can grow into spaces for civic participation, gateways of grassroots activism, and exert mobilizing effects, as transmission of political content throughout networks creates shared awareness and synchronization among participants (Gil de Zúñiga & Valenzuela, 2011; Shirky, 2011). By the same account, these platforms can transform into portals for commodified, performative political chatter and spaces promoting social divisions and discrimination.

Activism/Slacktivism

Although research has generally established a positive relationship between online participation and activities intended to affect government action, some have called attention to the trivialization of participation through easy, noncommitting actions without tangible effects (Christensen, 2011, 2012; Morozov, 2009, 2012). These types of

online political activism have come to be known as slacktivism, the feel-good, meaningless political activities that are unlikely to achieve real-life political outcomes (Christensen, 2011, 2012). Albeit an intention to affect government policy, these types of political engagement are characterized by the absence of commitment and a desire by citizens to remain relatively uninvolved (Christensen, 2011).

Regrettably, these minimalist participatory efforts have led to the questioning of the value of online activism. Some scholars, among them Christensen (2011), Grill (2011), and Van Laer and Van Aelst (2010), doubt the value of laptop advocacy, insinuating that these forms of participation are executed under the incorrect assumption that online activism is a sufficient replacement for offline involvement instead of an extension. Correspondingly, Tatarchevskiy (2011) contended that these forms of online activism are prone to be commodified, promoted by elite actors and turned into economic value. Lacking the necessary collective backing and bonds of solidarity, this degrades activism to performative action (Tatarchevskiy, 2011). Nevertheless, research provides ample evidence for a counterargument to be made. Whereas some online activism may fit the description of slacktivism, ICTs do not enfeeble political action. Instead, virtual activism represents just another element in the spectrum of political action, one that helps mobilize and promote offline participation (Christensen, 2011; Gil de Zúñiga et al., 2010; Rojas & Puig-i-Abril, 2009). Therefore, to conclude online activism has no value or diminishes the worth of civic participation appears myopic. Worst-case scenario, these minimalistic, effortless forms of activism may raise awareness without further impact; at best, they prompt collective action and social change.

Research Methods in the Literature

Research conducted in fields related to civic engagement and citizenship norms covered a wide range of methods and designs. Although both quantitative and qualitative designs were equally represented, a topic related emphasis was discernible. Studies concerning citizenship, social capital, and citizenship norms, for instance, tended to use a variety of quantitative methods including principal component analysis, regression and correlation analysis, structural equation modeling, ordinary least squares, and others. Particularly, the analysis of secondary data has emerged as a predominant form of exploring aspects related to citizenship and participation. Studies included Dalton's (2006, 2007, 2008, 2011) research into changing citizenship norms, cognitive mobilization, and changes in participation using data retrieved from the GSS, the American Election Studies, and others. Using principal component analysis, he evaluated the relationship between acts of participation and citizenship norms and dimensions (Dalton, 2006, 2008). Likewise, Bolzendahl and Coffé (2013) used data collected by the International Social Survey Programme in a multivariate analysis to investigate the relationship between citizenship norms and civic participation. Additionally, Dalton and Kittilson (2012) examined the effect of virtual civil society on social capital using data retrieved from the Australian Election Studies database and the Citizenship, Involvement, Democracy survey dataset. More recently, Hooghe and Oser (2015b) identified dutiful and engaged citizenship through latent class analysis using two comparative surveys of adolescents from 1999 and 2009. Besides the use of secondary data, primary surveys were employed to analyze the relationship between online and offline participation (Gil

de Zúñiga & Valenzuela, 2011; Oser et al., 2013), investigate the effects of engaged citizenship on public policy (McBeth et al., 2010), and assess changing trends in citizenship norms (Rahim et al., 2012; Rojas & Puig-i-Abril, 2009).

In contrast to research relating to citizenship norms, studies inquiring into participation primarily applied qualitative methods. They consisted of in-depth interviews to assess public participation and the inclusion of civil society into governing processes (Amalia, Mihaela, & Ionut, 2012; Buccus et al., 2008; Speer, 2012) as well as case studies evaluating the effects of participatory spaces and power structures on civic engagement (Gaventa & Barrett, 2012). Accordingly, Grasso's (2014) examination of political participation and political generations, employing a repeated cross-sectional design and generalized additive models, was exceptional.

Furthermore, studies examining ICTs and democracy exhibited a more diverse application of methods. Although research investigating the digital divide (Min, 2010; Schlozman et al., 2010; Sylvester & McGlynn, 2009), e-government and e-participation (Gibson & Cantijoch, 2013) typically contained quantitative surveys, case studies and mixed-method approaches were equally represented (Dahlberg, 2011; Dunne, 2010; Norris, 2001). Qualitative approaches often entailed case studies and interviews (Tatarchevskiy, 2011; Taylor, 2007), but also incorporated textual analysis of Facebook, blogs, or Twitter posts (DiGrazia et al., 2013; Halpern & Gibbs, 2013; Himelboim, 2010). Similarly, mixed-method designs typically contained a survey component paired with a qualitative element, such as interviews, focus groups, or a case study (Abbott, 2012; Bailard, 2012; Harris et al., 2010; Kavanaugh et al., 2008).

Several of the articles consulted did neither reveal the particular method nor the design used. While some studies included did not specify details beyond noting the design employed, others simply did not contain sufficient information pertaining to the design or method applied (Bennett, 2008; Cornwall, 2004, 2008; Fenton & Barassi, 2011; Putnam, 1999). In addition, some articles reviewed neither employed a quantitative nor a qualitative research method. They comprised of historical reviews, theory development, and discussions of existing research (Grill, 2011; Meijer et al., 2012; Mihailidis & Thevenin, 2013; Tumin & Fung, 2010; Van Deth, 2014).

Based on the methods used in the literature reviewed, it becomes evident that "No single method is free from flaws … no single method will handle all of the problems of causal analysis—and no single method will yield all the data necessary for a theory's test" (Denzin, 1970, p.3). With this in mind, I selected a quantitative method to effectively answer the research questions posed. Not only have quantitative designs been repeatedly applied to answer questions relating to ICTs, citizenship norms, dimensions of citizenship, and civic participation, but they have also yielded illuminating insights. As such, the literature review affirmed the selection of a repeated cross-sectional design. Unlike other quantitative methods (panel, cohort, or longitudinal) this specific design permitted an analysis of change at the aggregate level of the population, assessed prevalence, and allowed for estimates of change over time (Myers, 2013; Steel, 2008). Moreover, by studying data from at least two time periods and comparing the same, it allowed for an evaluation of associations and an analysis beyond the assessment of event occurrence (Myers, 2013; Schmidt & Teti, 2006; Smith et al., 2011). Lastly, in contrast to

panel or cohort studies, the repeated cross-sectional design avoided issues relating to sample attrition and conditioning bias without sacrificing sample representativeness (Myers, 2013; Steel, 2008).

Summary

As illustrated throughout this chapter, civic participation is a dynamic concept that cannot be adequately captured within the confines of a simple definition. It is an evolving idea, reflecting the impact of social transformations and technological changes on the involvement of citizens in political activities. Indeed, modern democratic participation is a reflection of citizens' perceptions of what it means to be a good citizen, the type and degree of involvement in public matters, and the rationale underlying civic engagement. Yet, despite differences in the expressions of political participation today, certain aspects have remained consistent over time. For one, civic engagement continues to be rooted in citizens' actions and activism. As such, political participation does not exist without the intent to influence government and the appropriate courses of activism. Adding to this, civic engagement remains dependent on the interactions and relationships between individuals and government. Moreover, the distribution of power and control between the actors continues to influence decision-making, outcomes, and legitimacy of actions taken. Of course, participation's underlying idea of citizenship influences political behaviors and patterns of engagement through its conceptions of the meaning of citizenship, and the rights and authorities conveyed by the same. Thus, changing perceptions of the meaning of citizenship are inevitably transforming citizenship norms and the associated patterns of engagement (citizenship dimensions). While these have

broadly been described via the terms of dutiful and engaged citizenship, these norms consist of numerous behaviors and beliefs culminating in a growing, diverse repertoire of political action. Admittedly, the dichotomy of traditional, dutiful citizenship versus engaged citizenship is too narrow to capture the myriad of participatory efforts citizen engage in. Nevertheless, it illustrates the metamorphosis of ideals, meanings, and beliefs pertaining to political involvement that have transformed the civic and political landscape.

The emergence and increasing sophistication of ICTs has created a fundamentally different participatory environment. Not only have technological innovations and the Internet opened up new avenues for participation, activism, and discourse, but they have also affected patterns and behaviors of engagement. They have created new opportunities for engagement, lowered the cost of participation, elevated the flow of information, and promoted the diffusion of ideas. Correspondingly, ICTs have contributed to a more dynamic, albeit increasingly complex, participatory sphere. Ultimately, new technologies and innovations have radically altered the ways individuals, organizations, and governments communicate, collaborate, and engage as well as frame and verbalize public issues (Garrett, 2006).

Even though research has repeatedly investigated links between the concepts of participation and citizenship, the influence of ICTs on both concepts has remained of peripheral interest. Certainly, research has inquired into the effect of ICTs on aspects related to participation, such as inclusion versus exclusion, social capital, and contrasted offline against online efforts of activism; however, it had yet to explore the relationship

between ICTs, citizenship norms, and the emergence of engaged citizenship. Since analyzing the concepts independently and divorced from one another may have contributed to an incomplete picture of modern democratic participation, I sought to explore the relationship between ICT use, citizenship norms, and dimensions of citizenship. More specifically, within the scope of this study I aimed to discover and understand the changes in democratic participation for 18- to 35 year-olds in the United States over the past 10 years. I sought to uncover how ICTs have affected citizenship norms and what influence they may have had on participatory preferences (traditional vs. engaged citizenship). Based on the premise of a link between the emergence and increasing sophistication of ICTs and the fundamental changes in participatory behaviors, this study attempted to uncover how ICT use influenced citizenship norms and dimensions.

Based on the foundations laid in Chapters 1 and 2, Chapter 3 proceeds in outlining methodological aspects. It presents the research design, rationale, and data analysis plan as well as discusses the population, sampling method, and data collection procedures in detail. Moreover, the chapter includes an analysis of threats to validity in an effort to either address, overcome, or acknowledge potential limitations.

Chapter 3: Research Method

Introduction

As illustrated in Chapters 1 and 2, the gap left in the literature by selectively and discretely analyzing the different components of the democratic participation puzzle has fostered a lively debate concerning the matter. Opposing views about changes in engagement and the effects of ICTs, diverging interpretations of phenomena such as virtual activism and the evolution of citizenship norms, and a degree of uncertainty concerning the meaning of the same underscored the need for further inquiry and exploration. Research into the relationship between ICT use, citizenship norms, and dimensions of citizenship promised to generate new insights into changes in democratic participation in the United States. It was, therefore, my intent to determine how ICTs affected citizenship norms and what influence they may have had on participatory preferences and citizenship dimensions. To ensure that the study was sufficiently narrow and took into account generational differences in technology adoption, the research questions concentrated on 18- to 35-year-olds in the United States. I selected a repeated cross-sectional design using secondary data to gain a better understanding of the relationship between the variables.

In this chapter, I explain the methods employed to conduct the analysis and outline the key concepts relating to the same. Correspondingly, in the first segment I discuss the research design of the study and its underlying rationale. The subsequent sections detail the methodology employed, including a description of the population, sampling, data collection, and variables. Before elaborating on threats to validity, I

present an outline of the data analysis plan. Finally, the chapter concludes with a discussion of ethical procedures and closes with a brief summary.

Research Questions and Hypotheses

The purpose of the study was to understand the influence of ICT use on changes in citizenship norms and dimensions of citizenship. With the following research questions, I aimed at answering questions concerning the topic by testing whether a relationship between the variables existed. By extension, I sought to contribute to the literature by examining whether ICT use had fueled changes in citizenship norms and perceptions about civic participation.

Research Question 1

As a result of ICTs, how did citizenship norms change for 18- to 35-year-olds between 2004 and 2014?

H_01_A. The relationship between ICT use (a composite indicator synthesized from time spent on the Internet and using email, computer and Internet use, and source of information) and the citizenship category of participation (a composite indicator synthesized from voting in elections, being active in social and political organizations, and political consumerism) remained constant for 18- to 35-year-olds between 2004 and 2014.

H_a1_A. The relationship between ICT use and the citizenship category of participation did not remain constant for 18- to 35-year-olds between 2004 and 2014.

H_01_B. The relationship between ICT use (a composite indicator synthesized from time spent on the Internet and using email, computer and Internet use, and source of

information) and the citizenship category of autonomy (a composite indicator synthesized from the need to keep watch on government and form an independent opinion) remained constant for 18- to 35-year-olds between 2004 and 2014.

H_a1_B. The relationship between ICT use and the citizenship category of autonomy did not remain constant for 18- to 35-year-olds between 2004 and 2014.

H_01_C. The relationship between ICT use (a composite indicator synthesized from time spent on the Internet and using email, computer and Internet use, and source of information) and the citizenship category of social order (a composite indicator synthesized from the importance of paying taxes, adhering to laws and regulations) remained constant for 18- to 35-year-olds between 2004 and 2014.

H_a1_C. The relationship between ICT use and the citizenship category of social order did not remain constant for 18- to 35-year-olds between 2004 and 2014.

H_01_D. The relationship between ICT use (a composite indicator synthesized from time spent on the Internet and using email, computer and Internet use, and source of information) and the citizenship category of solidarity (a composite indicator synthesized from the importance of helping others in the United States and abroad) remained constant for 18- to 35-year-olds between 2004 and 2014.

H_a1_D. The relationship between ICT use and the citizenship category of solidarity did not remain constant for 18- to 35-year-olds between 2004 and 2014.

Research Question 2

As a result of ICTs, how did perceptions and actions concerning the dimensions of citizenship (traditional vs. engaged) change for 18- to 35-year-olds between 2004 and 2014?

H_02_A. The relationship between ICT use (a composite indicator synthesized from time spent on the Internet and using email, computer and Internet use, and source of information) and the significance attributed to dutiful/traditional citizenship norms (a composite indicator synthesized from voting in elections, paying taxes, and obeying the law/regulations) remained constant for 18- to 35-year-olds between 2004 and 2014.

H_a2_A. The relationship between ICT use and the significance attributed to dutiful/traditional citizenship norms did not remain constant for 18- to 35-year-olds between 2004 and 2014.

H_02_B. The relationship between ICT use (a composite indicator synthesized from time spent on the Internet and using email, computer and Internet use, and source of information) and levels of dutiful/traditional citizenship actions (a composite indicator synthesized from voting in elections, being active in political and voluntary organizations, and keeping watch on government) remained constant for 18- to 35-year-olds between 2004 and 2014.

H_a2_B. The relationship between ICT use and the levels of dutiful/traditional citizenship actions did not remain constant for 18- to 35-year-olds between 2004 and 2014.

H_02_C. The relationship between ICT use (a composite indicator synthesized from time spent on the Internet and using email, computer and Internet use, and source of information) and the significance attributed to engaged citizenship norms (a composite indicator synthesized from forming an independent opinion, trying to understand others' reasoning, helping others, being active in politics and voluntary organizations, and political consumerism) remained constant for 18- to 35-year-olds between 2004 and 2014.

H_a2_C. The relationship between ICT use and the significance attributed to engaged citizenship norms did not remain constant for 18- to 35-year-olds between 2004 and 2014.

H_02_D. The relationship between ICT use (a composite indicator synthesized from time spent on the Internet and using email, computer and Internet use, and source of information) and the levels of engaged citizenship actions (a composite indicator synthesized from being active in politics and voluntary organizations, political consumerism, as well as protest) remained constant for 18- to 35-year-olds between 2004 and 2014.

H_a2_D. The relationship between ICT use and the levels of engaged citizenship actions did not remain constant for 18- to 35-year-olds between 2004 and 2014.

Research Design and Rationale

Keeping in mind the purpose of discovering and understanding the relationship between ICT use and changes in citizenship norms, I found that a nonexperimental quantitative research design using data collected via surveys and questionnaires emerged

as beneficial. Notably, the focus of quantitative research on exploring relationships among variables appeared uniquely suitable for testing the hypotheses and capturing desired insights into modern democratic participation (Creswell, 2009). The approach permitted the analysis of potential relationships between the independent and dependent variables as well as allowed for the measurement of strength of associations.

Even though inferences could have been made about the impact of ICTs on citizenship norms and the dimensions of citizenship via primary data collection using a survey design, collecting data at a singular point in time would have limited the amount of insights gleaned (Lavarkas, 2008; Smith et al., 2011). To gain a better understanding of the influence of ICT use on citizenship norms and the nature of the relationship between the variables, the application of a repeated cross-sectional research design was appealing. First, studying data collected from at least two time periods and comparing the same allowed for an evaluation of associations and prevalence (Myers, 2013; Schmidt & Teti, 2006; Smith et al., 2011). The design, therefore, permitted an analysis beyond the assessment of event occurrence by comparing data collected at distinct points of time. Second, the repeated cross-sectional design shed light on prevalence at the aggregate level of the population of interest due to large sample-size requirements (Myers, 2013; Steel, 2008). It further allowed for an estimate of change between the two periods without sacrificing sample representativeness and by avoiding issues related to sample attrition or conditioning bias (Myers, 2013; Steel, 2008). Accordingly, this made an assessment of change in the variables under investigation possible by moving beyond predicting static levels of the dependent variables based on fixed levels of independent ones.

Insofar as I sought to understand changes in democratic participation rather than assessing levels of civic activism in this study, a repeated cross-sectional design was appropriate. Although the chosen approach did not sufficiently establish causal order or produce detailed insights into why changes may have occurred, it averted limitations relating to attrition, mortality, and conditioning bias inherent in longitudinal studies (Steel, 2008). Unlike longitudinal approaches, the repeated cross-sectional design also maintained sample representativeness through collecting data from random samples of the population at various time intervals (Myers, 2013; Steel, 2008). While this precluded the assessment of change or duration of a condition at the individual level, it produced unbiased and more precise estimates of change at the macro level (Myers, 2013). More precisely, even though the design was not able to answer the question of "why" changes may have occurred due to a lack of continuous data for specific individuals, it was able to answer how ICT use had influenced citizenship norms and dimensions over time. Accordingly, the design allowed the study to exceed the limitations of preceding research and fill the gap in the literature left by the same. Specifically, by concentrating on assessing changes in the variables between 2004 and 2014, it contributed insights concerning the influence of ICT use on citizenship norms. Nevertheless, repeated cross-sectional research requires vast amounts of data from representative samples collected at at least two time periods to allow for sound inferences to be made. Regrettably, this imposed constraints, which were addressed through the use of secondary data and pooling.

Secondary Data

Using secondary data to study the relationship between ICT use and citizenship norms, I examined several databases for use and inclusion. These included the PEW Research Center's Internet and American Life project (http://www.pewinternet.org), PEW Research Center's U.S. politics surveys (http://www.people-press.org), the American National Election Studies (http://www.electionstudies.org), the International Social Survey Programme (http://www.issp.org), and National Opinion Research Center's (NORC) General Social Survey (GSS; http://www3.norc.org/Gss+website/). Although each of the databases contained invaluable data, certain issues prevented their use. For instance, despite the extensive research conducted by the PEW Research Center concerning political attitudes and the uses of ICTs, data consistency represented a significant obstacle. Indeed, survey purposes and focus varied across time; questions were infrequently repeated or appeared singularly; and some variables under investigation were absent or inadequately included. While time-series data retrieved from the American National Election Studies database were more consistent, the surveys lacked questions pertaining to several dimensions of citizenship norms and only inadequately explored ICTs. Likewise, data retrieved from the International Social Survey Programme addressed a variety of topics. However, the variables of interest were dispersed and sporadic over time, thus providing insufficient data for analysis.

The exclusion of the aforementioned databases and the unique characteristics of the data collected by NORC essentially led to the selection of the GSS. First, the GSS consistently collected information on "demographic, behavioral, and attitudinal

questions, plus topics of special interest" (NORC, 2014, para. 1). This not only permitted for time series and trend analysis, but also enabled replication of findings across time. In addition to tracking societal trends, the GSS is a reputable source, providing high-quality data for more than three decades (NORC, 2015). Of course, the foremost reason for selecting the GSS centered on the fact that it contained the variables of interest. Adding to this, earlier research conducted by Dalton (2006, 2008, 2009, 2015) exploring changes in citizenship norms also used the GSS for analysis. Thus, for reasons of replicability, credibility, and reliability, the GSS dataset was chosen to conduct the analysis.

Variables

To assess the influence of ICT use on citizenship norms and dimensions, the multiple regression analysis included the following variables for each hypothesis:

- The predictor/independent variable, ICTs;
- The relevant dependent/outcome variable from the categories of citizenship norms (participation, autonomy, solidarity, and social order) or dimensions of citizenship (traditional vs. engaged citizenship);
- The covariates age, gender, education, income, political views/identification (ranging from extremely liberal to extremely conservative), and race/ethnicity;
- The dummy variable Year and the interaction term ICTs * Year.

ICTs were operationalized through the construction of a composite indicator using equal weighing. ICTs encompassed the collection of independent variables, which were defined as the integration of real- and non-real-time communications and the hard-, soft-, and middleware to enable users to access, create, store, transmit, and manipulate

information (Bimber, 2003, 2012; Suoronta, 2004). As the name indicates, ICTs include a variety of elements that facilitate the transmission of data, communication, and interaction online between and across individuals and organizations. ICTs encompass computers, smartphones, social media, blogs, websites, and the soft- and hardware underlying their operation. Given the complex and expansive nature of the variable and the focus of this study, only a select number of components were included for analysis. These consisted of computer and Internet use, which contained data detailing individuals' use of a computer and the Internet; time spent on the Internet and using email, which provided data on the hours and minutes per week participants spent surfing the web and using email; and information source, which comprised data detailing where individuals got most of their information about current news events (NORC, 2015). This particular set of variables was chosen to ascertain how changes in the proliferation and increasing sophistication of ICTs impacted citizenship norms and democratic participatory patterns. Admittedly, the indicators were neither perfect nor comprehensive measures of ICT use. Nevertheless, they were representative, adequate, and consistent variables to assess the influence of ICT use on citizenship norms and dimensions of citizenship.

Citizenship norms and dimensions were operationalized through the assembly of eight composite indicators, each capturing a distinct norm or dimension. Like ICTs, these variables were an amalgamation of components and constructs describing the actions, behaviors, and meanings associated with being a good citizen (Rahim et al., 2012). The dependent variables consisted of the four categories and two dimensions of citizenship norms, namely participation, autonomy, solidarity, and social order, as well as traditional

and engaged citizenship, perception and action. In other words, the study included eight distinct dependent variables requiring separate analysis. Composite indices were constructed using PCA to capture the complex, multidimensional features of each dependent variable construct.

To maintain consistency with earlier research pertaining to citizenship norms published by Dalton (2006, 2008, 2009, 2015), the categories of participation, autonomy, solidarity, and social order were defined in a similar manner. Accordingly, participation included measures pertaining to voting; being active in voluntary, political, and civic organizations; political consumerism; and political action (Dalton, 2006, 2008, 2009, 2015). Autonomy explored the individual's political perceptions through measures inquiring into the understanding of public and political affairs, the need to keep watch over government, independent opinion forming, and understanding the reasoning of others (Dalton, 2006, 2008, 2009, 2015). Likewise, social order contained measures concerning "the acceptance of state authority as part of citizenship" (Dalton, 2006, p. 3). It included obeying the law, regulations, and rules; as well as the willingness to serve in the military and on jury duty. Lastly, solidarity concentrated on social citizenship through measures associated with helping others in the community and globally.

Since behaviors and actions included in each category occur across the spectrum of engaged and dutiful citizenship, the measures underlying participation, autonomy, solidarity, and social order were also divided across these dimensions for analysis of the relationship between ICT use and citizenship dimensions. Accordingly, voting, obeying the law, and serving in the military were prototypical of dutiful, traditional perceptions of

citizenship (Dalton, 2006, 2008, 2015). By contrast, forming an independent opinion, helping others, being active in politics and voluntary organizations, as well as political consumerism were considered characteristic of engaged citizenship (Dalton, 2006, 2008, 2009, 2015).

Given the multidimensional aspects of citizenship norms and dimensions, a representative composite indicator was synthesized from the measures detailed above to capture and summarize the complex nature of the independent variable "without dropping the underlying information base" (Nardo et al., 2008, p. 13). PCA was used to construct the composite indicators and assign weights to each component. The process was applied to create the composite indicators from the pooled GSS data for participation, autonomy, solidarity, and social order as well as traditional and engaged citizenship. Pooling of the cross-sections removed year specific variations in the DVs that may have otherwise interfered with the analysis.

The GSS data collected on the underlying variables contained nominal and ordinal values, consisting of categories, frequencies, rankings, and perceptions of constructs underlying the variables. Given the variability in the types and units of measurement for each indicator, these were normalized, standardized, and rendered comparable before assigning weights (Nardo et al., 2008). To assess the "uncertainty inherent in the develop[ed] composite indicators" (Nardo et al., 2008, p. 34), a robustness and sensitivity analysis were conducted. Table A2 provides an overview of the measures and the survey questions used for gathering data on the independent and dependent variables.

In addition to the predictor and outcome variables, the study also addressed covariates and controlled for their influence. These were derived from prior research and included age, gender, education, income, political identification (ranging from extremely liberal to extremely conservative), and race/ethnicity. Age, for example, was regarded as a mediating variable, as it may obscure the effects of ICTs on citizenship norms (Bolzendahl & Coffé, 2013; Coffé & Bolzendahl, 2010; Gil de Zúñiga & Valenzuela, 2011). Although age effects had been addressed through the narrowing of the research focus on 18- to 35-year-olds, they may still have influenced the statistical analysis—albeit to a lesser degree. Similarly, income may have intervened in the relationship between the independent and dependent variables, as it may have led to variances in ICT adoption and political participation (Gaventa & Barrett, 2012; Putnam, 2000; Verba et al., 1995). Similarly, educational level, gender, and race/ethnicity may have contributed to differences between social groups that moderate the relationship between the predictor and outcome variables (Innes & Bohr, 2004; John et al., 2011; Morris & Morris, 2013; Oser et al., 2013; Shelton & Garkovich, 2013). Likewise, political views and identification may have affected the basis of participatory acts (Gil de Zúñiga & Valenzuela, 2011; John et al., 2011). Indeed, differences between subgroups were likely to produce factors related to interaction, such as conditions related to interest and concern (Frankfort-Nachmias & Nachmias, 2008). For this reason, this study sought to control for covariates by accounting for their influence on the predictor and outcome variables.

Lastly, to explore the relationship between ICTs and citizenship norms over the course of 10 years comprehensively, the analysis incorporated two interaction variables

Year and ICTs * Year. The variables were utilized to ascertain the effect of time on the relationship between ICT use and citizenship norms. More specifically, Year, a dummy variable created to represent the year the survey data were collected (2004 and 2014), was added to gain insights into the effect of ICTs on citizenship norms and dimensions of citizenship over the course of 10 years. It was used to capture structural change by isolating time specific effects in the regression model (Wooldrige, 2013). Moreover, ICTs * Year was added to the analysis to determine whether the relationship among the variables had changed from 2004 to 2014, and evaluate the significance of the association between them. As such, the interaction term measured the influence of ICTs on citizenship norms. Accordingly, the two additional variables were introduced to discern whether ICT use was linked to changes across citizenship norm categories and dimensions from 2004 to 2014.

Using the variables outlined in this section, a multiple linear regression analysis was performed, individually testing each hypothesis associated with RQ1 and RQ2. Each hypothesis contained a singular dependent variable assessing change in one of the categories of citizenship norms or the dimensions of citizenship for 18- to 35-year-olds between 2004 and 2014 as a result of ICTs. Accordingly, each regression equation consisted of one independent variable (ICTs), one dependent variable from citizenship norms or dimensions, the covariates (age, gender, education, income, political views/identification, and race/ethnicity), the dummy variable Year, and the interaction term ICTs * Year.

Time and Resource Constraints

Every research design faces certain caveats and constraints pertaining to time and resources. For the nonexperimental, quantitative repeated cross-sectional design these mainly concerned data collection. This pertained both, to data collection itself as well as the inability to collect data for time periods past. Seeing that repeated cross-sectional research requires vast amounts of data from representative samples at various points in time, the use of secondary data to explore and understand the changes in democratic participation for 18- to 35-year-olds in the United States seemed desirable. Therefore, in as much as data could not be collected for time periods past, this study relied on data collected by NORC. More accurately, data from the GSS was selected and repurposed to conduct the analysis into the relationship between ICTs and changes in modern democratic participation.

Secondary data generally refers to information collected by other researchers and organizations that are being reused to answer a new set of research questions (Creswell, 2009; Frankfort-Nachmias & Nachmias, 2008). Correspondingly, secondary data analysis denotes the methods for studying research problems using others primary data for a new purpose (Frankfort-Nachmias & Nachmias, 2008). Apart from repurposing previously collected data, secondary data analysis necessitates the use of advanced analytical and statistical techniques (Kiecolt & Nathan, 1985). With regard to the study, secondary data were used to investigate changes in citizenship norms and relate them to the use of ICTs. Using data from the GSS, several statistical tests were conducted to approximate the

influence of ICTs on changes in citizenship norms through the examination of sample populations at two distinct time intervals.

A primary advantage of secondary analysis relates to the cost and time associated with data collection. Because data had already been collected and datasets were readily available, data collection did not constitute a prohibitive factor. Indeed, GSS data can be accessed and downloaded for free online. This not only eliminates the need to obtain funding and shortens the research timeframe, but also circumvents issues relating to data collection (Kiecolt & Nathan, 1985). Furthermore, the use of secondary data tenders an opportunity to address high impact questions relating to changes in democratic participation in a relatively inexpensive, timely manner (Smith et al., 2011). With regard to this study, the utilization of GSS data allowed for comparisons across time to discern patterns of change.

Adding to this, the argument can be made that secondary data elevated the credibility, reliability, and accuracy of the study due to increased data quality and similarity of findings reported by independent researchers (Frankfort-Nachmias & Nachmias, 2008). This particularly refers to Dalton's (2006, 2008, 2015) inquiry into citizenship norms, which was based on GSS data collected in 2004 and 2014. Likewise, validity of measurement was improved "by expanding the scope of the independent variables employed when operationalizing major concepts" (Frankfort-Nachmias & Nachmias, 2008, p. 278). Secondary analysis therefore permitted greater expansiveness in exploring the relationship between ICTs and citizenship norms through increasing sample

size, representativeness, and observation frequency, thereby adding depth to the findings (Frankfort-Nachmias & Nachmias, 2008; Kiecolt & Nathan, 1985).

Unfortunately, the use of secondary data also imposed challenges. First, an appropriate dataset had to be located, containing the desired variables with little variation as to how these were recorded over time (Frankfort-Nachmias & Nachmias, 2008; Kiecolt & Nathan, 1985). Furthermore, the mismatch between the primary research purpose and the secondary research objective had to be addressed. Put differently, if the desired data were not directly available for a variable, it had to be approximated or indirectly measured. Moreover, despite the availability of detailed and complete documentation, potential errors made in the original surveys may have become indiscernible (Kiecolt & Nathan, 1985). Adding to this, insufficient information concerning data collection, interview procedures, and coding may have obscured the assessment of source bias, data quality, errors, measurement problems, and threats to validity (Frankfort-Nachmias & Nachmias, 2008). Although NORC is a reputable institution with extensive experience and a comprehensive manual detailing its approach, these limitations remained of concern and were not disregarded.

Methodology

To effectively explore the research problem posed and provide answers to the hypotheses presented in Chapter 1, I utilized a repeated cross-sectional research design. Using secondary data obtained from NORC, the GSS survey data, I conducted a multiple linear regression analysis to ascertain the nature of the relationship between ICT use and changes in citizenship norms and dimensions. Since the cross-sections had been

randomly sampled, the data were pooled for the purpose of the analysis. The composite indicator ICTs constituted the independent variable. The composite indicators for citizenship norms (participation, autonomy, solidarity, and social order) and citizenship dimensions (the clusters of traditional and engaged citizenship) formed the dependent variables. A multiple linear regression analysis was performed, testing the individual hypotheses associated with RQ1 and RQ2 separately. Each hypothesis contained a singular dependent variable, assessing change in one of the categories of citizenship norms or the dimensions of citizenship. In addition to the dependent and independent variables, the regression equation also included the control variables (age, gender, education, income, political views/identification, and race/ethnicity), Year, and the interaction term ICTs * Year to assess the effect of ICT use on the dependent variables. Because the data were collected by NORC within the scope of the GSS, elements of the following sections reflect the procedures employed by the primary research organization.

Population

The population of a study typically depends on the questions and scope of research. Its definition attempts to define the parameters for case inclusion, where potential participants "conform to some designated set of specifications" (Chein, 1981 as cited by Frankfort-Nachmias & Nachmias, 2008, p. 163). Taking into account the impact of demographic and societal changes as well as technological advancements, the population of interest for this study consisted of 18- to 35-years-olds living in the United States. The selection was based on the rationale that the political and participatory behaviors of this group are evolving since its members only recently joined the voting

population. As a result, civic engagement and action repertoires remain flexible and adaptable as members of this demography continue to define their place within society, the community, and relative to government and institutions. Furthermore, because the data used to conduct the analysis was collected in 2004 and 2014, the argument was made that the forms of political participation for this group were developing around the time the Internet and ICTs became more ubiquitous. As such, 18- to 35-year-olds' engagement behaviors were—as well as continue to be—both influenced and shaped by technological advancements. The selection of 18- to 35-years-old individuals living in the United States further intended to avoid potential age-related bias concerning ICT adoption, use, and application, as indicated in previous research (Bolzendahl & Coffé, 2013; Conroy et al., 2012; Nam, 2011).

Ultimately, because existing research denoted a link between age and certain citizenship norms (i.e., traditional, duty based citizenship is predominant in retirees) narrowing the focus of the study was expected to reduce age-related variances. Following the same logic, the argument was extended to the adoption and application of ICTs. Accordingly, the working definition of the population for the study was: (1) all individuals living in the United States (2) aged 18 to 35 years (3) in 2004 and 2014. This definition of the theoretical population was applied to the accessible population, which consisted of the number of 18- to 35-year-old respondents included in NORC's social survey for the years 2004 and 2014. The sampling unit consisted of individual persons.

Sampling and Sampling Procedures

The selection of units of analysis on which to measure the variables was guided by the sampling frame (Frankfort-Nachmias & Nachmias, 2008). Ideally, a sampling frame consists of all sampling units and highly corresponds to the population of interest (Frankfort-Nachmias & Nachmias, 2008). The sampling frame for the GSS is largely based on the U.S. Census. Although this suggests a continuous sampling frame for the data collected between 2004 and 2014, it is not entirely consistent over the timeframe due to modifications in U.S. Census classifications and list updates (NORC, 2015). Changes include modifications and reclassifications of primary sampling units (PSUs) as well as refined definitions for standard metropolitan statistical areas (SMSAs) and nonmetropolitan counties (NORC, 2015). Additionally, in 2004 the sampling frame underwent further changes including:

> (i) the construction of a new list-assisted sampling frame for 72% of the population; (ii) an increase in the size of the certainty stratum (the proportion of the population covered by certainty area selections); (iii) designation of new primary sampling units (PSUs) for the certainty stratum; (iv) designation of new secondary sampling units (SSUs) for the remaining 'urban' areas; and (v) designation of larger SSUs for the remaining areas. (NORC, 2015, p. 2950)

These updates culminated in sampling frame refinements resulting from the integration of new technologies and software, allowing for the combination of U.S. Census information, U.S. Postal Services data, and other mapping software and databases (NORC, 2015). Adding to this, primary sampling units have been reclassified and reassigned to

administrative/political areas (NORC, 2015). Furthermore, until 2004 the sampling frame only included members of the English speaking population. This, however, changed in 2006 with the inclusion of a Spanish version of the survey to address findings indicating growing nonresponse rates resulting from language exclusions. Since these exclusions predominately featured Spanish speakers (they accounted for 60-65% of the language exclusions), Spanish was added to reflect societal changes and thwart emerging sampling bias (NORC, 2015). The result has been positive, as exhibited by declining nonresponse rates attributed to language barriers (NORC, 2015).

Acknowledging that sampling the general population is impractical, costly, and time-consuming, it is typically advisable to obtain a representative subset (sample) of the population to focus on. Even though any well-designed sampling strategy will produce a representative sample, yielding findings comparative to other samples drawn from the same population, each strategy has its distinct advantages and drawbacks (Frankfort-Nachmias & Nachmias, 2008). With regard to the GSS, the research team at NORC employs a full probability sampling strategy with a multistage cluster design for the time period in question (NORC, 2015). Probability sampling is often considered superior to other approaches, as it yields a representative population sample by applying the laws of statistics and probability theory (Davis, Gallardo, & Lachlan, 2010; Frankfort-Nachmias & Nachmias, 2008). The approach essentially ensures that each sampling unit included has an equal chance of being drawn (Davis et al., 2010; Frankfort-Nachmias & Nachmias, 2008; Trochim, Donnelly, & Arora, 2015). Moreover, the multistage cluster design elevates sample representativeness with limited impact on accuracy. This

suggested that the data collected by NORC can be assumed to be representative of the population of interest.

According to NORC, the multistage sampling procedure employed divides primary sampling units of administrative/political areas into different sampling strata based on list quality and population density (NORC, 2015). These strata are then sampled at set rates, ranging from 42% to 50% for the first stratum, 30% to 35% for the second stratum, and 15% to 25% for the third stratum (NORC, 2015). Adding to this, the process includes a two stage nonresponsive subsampling phase, which entails "the focusing of resources on a smaller set of the difficult cases for further attempts, thereby potentially reducing both response error and nonresponse bias" (NORC, 2014, p. 2958). These temporary nonrespondents are subsampled between 40% and 50% for the timeframe in question (NORC, 2015). Previous measurements have demonstrated that this sampling strategy yields samples that closely resemble population distributions reported by authoritative sources (NORC, 2015). Put differently, the samples collected within the scope of the GSS are representative of the U.S. population.

Because the population of interest consisted of 18- to 35-year-olds living in the United States, only data for this group were selected for analysis. The approximate sample size varied by year, ranging from 400 to 500 cases/participants for 2004 and 2014 (NORC, 2015). Since the argument could be made that a single year may not contain a sufficient number of cases to detect a difference, diagnose a real change effect, and make meaningful inferences based on the statistical analysis of the sample, pooling of the subgroup "across surveys [can] aggregate an adequate sample for analysis" (Smith, 2008,

p. 302). Moreover, the combination of the subsamples can increase statistical precision and aid in the identification of statistically significant associations (Kiecolt & Nathan, 1985). For this reason, I pooled the datasets to elevate statistical power by increasing sample size and reducing sampling error.

Considering that this was the first study to explore changes in citizenship norms and dimensions in 18- to 35-year-olds over the course of 10 years, certain assumptions pertaining to statistical power, alpha level, and effect size were made. After careful consideration and taking into account matters of validity, reliability, and generalizability, the study used a power level of .80 (80%). This established the conditions necessary for detecting a real effect occurrence as well as aid in the diagnosis of statistically significant findings (Adams-Huet & Ahn, 2009; Frankfort-Nachmias & Nachmias, 2008). Moreover, in the absence of comparable data pertaining to the relationship between ICT use and citizenship norms, the magnitude of the effect of the phenomenon was cautiously estimated as moderate. The mean effect size for the regression analysis was, therefore, estimated at .15 (moderate) to assess "the salience of the treatment relative to the noise in measurement" (Trochim et al., 2015, p. 296). Furthermore, to balance the rejection of a true hypothesis (Type I Error) against the retention of a false one (Type II Error), the level of significance was set at $\alpha = .05$ (Adams-Huet & Ahn, 2009; Frankfort-Nachmias & Nachmias, 2008). This significance level assured that, with 95% confidence, the results detected would not be due to chance (Frankfort-Nachmias & Nachmias, 2008; Van Voorhis & Morgan, 2007). Lastly, while sample size was predetermined due to the use of secondary data, estimates of appropriate sample size for regression ranged from 80+ to

200+ participants (Cohen, 1988; Van Voorhis & Morgan, 2007). Because the cross-sections were pooled and annual sample sizes exceed estimates, sample size requirements were met.

Data Collection Procedures

The systematic, planned process underlying data collection aimed at measuring and gathering information on variables of interest for statistical analysis. Because NORC does not restrict access to the data collected within the scope of the GSS surveys, the datasets and codebooks can be publicly viewed, retrieved, and downloaded from the website, http://www3.norc.org/GSS+Website/. No special permissions are necessary to gain access, unless geocoded information is desired. Participant information and other identifying data are not released, as part of the GSS contract to protect participants and maintain their anonymity (NORC, 2015; NORC, 2014).

Funding permitting, GSS samples are collected during even years. Although GSS data were collected for the years 2002, 2004, 2006, 2008, 2010, 2012, and 2014, variable continuity represents a challenge for the years included in the analysis (NORC, 2015). This is due to the questionnaires' variability in survey components (NORC, 2015). More specifically, each GSS survey consists of permanent, rotating, and irregular items. While the balance of components has shifted over the years, "half of the GSS is replicating core topics, one sixth deals with cross-national topics, and one-third consists of in-depth, topical modules" (Smith, 2008, p. 301). Naturally, this variability had implications for the study, meaning that data for several variables under investigation were collected on a discontinuous basis. Because missing data negatively impact statistical validity, years

with significant gaps were excluded. For instance, the period from 2006 to 2010 did not include the majority of components associated with the citizenship module. Therefore, to maintain research integrity and validity of inferences these years were excluded and only data from 2004 and 2014 were used to conduct the analysis (Table A3).

Data Analysis Plan

The study employed a repeated cross-sectional design. Secondary data retrieved from the GSS database were used to explore the relationships between the concepts of ICTs (the predictor/independent variable) and citizenship norms (the outcome/dependent variables). Since the dataset contained randomly sampled cross-sections of individuals the data were pooled to increase sample size, elevate precision of estimators and test statistics, as well as analyze the relationship between the variables over time (Wooldridge, 2013). Data analysis included both descriptive and inferential statistics. First, descriptive statistics was used to describe the data and reduce it to a comprehensible format (Frankfort-Nachmias & Nachmias, 2008; Tabachnick & Fidell, 2007). This entailed statistical analysis to determine frequencies and means, data distribution, and standard deviations and variances. In addition, inferential statistics was used to test hypotheses, interpret patterns, and make generalizations about the population on the basis of the sample (Frankfort-Nachmias & Nachmias, 2008; Tabachnick & Fidell, 2007). Data analysis was conducted using the most recent version of the SPSS software package, SPSS (v. 23). The software was used to test statistical assumptions, complete a principal component analysis, perform a multiple linear regression analysis, compute effect sizes, and prepare plots where appropriate.

Descriptive Statistics

Prior to data analysis, the GSS datasets retrieved from NORC were screened for errors, cleaned, and recoded to achieve consistency and remove unnecessary noise. Cleaning, screening, and recoding of the data began with designing a codebook containing the survey questions and data to be included in the statistical analysis. In particular, I created an Excel file listing constructs, variable names and questions, labels of variables and values, as well as notations on changes made (i.e., recoding, creating a composite variable, etc.). Once the codebook had been prepared, each dataset (year) was reviewed for missing data and coding errors. Cases containing missing values were eliminated from the sample. Furthermore, I analyzed the datasets for outliers and highly influential points using standardized scores and frequency analysis. Cases identified as outliers were removed to avoid the artificial inflation of error terms, mitigate statistical distortions, and promote analytic integrity. Any changes made to the data at this stage were noted and the impact sufficiently discussed.

Principal Component Analysis (PCA)

Once data had undergone primary analysis, the composite indices were synthesized from the measures underlying each concept. The variables were created from the pooled data using principal component analysis (PCA) as a weighing method. PCA involves finding linear combinations among variables in a group, "discovering which variables in the set form coherent subsets that are relatively independent of one another" (Tabachnick & Fidell, 2007, p. 607). Although it can be used as a variable reduction method, I applied PCA to "measure[e] different 'statistical dimensions' in the data"

(Abdi & Williams, 2010; Nardo et al., 2008). The method was selected for two reasons. First, it provided insight into the structure of the data by "taking into account correlations among indicators" (Hudrliková, 2013, p. 463); and second, it aligned the study with earlier research completed by Dalton (2006, 2009, 2015).

Before performing the PCA, the measures used to construct the composite indices were normalized using standardization (*z*-scores) to prevent undue influence and skewing (Nardo et al., 2008). Weights assigned to the subvariables were based on the eigenvalues obtained from the PCA (Hudrliková, 2013; Nardo et al., 2008; Tabachnick & Fidell, 2007). To obtain the optimal number of variables to create each composite indicator, those measures exhibiting eigenvalues below the threshold of one were further evaluated for exclusion (Hudrliková, 2013). After weights had been calculated, the subvariables were aggregated to construct indices reflective of the constructs they represented (Hudrliková, 2013; Nardo et al., 2008). A robustness and sensitivity analyses were performed "to assess the contribution of the individual source of uncertainty to the output variance" (Nardo et al., 2008, p. 34). Simply put, the analysis was used to assess whether the combination of variables consistently reflected the constructs it intended to measure.

Multiple Linear Regression Analysis (MLR)

After PCA and the construction of composite indicators, multiple linear regression analysis (MLR) was used to test the hypotheses. Multiple linear regression analysis "is a statistical tool for the investigation of relationships between variables" (Sykes, 1993, p. 1). It aims to ascertain the effect of independent variables on a dependent one (Tabachnick & Fidell, 2007). Within the context of the study, MLR was

performed to assess the relationship between the independent variable ICTs and the dependent variables citizenship norms (participation, autonomy, solidarity, and social order) and dimensions of citizenship (traditional and engaged). Since each hypothesis associated with RQ1 and RQ2 was tested individually, each regression equation contained a singular dependent variable assessing change in one of the categories of citizenship norms or the dimensions of citizenship for 18- to 35-year-olds between 2004 and 2014. Accordingly, each regression equation contained the independent variable (ICTs), one dependent variable from citizenship norms or dimensions, the covariates (age, gender, education, income, political views/identification, and race/ethnicity), the dummy variable Year, and the interaction term ICTs * Year as illustrated below:

$$Y_{(Citizenship)it} = \beta_0 + \beta_1 X_{(ICTs)it} + \beta_2 X_{(covariates)it} + \beta_3 X_{(Year)it} + \beta_4 X_{(ICTs * Year)it} + \varepsilon_{it}$$

Multiple linear regression analysis was selected to determine whether a relationship existed between the variables and how strong it was. The method appeared appropriate as it assisted in the exploration of multicausal relationships between the variables by "allow[ing] additional factors to enter the analysis separately so that the effect of each can be estimated" (Sykes, 1993, p. 8). As such, MLR supported a more complex and sophisticated inquiry, beyond simply assessing correlations between the variables under investigation. The method further allowed for a relatively accurate evaluation of the relationship between predictor and outcome variable, which aided in generating a fresh understanding concerning the influence of ICTs on citizenship norms and dimensions. In addition, the test statistics contributed insights into the degree to

which ICT use predicted changes in the dimensions of citizenship over the course of 10 years.

Before performing the multiple linear regression analysis, statistical assumptions were tested. Thereafter, each hypotheses was tested separately, so that each regression equation contained the independent variable (ICTs), one dependent variable from citizenship norms or dimensions, the covariates (age, gender, education, income, political views/identification, and race/ethnicity), the dummy variable Year, and the interaction term ICTs * Year. The correlation coefficient *R* was used to analyze model fit, while regression coefficients estimated the effect of variables (Berry & Feldman, 1985; Lewis-Beck, 1980, 1995; Tabachnick & Fidell, 2007). To evaluate the predictive ability of the model *t*-values were calculated and significance levels (*p*-values) were used to assess the statistical significance of the results. Together, the values were used to interpret and decipher the test results and evaluate the relationship between the predictor and outcome variables (Berry & Feldman, 1985; Lewis-Beck, 1980, 1995; Tabachnick & Fidell, 2007).

Threats to Validity

Like all research, this study too faced threats to validity, which challenged the accuracy of the inferences made. These threats were divided into four categories: external validity, referring to the generalizability of findings; internal validity, concerning study implementation and execution; construct validity, centering on definitions and measurement of variables; and statistical conclusion validity, involving statistical power and assumptions (Creswell, 2009; DeForge, 2010; Frankfort-Nachmias & Nachmias, 2008). Unaddressed, these threats could invalidate findings and inferences made by

distorting the relationship between the predictor and outcome variables. Moreover, they could negatively affect the logic and validity of the conclusions drawn by allowing for alternate explanations to define the relationship between ICTs and changes in citizenship norms (Creswell, 2009; DeForge, 2010; Frankfort-Nachmias & Nachmias, 2008). Consequently, threats to validity were confronted and controlled for to assure the accuracy of findings and defensibility of inferences made.

Threats to External Validity

External validity concerns itself with aspects relating to selection, setting, and history (Creswell, 2009; Frankfort-Nachmias & Nachmias, 2008). It essentially deals with sample representativeness and appropriateness for generalizability. External validity is promoted when claims made are restricted to the group of participants or cases under investigation within a particular setting and timeframe (Creswell, 2009). Accordingly, one of the major threats facing this study related to assembling an adequate sample to conduct the study. Because secondary data were used, alignment between sample and population of interest had to be established. Sample selection, therefore, was based on the population characteristics of interest to draw valid and justifiable inferences. Moreover, to establish external validity of findings, promote reliability, and achieve generalizability an adequate number of samples had to be included in the secondary dataset. If, indeed, the dataset were not representative or the sample size too small, any findings produced would lack authority and I would be unable to assess incidence or prevalence from the data concerning the relationship between ICT use and changes in citizenship norms (Schmidt & Teti, 2006).

Overall, the GSS data contained the population of interest for this research study. Additionally, because data for the GSS had been collected on "demographic, behavioral, and attitudinal questions, plus topics of special interest" since 1972, the survey can be said to have external validity (NORC, 2014, para. 1). This may be attributed to experience and refinement in the survey tools to achieve a representative population sample as well as to the sample size and the appropriateness of the population in question (NORC, 2015). Besides, assessments of the GSS dataset and comparisons to other authoritative sources further supported assertions of external validity (NORC, 2015). Lastly, conclusions drawn from the statistical analysis were restricted to the population characteristics addressed in the analysis. Generalizations were confined to the time period and settings investigated. As a result, this study did not include claims about geographic areas outside the population sample or analyzed changes occurring before 2004 or beyond 2014.

Threats to Internal Validity

In an effort to foster internal validity, experimental procedures and participant attributes had to be controlled for. As such, the use of secondary data posed several challenges since the data had been collected by another entity and for another purpose. Specifically, issues pertaining to the inclusion of a disproportionately large number of participants with unusual scores or particular characteristics could have adversely affected the validity of the study as well as undermined the generalizability of findings (Creswell, 2009; Frankfort-Nachmias & Nachmias, 2008). Similarly, historical events (i.e., the financial crisis in 2007/08) needed to be accounted for, as these may have

unduly influenced participant attitudes and thus provided for alternate explanations of findings. In addition to regression and history, selection and instrumentation could have compromised internal validity (Creswell, 2009; Frankfort-Nachmias & Nachmias, 2008; Schmidt & Teti, 2006). For example, the focus on demographics predisposed to engage in traditional forms of citizenship could have adversely affected research findings through introducing bias. Adding to this, changes in instrumentation could have influenced scores across the dimensions tested, thus preventing meaningful comparisons over time (Creswell, 2009; Schmidt & Teti, 2006).

While history was dealt with indirectly, by discussing potential influences, issues pertaining to regression and selection were directly addressed. Indeed, after reviewing the GSS dataset it became evident that the latter posed a minor threat as random sampling assured "that characteristics have the probability of being equally distributed among the groups" (Creswell, 2009, p. 163). Moreover, concerns relating to regression were mitigated through the independence of samples at each time period (Schmidt & Teti, 2006). Nevertheless, statistical tests separating true scores from measurement errors and an assessment of error variances were conducted to assess regression related problems (Schmidt & Teti, 2006).

Contrary to regression and selection, instrumentation posed a threat that had to be actively managed. Indeed, some questions, measurement tools, and scoring evolved over the time period under investigation. As a result, measurement equivalence was not assured, but addressed either through recoding (i.e., if scoring changed or question was asked in reverse) or the creation of a construct (e.g., through using a combination of

factors to assess a variable) to maintain consistency. Nevertheless, changes in meanings and interpretations were noted, as definitions and perceptions concerning ICTs and citizenship have certainly changed over the timespan considered (Schmidt & Teti, 2006).

Threats to Construct Validity

Threats to construct validity result from inadequate definitions and measurements of variables challenging the meaningfulness of findings. Construct validity, therefore, pertains to the operationalization of conceptual definitions and the extent to which they measure what I intended to assess (Trochim et al., 2015). Considering the nature of the variables and the need to indirectly measure the constructs underlying citizenship norms and ICTs, threats in the form of mono-method bias, confounding constructs, and evaluation apprehension were addressed.

Because secondary data analysis depends on the measures and questions included in an existing dataset, mono-method bias could have resulted from a lack of multiple measurements on key constructs of interest. Indeed, the complexity of the constructs necessitated using a composite of several measures to effectively assess the same. While previous research on citizenship norms and engaged and traditional citizenship provided for direction in devising reflective measures, this was not the case for ICTs. With little guidance, this measure was assembled based on the literature and data included in the GSS. However, due to the restrictions imposed by the use of secondary data the resulting construct may not be a holistic measure of the variable, as it may not encompass all aspects of ICTs. Furthermore, even though most of the constructs under investigation were measured via more than one method or question, this is not the case for each one of

them. Specifically the construct of social order had to be modified, as only one component of the concept investigated by Dalton (2006, 2008, 2009, 2015) was available across the datasets. Additionally, confounding constructs were attended to by ensuring that constructs were adequately represented via the measures included. Overall, construct validity was assured through anchoring the measuring instruments in the general theoretical framework guiding the study (Frankfort-Nachmias & Nachmias, 2008).

Statistical Conclusion Validity

Since statistical conclusion validity refers to the soundness of the interpretations of statistical findings pertaining to the relationships between variables, it depends on the use of adequate statistical tools, power, and the meeting of assumptions (Creswell, 2009; Frankfort-Nachmias & Nachmias, 2008, Trochim et al., 2015). Put differently, improper selection of confidence intervals, significance levels, and statistical power negatively impacts the statistical analysis and results, thus leading to false inferences and erroneous conclusions.

To elevate statistical reliability both the rejection of a true hypothesis (Type I Error) as well as the retention of a false one (Type II Error) were managed (Frankfort-Nachmias & Nachmias, 2008). As previously indicated, this entailed the setting of the significance level at $\alpha = .05$ to ensure that the relationship detected could be assumed valid with 95% confidence (Frankfort-Nachmias & Nachmias, 2008; Van Voorhis & Morgan, 2007). Analogously, the power level was set at .80, to create the conditions necessary for detecting real effect occurrence as well as aid in the diagnosis of statistically significant findings (Adams-Huet & Ahn, 2009; Frankfort-Nachmias &

Nachmias, 2008). Furthermore, statistical validity may have been threatened due to violations of statistical assumptions. This particularly applied to repeated cross-sectional research designs, which tend to violate assumptions through correlated residuals, nonindependence, and nonnormal distributions (Ployhart & Vandenberg, 2010). To avoid drawing erroneous conclusions about the relationship between the variables while modeling change over time, a parsimonious rather than a liberal definition of change was developed to avoid bias.

Other Threats

Lastly, secondary data could have threatened validity resulting from insufficient information concerning data collection, and thus prevented the assessment of source bias, errors, and data reliability problems (Frankfort-Nachmias & Nachmias, 2008). Although the data retrieved from NORC's GSS database provided ample information, five common sampling errors—namely population specification error, sample frame error, selection error, nonresponse error, and sampling errors—needed to be acknowledged. Reviewing the data and codebook, both population specification and sample frame error appeared to be addressed through the design of the study: full probability sampling with a multistage cluster design, and a sampling frame combining various lists, maps, and directories from which participants were randomly selected (NORC, 2015). Similarly, selection and nonresponse error were confronted through strategies aimed at motivating participation and taking additional steps to sample nonrespondents (NORC, 2015).

Besides data reliability issues, secondary data limited the examination of the relationship between ICT use and citizenship norms due to lacking depth in the data.

Simply put, because the GSS investigated social change rather than changes in citizenship norms, data for the variables were not consistently available or satisfactorily assessed. Despite the overall availability of measures, some items could have benefitted from additional items to create a more holistic construct.

Ethical Procedures

Ethical considerations affecting this study included consent, data storage and protection, anonymity of participants, as well as researcher responsibilities. Beginning with data collection and handling, both were conducted in accordance with guidelines put forth by NORC (NORC, 2014). Datasets and codebooks were publicly accessible and downloadable without restrictions. All personal and identifying information pertaining to the participants had been removed by NORC before releasing the data. Whereas NORC did not equivocally state if data were being collected under an Institutional Review Board (IRB) or other ethical review board, an examination of NORC policies pertaining to requests for sensitive data clearly illustrated that institutional approval, clearance for human subjects review, and data management are considered of great import (NORC, 2014). Since I did not intend to request access to sensitive, geocoded data no consent for the use of the datasets needed to be obtained from NORC. Nevertheless, the study applied the highest ethical standards to the data retrieved. This implies that the datasets obtained were neither mishandled nor otherwise used outside the scope of this study. No special permissions were requested to access geocoded data and no efforts were made to ascertain sensitive information.

Adding to this, the study respected anonymity and participant protection elements as assured by NORC. Accordingly, the anonymity of persons was preserved and no attempts were made to identify individuals. Moreover, even though the study did not collect data directly from participants, I adhered to the ethical research principals pertaining to the respect for persons, beneficence, and justice (NIH, 2013). Institutional Review Board (IRB) approval was obtained before analyzing the datasets. The IRB approval number for this research project is 04-05-16-0360897. Issues pertaining to data storage, confidentiality, and privacy were actively addressed and managed, observing the highest ethical standards. For that reason, data, files, codebooks, and related materials were stored exclusively on my laptop and private cloud account. Both were secured, encrypted, and password protected.

Summary

In this chapter, I outlined the processes, methods, and approaches used to explore the relationship between ICT use and citizenship norms. I made the argument that the study benefited from employing a nonexperimental quantitative research design, as it focused on exploring relationships among variables in the absence of a controlled environment. Moreover, to expand existing insights into modern democratic participation I advocated the application of a repeated cross-sectional design to gain a holistic understanding of the relationship between the concepts of ICTs (the predictor variable) and citizenship norms and dimensions (the outcome variables). I further detailed how secondary data retrieved from the GSS database was used to conduct the statistical analysis. In addition, I outlined the data analysis plan, including the process of cleaning

and recoding data, the assumptions tested, and the statistical tests conducted. Whereas every study has to contend with threats to validity, I described research specific issues affecting this study. Although threats to internal, external, and statistical conclusion validity were, for the most part, averted or proactively confronted, certain elements of construct validity proved challenging to overcome due to the limitations imposed by the use of secondary data. Consequently, findings from the study may not be exhaustive or portray a holistic picture of the relationship between ICT use and citizenship norms. With this in mind, Chapter 4 proceeds with the data analysis and a discussion of test results.

Chapter 4: Results

Introduction

Using prior research as a starting point, I sought to understand the influence of ICT use on changes in citizenship norms and dimensions. Accordingly, the purpose of the study was the examination of the relationship between ICTs, citizenship norms, and dimensions of citizenship for 18- to 35-year-olds in the United States between 2004 and 2014. By pooling cross-sectional data obtained from the GSS, I tested whether ICT use influenced categories of citizenship norms and dimensions of citizenship over the period of inquiry. Because the variables involved in the analysis were multifaceted, I constructed composite indices (CIs) using PCA as a weighing method. To individually test each hypothesis associated with the research questions, I conducted a multiple linear regression analysis and assessed the relationship between the variables.

In this chapter, I present and discuss the results derived from the quantitative inquiry and associated analysis. The chapter begins with a discussion of the data, including the nature of the data, as well as the cleaning and coding procedures employed. It also details the data analysis process, providing insights into the descriptive and inferential statistics used. Furthermore, a review and discussion of the PCA and MLR results are provided. The chapter closes with a discussion of the statistical analysis conducted.

Data

The data collection process commenced after I obtained Institutional Review Board (IRB) approval and adhered to the plan laid out in Chapter 3. The IRB approval

number for this research project is 04-05-16-0360897. Resulting from the use of secondary data, the data collection process entailed the downloading of the applicable files from the GSS website. I downloaded three different datasets from the GSS database, namely the file containing data for 2004, the file for 2014, and the cumulative file covering the period 1972-2014. The decision to download these specific datasets was based on the desire to maintain data integrity, check for errors, and identify potential inconsistencies. As such, I used the independent 2004 and 2014 files to probe for variations in the consolidated GSS dataset.

Screening and Cleaning the Data

A systematic data management process, aimed at preparing an error-free, streamlined, and manageable data file for analysis, guided the study. It involved multiple steps intended to screen and clean the data as well as a dynamic review component to create datasets that would satisfy study requirements. Although the process was dynamic and reiterative in nature, it contained several distinct steps to arrive at the datasets used for analysis (Figure B2). Unless specifically noted, the procedures described were applied to all datasets downloaded.

The first step in the process entailed the elimination of unnecessary information and clutter. Accordingly, variables not applicable or of interest to the study were removed from the dataset. Once the files contained only the essential variables, I turned my attention to the consolidated dataset, removing all cases relating to years not included in the study. Next, I validated the datasets to confirm that the values entered for the variables conformed to the rules and constraints within the files' schema. After validating

the datasets, I began to recode variables, preparing them either to be merged or to attain coding consistency. For instance, the variable Homeband was recoded, consolidating the various types of Internet access at home into either (1) Yes, (2) No, or (999) Don't know/NA. In this case, recoding was aimed at facilitating the merger of the variable with Intrhome, which asked participants if they had Internet access at home. Instead of modifying the original variable, the process involved creating new variables. Three aims motivated the creation of these new variables: first, to avoid unnecessary data loss; second, to take precautions and maintain data integrity; and third, to trace changes made to the data back to their origin.

After recoding the variables, I merged and combined like variables as well as variables with similar components in different years. Rather than using the sum or mean function, merging was accomplished via the syntax window. Although other options were explored, joining variables via the syntax provided a less obscure avenue for merging and offered greater insight into the effect of combining variables. Returning to the previous example, Homeband, a variable containing data on Internet access at home for 2004 only, and Intrhome, a variable consisting of data from 2014 on Internet access at home, were combined into Internet_Home to provide a singular variable consistently measuring participants' Internet access at home across both years (Figure B3).

Additionally, variables that were split into two separate components to assess a singular activity were merged via summing to provide a coherent measure. For instance, the variables Wwwhr and Wwwmin, variables containing data on the hours and minutes spent on the Internet, were combined into Wwwtime. To merge the variables, the larger

unit of measurement was converted into its smaller denomination (e.g., hours were turned into minutes by multiplying by 60) before summing the two to obtain a singular, complete measure for the activity. Once merged, the newly created variables were reviewed and recoded as needed (Figure B3).

To combine the two datasets, 2004 and 2014, I added the variable Case# and assigned each participant a unique number. After adding the variable, I merged the two datasets by using the add cases command and pairing the missing variables. Checking for errors and reviewing the newly created dataset for inconsistencies followed this step. Again, the dataset was validated, and any errors identified were corrected. In addition, I compared the newly merged dataset with the consolidated one obtained from the GSS database to assess similarity and discern potential inconsistencies.

Subsequent to merging the dataset, I created the year dummy variable in both datasets. I then proceeded to remove all unnecessary cases, by applying the definition of the population to the datasets. Put differently, all cases with participants falling outside the age range were eliminated. Additionally, I recoded all system- and user-defined missing values to display one unique identifying code, (999) Don't know/NA.

Once all preliminary work was completed in SPSS, I downloaded the data into Excel to sort through the variables and cases and remove those with missing values. Initially, the datasets contained circa 1,600 unique cases. However, after performing the first iteration of sorting, assessment, and removal using the dependent variables as indicators, I was left with roughly 800 distinct cases. The number shrunk even further after screening and evaluating the variables underlying ICTs. At the end of the procedure

I retained approximately 320 unique cases, containing a limited number of missing cases. Based on the power analysis and sample size estimates for regression, the sample was sufficiently large to yield statistically significant results.

In addition to reviewing cases for consistently missing values and eliminating those, I examined the variables. Several issues were revealed. First, while I was able to match the variables for each of the citizenship norms' categories as well as the significance components of engaged and dutiful citizenship, I discovered that some of the variables retained no or few valid cases after concluding the data cleaning process. Issues arose specifically from the action component of the citizenship dimensions. Although variables associated with these were sufficiently represented in the previous datasets and years, these now contained a sizeable amount of missing values due to data only being collected for a segment of the population of the GSS. As a result, I decided to exclude the affected variables—Volchrty, Accptoth, and Othshelp—from the analysis.

Lastly, I returned to SPSS and deleted the cases with missing values previously identified. To obtain a manageable and clean dataset, I further removed all unnecessary clutter, including unneeded merged variables and nonessential recodes. Furthermore, I compared the cumulative file to the merged 2004/2014 dataset, identifying potential inconsistencies and differences between the two as well as correcting errors. Because the datasets emerged as similar, absent marked differences, I selected the consolidated GSS dataset for further analysis. Of course, all stages, steps, modifications, and alterations made to the datasets and the variables were recorded in the codebook. Accordingly, it

details the process, lists recodes and mergers, as well as provides an accord of the screening and cleaning process conducted.

Descriptive Statistics

Before proceeding with any statistical procedures, I conducted a preliminary analysis using descriptive statistics and frequency analysis. Both were used to assess the characteristics of the data, check for violations of assumptions underlying the statistical techniques, and address research-specific data requirements (Pallant, 2013).

Using frequency analysis, I checked the minimum, maximum, and range of the categorical variables to identify errors and address the same. Additionally, I examined valid and missing values and investigated cases and variables displaying a large number of missing data. As shown in Table A4, the dataset consisted of 320 cases, of which 218 (68.1%) were associated with the GSS year 2004 and the remaining 102 (31.9%) were associated with 2014. Most variables contained fewer than five missing cases. However, four variables were identified as issues of concern, containing more than 90 missing values. These were Milserve, News, Polviews, and Usewww. A further investigation into the matter through the use of grouping case summaries per year revealed that the missing values were typically confined to 1 year. Despite being identified as problematic, I retained these with caution to evaluate their potential influence on the relationship between ICTs and citizenship norms and dimensions on a year-specific basis.

A closer review of the dichotomous variables called attention to the clustering of answers (Table 1). Specifically, Compuse, Infofrom, and Internet_Home displayed value groupings in one category above 70%. Likewise, the variable Race2 contained a

disproportionately large number of White/Caucasian (74.38%) compared to the category Other (25.63%). Furthermore, nearly two-thirds of all respondents included in the sample were female (61.56%) and reported a total family income exceeding $25,000 per year (61.60%). Interestingly, Marital2 and Vote2 were relatively evenly split between the two categories, with approximately 41.56% being married as compared to 58.44% unmarried respondents and roughly 49.30% having voted compared to 50.00% not having done so.

Table 1

Descriptive Statistics—Dichotomous Variables

Variables	Categories			
ICTs	Yes	No	Missing	Valid
R use computer	98.44%	1.56%	0.00%	100.00%
Information retrieved from	76.25%	20.94%	2.81%	97.20%
Internet access @ home	82.81%	14.38%	2.81%	97.20%
R use www other than email	73.75%	0.63%	25.63%	74.40%
Citizenship variables—Action	Voted	Not vote	Missing	Valid
Did R vote in presidential election?	49.30%	50.00%	0.60%	99.40%
Covariates	Married	Unmarried	Missing	Valid
Marital status	41.56%	58.44%	0.00%	100.00%
	White	Other	Missing	Valid
Respondent's race	74.38%	25.63%	0.00%	100.00%
	Male	Female	Missing	Valid
Respondent's sex	38.44%	61.56%	0.00%	100.00%

Note. $N = 320$.

Notwithstanding minor variations, most scale variables were approximately normally distributed across their categories (Table A5). Nevertheless, some exhibited clustering and skewing. These included Degree, which contained a large group of respondents with high school as their highest degree (48.80%); Income due to the categorization of income (61.60% declaring a total family income in excess of $25,000); News because it consisted of a large group of respondents never having read a

newspaper; as well as several of the citizenship perception and significance variables (HelpUSA, Obeylaws, Othreasn, Paytaxes, Voteelec, and Watchgov), to which participants attributed the highest importance (41.60%, 60.90%, 42.50%, 69.10%, 54.70%, and 45.90%, respectively). Furthermore, data for the variable Milserve were only available for 2004.

Likewise, descriptive statistics were performed to review the continuous variables (Table 2). Through reviewing the minimum, maximum, and range of values, I attempted to discern and identify potential coding errors as well as invalid data. The nature and distribution of the values were explored through examining the mean, standard deviation, and variance as well as skewness and kurtosis. For example, the variable Age contained 320 valid cases, with respondents ranging in age from 18 to 35 years. The mean age was 28.02 years, with a standard deviation of 4.79 years. Emailtime and Wwwtime consisted of 320 and 317 valid cases, respectively. The mean for Emailtime was 383.99 minutes spent on email per week, whereas Wwwtime had a mean of 568.57 minutes per week. Interestingly, both displayed a large standard deviation, 595.13 minutes and 721.94 minutes, respectively. However, because the majority of respondents spent up to 200 minutes on email and up to 400 minutes on the Internet, with few participants exceeding 3,000 to 4,000 minutes a week, this is somewhat expected. Due to the clustering of scores to the left, the skewness of the distribution was positive for both variables (2.70 for Emailtime and 2.72 for Wwwtime). Additionally, the positive values for kurtosis were indicative of high peaks in the distribution of Emailtime and Wwwtime (8.83 and 9.51, respectively).

Table 2

Descriptive Statistics—Continuous Variables

Variables	*n*	Min	Max	Mean	*SD*
ICTs					
Time spent on email per week	320	0.00	4200.00	383.99	595.13
Time spent on the Internet per week	317	5.00	5040.00	568.57	721.94
Covariates					
Age of respondent	320	18.00	35.00	28.02	4.79
Composite indicators					
CI for ICTs	308	-194.07	1148.53	-2.26	212.76
Engaged MIL (2004)	217	-3.03	1.75	-0.01	0.99
Dutiful MIL (2004)	217	-3.72	1.53	-0.27	1.00
Engaged	320	-3.48	1.81	-0.06	0.99
Dutiful	320	-4.87	1.16	-0.17	0.98
Autonomy MIL (2004)	217	-3.77	1.56	-0.13	0.99
Solidarity MIL (2004)	217	-3.21	2.46	0.06	1.03
Participation MIL (2004)	217	-3.44	1.37	-0.09	0.92
Social order MIL (2004)	217	-2.98	1.67	-0.33	1.00
Autonomy	320	-3.17	2.24	-0.03	0.98
Solidarity	320	-3.56	2.51	0.07	1.00
Participation	320	-4.24	1.85	-0.19	1.08
Social order	320	-4.59	1.05	-0.11	0.99
Engaged action	308	-2.83	1.96	-0.15	0.94
Dutiful action	308	-1.87	2.56	0.30	1.03
Interaction term					
ICTs * Year	308	-194.07	1148.53	16.71	134.33

Note. $N = 320$.

In addition, independent *t*-test analyses were performed to assess changes in the variables associated with ICTs and confirm one of the basic tenets underlying the model, namely that ICT usage had increased over the 10-year period. Although homogeneity of variances, as assessed via Levene's test, only provided a positive result for Emailtime ($p = .74$), an inspection of the Welch *t*-test results indicated that all variables except Usewww met the assumption (Table 3, Table A6). Findings indicated a statistically

significant difference in mean computer use, $t(101.00) = -2.28$, $p = .03$; information retrieved from the Internet, $t(285.60) = 12.48$, $p = .00$; Internet access at home, $t(135.40) = -4.10$, $p = .024$; and time spent on the Internet, $t(146.51) = -4.26$, $p = .00$ between 2004 and 2014. Moreover, there was a statistically significant difference, between 2004 and 2014, in computer use, $M = -.05$, $SE = .02$, $t(101.00) = -2.28$, $p = .03$; information retrieved from the Internet, $M = .96$, $SE = .08$, $t(285.60) = 12.48$, $p = .00$; Internet access at home, $M = -.23$, $SE = .06$, $t(135.40) = -4.10$, $p = .024$; and time spent on the Internet, $M = -405.43$, $SE = 95.20$, $t(146.51) = -4.26$, $p = .00$ (Table A8). Together, the results supported the assertion that ICT use increased from 2004 to 2014.

Table 3

Independent Samples t Test (Age 18–35)

ICT variables	Year	*N*	*M*	Levene's Test (*p*)	*t*	*df*	Std. error difference
R use computer	GSS 2004	218	1.00	0.00	-3.34	318.00	0.02
	GSS 2014	102	1.05		-2.28	101.00	0.02
Time spent on email per week	GSS 2004	218	399.79	0.74	0.69	318.00	71.45
	GSS 2014	102	350.22		0.68	184.66	73.44
Information retrieved from	GSS 2004	218	2.34	0.00	10.11	309.00	0.10
	GSS 2014	93	1.38		12.48	285.60	0.08
Internet access @ home	GSS 2004	218	1.17	0.00	-4.65	309.00	0.05
	GSS 2014	93	1.10		-4.10	135.40	0.06
Time spent on the Internet per week	GSS 2004	218	441.95	0.00	-4.79	315.00	84.60
	GSS 2014	99	847.38		-4.26	146.51	95.20
CI for ICTs	GSS 2004	223	167.18	0.00	-3.50	324.00	26.15
	GSS 2014	103	258.61		-3.10	151.36	29.54

Principal Component Analysis (PCA)

Since the study sought to expand upon earlier research completed by Dalton (2008, 2009, 2015), I conducted a PCA using a partially cleaned dataset, containing no age restrictions and all missing cases. This permitted me to compare my findings with

those presented by Dalton (2008, 2009, 2015) and identify potential differences between his past and my present analysis. Furthermore, comparable PCA results would elevate the credibility and reliability of the findings, thus adding validity to the results.

To examine the suitability of the dataset, I completed a separate frequency and descriptive analysis to identify the characteristics of the data as well as check for violations of assumptions underlying PCA. The dataset used to conduct the PCA contained a total of 5,350 cases, which were approximately evenly distributed across the two years under investigation, with 2,812 (52.56%) cases in 2004 and 2,538 (47.44%) in 2014. The age of the population ranged from 18 to 89 years and older, with a mean age of 47.41 years and a standard deviation of 17.16 years. Although race contained a disproportionately large number of "White/Caucasian" (77.08%), gender was proportionately split between "Male" (45.25%) and "Female" (54.75%). Correspondingly, marital status was equally divided across the categories of "Married" (49.30%) and "Unmarried" (50.64%). While the dichotomous variables Compuse and Internet_Home displayed clustering of answers in one category exceeding 85%, a review of Usewww highlighted an undue amount of missing cases (82.41%).

Scale and continuous variables were approximately normally distributed, albeit minor variations and some skewing. For instance, several variables associated with citizenship norms and dimensions displayed skewing to the right due to respondents attributing a high significance to the variables (HelpUSA, Obeylaws, Othreasn, Paytaxes, Voteelec, and Watchgov). Citizenship perception variables generally contained upwards of 2,640 cases, with Buypol consisting of the fewest cases (2,644) and Obeylaws the

most (2,717). Similarly, the number of valid cases for variables associated with citizenship actions ranged from 2,581 cases for News to 5,313 for Vote2. Regrettably, data for the variable Milserve were only available for the year 2004, which was taken into consideration when conducting the PCA.

Although most control variables included fewer than five missing cases, the variables Income and Polviews emerged as exceptions to this rule with 554 and 1,592 missing cases, respectively. Additionally, Degree exhibited a 50.54% concentration of cases in the category of "High School" whereas Income displayed significant skewing to the right due to variable coding (64.45% of cases fall into the largest category). Variables associated with ICTs varied in their number of valid cases, ranging from 1,916 for Infofrom to 3,100 for Wwwtime. Unfortunately, data for Usewww had not been collected consistently, leading to 4,409 missing cases and the exclusion of the variable. Lastly, a descriptive analysis was performed on the variables Emailtime and Wwwtime to explore the nature and distribution of the values. For example, Emailtime and Wwwtime consisted of 2,088 and 3,100 valid cases, respectively. The mean for Emailtime was 374.15 minutes spent on email per week, whereas Wwwtime had a mean of 562.14 minutes per week. As expected, both displayed a large standard deviation, 642.09 minutes and 773.75 minutes, respectively. Other than outliers, no noteworthy issues were identified.

Once more, I conducted independent *t*-tests to assess changes in the variables associated with ICTs and confirm the basic tenet underlying the study. A review of the results revealed that aside from time spent on email and Internet access at home all

variables displayed a statistically significant change in their means between 2004 and 2014. Indeed, there was a statistically significant difference, between 2004 and 2014, in computer use, M = -.10, SE = .01, t(778.00) = -8.70, p = .00; information retrieved from the Internet, M = .66, SE = .04, t(1,095.87) = 17.13, p = .00; and time spent on the Internet, M = -295.75, SE = 41.78, t(1,222.92) = -7.08, p = .00 (Table A7). The results of the analysis indicated that, over all, ICT use increased from 2004 to 2014, thus supporting the principal supposition of the study.

PCA Assumptions

Before conducting the analysis, assumptions underlying the PCA were evaluated. These included (OECD, 2008; Tabachnick & Fidell, 2007):

- Assumption 1—Random sampling: Due to full probability sampling with a multistage cluster design the assumption was met.
- Assumption 2—Normally distributed data: A review of the frequency analysis and histograms indicated that the values for the variables were approximately normally distributed. Although some variables demonstrated skewness and kurtosis, none was marked enough warranting data transformation to approximate normality.
- Assumption 3—Multiple variables measured either at a continuous or ordinal level: All variables included in the analysis were either measured on a continuous or ordinal level, except several associated with ICTs. Based on these findings, I decided to forgo the construction of a CI for ICTs via PCA.

- Assumption 4—Existence of a linear relationship between the variables: The assumption was tested through the examination of the correlation matrix. Except in singular cases, the correlation matrix produced displayed correlations $r > .3$ and $r < .9$. The findings suggested that the questions correlated reasonably with one another and point to a low threat of multicollinearity.
- Assumption 5—Absence of outliers: After visually inspecting the variables' histograms, only Emailtime and Wwwtime emerged as elements of concern.
- Assumption 6—Sample size adequacy: To assess if the number of cases was sufficient to conduct a PCA, I examined the Kaiser-Meyer-Olkin (KMO) measure. For each iteration, the KMO measure verified the sampling adequacy by producing middling results, between .76 and .78.

Lastly, I examined the results of the Bartlett's test of spherity to verify that the correlation matrix was not an identity matrix. All PCA iterations resulted in statistically significant values ($p < .05$), indicating that the data were suitable for conducting a PCA.

PCA Results

Initially, I planned to conduct three separate PCAs to construct the CIs for citizenship norms and dimensions. However, the absence of data for one of the key variables in 2014 prompted a separate examination to test the effect of the variable Milserve by running analyses including and excluding the same. As a result, six independent PCAs were conducted to create the CIs for the categories and dimensions of citizenship. Due to violations in the assumptions for variables underlying ICTs, I decided

to forgo the creation of a CI via PCA. Instead, I chose to evaluate the viability of using either a CI constructed via equal weighing or including the individual variables. In particular, I deemed the creation of a CI for ICTs via PCA ill-advised as some variables were neither continuous nor ordinal, but categorical. Adding to this, the two continuous variables underlying ICTs contained outliers, which violated Assumption 5 and would have biased the CI created.

Seeing that the PCAs were performed to derive the dependent variables needed for the regression analysis, the results presented below are part of the preliminary analysis; a data preparation step in the investigation into the relationship between ICTs and citizenship norms and dimensions. Therefore, to answer the first research question and hypotheses concerning the influence of ICTs on citizenship norms for 18- to 35-year-olds between 2004 and 2014, I conducted two PCAs—one containing the variable Milserve and one without—to obtain the four dimensions of citizenship: autonomy, solidarity, participation, and social order (PCA 1 and PCA 2). PCA 3 through PCA 6 were completed to obtain the dependent variables to answer the second research question and associated hypotheses relating to the influence of ICTs on the perceptions and actions concerning the dimensions of citizenship (traditional vs. engaged) for 18- to 35-year-olds between 2004 and 2014. PCA 3 and PCA 4 examined the perceptual component, obtaining the dependent variables for engaged and dutiful citizenship—one including Milserve and one without. By contrast, PCA 5 and PCA 6 evaluated the citizenship dimensions associated with action to derive the dependent variables for engaged and dutiful citizenship action.

PCA 1. The first PCA was conducted to construct the four categories of citizenship norms by using only data collected in 2004 (Table 4, Table A8). It included the variables Actasoc, Buypol, HelpUSA, Helpwrld, Milserve, Obeylaws, Othreasn, Paytaxes, Voteelec, and Watchgov. Missing cases were listwise deleted, leaving a total of 1,406 valid cases from a population aged 18 to 89 years and older. The PCA was conducted using 10 variables with orthogonal (varimax) rotation. An inspection of the correlation matrix revealed that all variables had at least one correlation coefficient $r > .3$. The KMO measure was .78, with individual measures exceeding the minimum level .5, confirming sample size adequacy. Furthermore, Bartlett's test of spherity was statistically significant ($p < .05$), indicating that the data were suitable for PCA.

The initial analysis suggested three components with eigenvalues greater than one. Although a review of variance explained and a visual inspection of the scree plot indicated the retention of two factors, I decided to use four. Interestingly, the four-component solution also met the interpretability criterion and explained 63.14% of the total variance. Employing orthogonal rotation to aid in the interpretation, the factor loadings revealed citizenship norm clusters similar to the ones theorized. Nevertheless, one notable difference emerged as not all variables loaded as posited. Based on the factor loadings, Component 1 appears to embody autonomy in spite of also containing factors theoretically attributed to participation. Component 2 aligns with solidarity. However, Component 3 appears to be a blend of participation and social order, whereas Component 4 contains only Milserve for social order.

Table 4

Rotated Component Matrix—Citizenship Norms

	2004, MILSERVE			
Items How important to…	Autonomy	Solidarity	Participation	Social order
…be active in soc. or polit. assoc.	**0.75**	0.19	0.01	0.01
…keep watch on action of gov.	**0.68**	0.10	0.12	0.21
…always vote in elections	**0.67**	-0.15	**0.35**	-0.07
…try to understand reasoning of others	**0.54**	**0.40**	0.00	0.11
…choose products for pol. reasons	**0.51**	**0.40**	-0.07	0.17
…help worse off ppl in America	0.13	**0.82**	0.17	0.09
…help worse off ppl in the rest of world	0.12	**0.81**	0.07	-0.10
…always obey laws	-0.03	0.20	**0.79**	0.10
…never try to evade taxes	0.19	0.01	**0.78**	0.03
…serve in the military when needed	0.16	0.00	0.11	**0.95**
Eigenvalues	3.00	1.29	1.16	0.86
% of Variance	30.04	12.86	11.64	8.61
α	-	-	-	-

Note. Factor loadings ≥ .40 are in boldface.

PCA 2. The second PCA was carried out to construct the four categories of citizenship norms by using data collected in 2004 and 2014 (Table 5, Table A8). It included the variables Actasoc, Buypol, HelpUSA, Helpwrld, Obeylaws, Othreasn, Paytaxes, Voteelec, and Watchgov. Missing cases were deleted listwise, leaving a total of 2,511 valid cases from a population aged 18 to 89 years and older. The PCA was conducted using nine variables with varimax rotation. An inspection of the correlation matrix revealed that all variables had at least one correlation coefficient $r > .3$. The KMO measure was .77, with individual measures exceeding the minimum level .5, thus confirming sample size adequacy. Again, Bartlett's test of sphericity was statistically significant ($p < .05$), indicating that the data were suitable for PCA.

The initial analysis suggested three components with eigenvalues greater than one. Although a review of variance explained and a visual inspection of the scree plot implied the retention of two factors, I once more decided to use four dimensions to construct the citizenship norm categories. The four-component solution met the interpretability criterion and explained 67.81% of the total variance. Employing orthogonal rotation to aid in the interpretation, the factor loadings revealed citizenship norm clusters with notable differences due to variables not loading as theorized. Based on the factor loadings, Component 1 appears to embody autonomy in spite of also containing factors theoretically attributed to participation, Component 2 solidarity, Component 3 participation, and Component 4 social order.

Table 5

Rotated Component Matrix—Citizenship Norms

	2004/2014			
Items How important to…	Autonomy	Solidarity	Participation	Social order
…be active in soc. or polit. assoc.	**0.43**	0.18	**0.62**	0.01
…keep watch on action of gov.	**0.46**	0.05	**0.57**	0.11
…always vote in elections	-0.04	0.05	**0.87**	0.14
…try to understand reasoning of others	**0.73**	0.16	0.19	0.04
…choose products for pol. reasons	**0.79**	0.12	0.04	0.07
…help worse off ppl in America	0.21	**0.83**	0.06	0.13
…help worse off ppl in the rest of world	0.10	**0.88**	0.11	0.03
…always obey laws	0.01	0.19	0.03	**0.81**
…never try to evade taxes	0.11	-0.03	0.15	**0.81**
…serve in the military when needed	-	-	-	-
Eigenvalues	2.88	1.22	1.20	0.81
% of variance	31.98	13.59	13.29	8.95
α	0.68	0.67	0.64	0.53

Note. Factor loadings ≥ .40 are in boldface.

PCA 3. The third PCA was performed to construct the two dimensions of citizenship (perceptions) by using only data collected in 2004 (Table 6, Table A8). It included the variables Actasoc, Buypol, HelpUSA, Helpwrld, Milserve, Obeylaws, Othreasn, Paytaxes, Voteelec, and Watchgov. Missing cases were deleted listwise, leaving 1,406 valid cases from a population aged 18 to 89 years and older. The PCA was conducted on 10 variables with varimax rotation. An inspection of the correlation matrix revealed that all variables had at least one correlation coefficient $r > .3$. The KMO measure was .78, with individual measures exceeding the minimum level .5, confirming sample size adequacy. Furthermore, Bartlett's test of spherity was statistically significant ($p < .05$), indicating that the data were suitable for PCA.

As during the previous iterations, the initial analysis revealed three components with eigenvalues greater than one. However, a review of eigenvalues, variance explained, and a visual inspection of the scree plot suggested the retention of only two factors. The two-component solution met the interpretability criterion and explained 42.89% of the total variance. Employing orthogonal rotation to aid in the interpretation, the factor loadings revealed citizenship perception clusters similar to those proposed by Dalton (2008, 2009, 2015). Accordingly, the factor loadings on Component 1 suggest that it represents engaged citizenship, whereas Component 2 represents dutiful citizenship.

Table 6

Rotated Component Matrix—Citizenship Dimensions (Perception)

	2004, MILSERVE		2004/2014	
Item	Engaged	Dutiful	Engaged	Dutiful
How important to…				
…help worse off ppl in America	**0.75**	0.04	**0.63**	0.10
…help worse off ppl in the rest of world	**0.74**	-0.10	**0.62**	0.02
…try to understand reasoning of others	**0.61**	0.24	**0.67**	0.05
…choose products for pol. reasons	**0.61**	0.19	**0.63**	0.03
…be active in soc. or pol. associations	**0.54**	**0.37**	**0.67**	0.19
…never try to evade taxes	0.01	**0.68**	0.05	**0.81**
…always vote in elections	0.17	**0.63**	**0.37**	**0.43**
…always obey laws	0.07	**0.55**	0.05	**0.76**
…keep watch on action of gov.	**0.42**	**0.51**	**0.58**	0.27
…serve in the military when needed	0.08	**0.51**	-	-
Eigenvalues	3.00	1.29	2.88	1.22
% of variance	30.04	12.86	31.98	13.59
α	0.72	0.49	0.72	0.47

PCA 4. The fourth PCA aimed at constructing the two dimensions of citizenship (perceptions) by using data collected in 2004 and 2014 (Table 6, Table A8). It included the variables Actasoc, Buypol, HelpUSA, Helpwrld, Obeylaws, Othreasn, Paytaxes, Voteelec, and Watchgov, but not Milserve. Missing cases were listwise deleted, leaving 2,511 valid cases from a population aged 18 to 89 years and older. The PCA was conducted using nine variables with varimax rotation. An inspection of the correlation matrix revealed that all variables had at least one correlation coefficient $r > .3$. The KMO measure was .77, with individual measures exceeding the minimum level .5, thus confirming sample size adequacy. Additionally, Bartlett's test of spherity was statistically significant ($p < .05$), indicating that the data were suitable for PCA.

Again, the initial analysis proposed three components with eigenvalues greater than one. However, a review of eigenvalues, variance explained, and a visual inspection of the scree plot suggested the retention of only two factors. The two-component solution met the interpretability criterion and explained 45.57% of the total variance. Employing orthogonal rotation to aid in the interpretation, the factor loadings revealed citizenship perception clusters similar to those proposed by Dalton (2008, 2009, 2015), albeit with marked differences in strengths of associations.

PCA 5. The fifth PCA was conducted to construct the two dimensions of citizenship (actions) by using only data collected in 2004 (Table 7, Table A8). It included the variables Attrally, Avoidbuy, Joindem, Singdpet, Polint1, and Vote2. Missing cases were deleted listwise, leaving a total of 1,436 valid cases from a population aged 18 to 89 years and older. The PCA was conducted on six variables with varimax rotation. An inspection of the correlation matrix revealed that all variables had at least one correlation coefficient $r > .3$. The KMO measure was .76, with individual measures exceeding the minimum level .5, confirming sample size adequacy. The data were suitable for PCA, as indicated by the statistically significant results ($p < .05$) produced by Bartlett's test of spherity.

The initial analysis revealed two components with eigenvalues greater than one. A review of variance explained and a visual inspection of the scree plot further confirmed the retention of the two factors. The two-component solution met the interpretability criterion, explaining 59.39% of the total variance. Employing orthogonal rotation to aid in the interpretation, the factor loadings revealed citizenship perception clusters similar to

those of the perception spectrum. Component 1 appears to embody engaged citizenship, based on the factors corresponding to engaged variables loading heavily on the same. Correspondingly, Component 2 seems to represent dutiful citizenship.

Table 7

Rotated Component Matrix—Citizenship Dimensions (Action)

	2004, MILSERVE		2004/2014	
Items	Engaged CS	Dutiful CS	Engaged CS	Dutiful CS
Took part in a demonstration	**0.83**	-0.07	**0.83**	-0.09
Attended a political meeting or rally	**0.73**	0.29	**0.72**	0.30
Boycotted products for pol. reasons	**0.70**	0.19	**0.72**	0.19
Signed a petition	**0.57**	**0.37**	**0.59**	**0.37**
Did R vote in presidential election?	0.03	**0.87**	0.03	**0.86**
How interested in politics	0.27	**0.65**	0.27	**0.68**
Eigenvalues	2.56	1.01	2.59	1.03
% of variance	42.59	16.80	43.16	17.13
α	0.73	0.46	0.73	0.46

PCA 6. The sixth PCA was conducted to construct the two dimensions of citizenship (actions) by using data collected in 2004 and 2014 (Table 7, Table A8). It included the variables Attrally, Avoidbuy, Joindem, Singdpet, Polint1, and Vote2. Missing cases were listwise deleted, leaving a total of 2,606 valid cases from a population aged 18 to 89 years and older. The PCA was conducted on six variables with varimax rotation. An inspection of the correlation matrix revealed that all variables had at least one correlation coefficient $r > .3$. The KMO measure was .76, with individual measures exceeding the minimum level .5, thus confirming sample size adequacy. Bartlett's test of spherity was statistically significant ($p < .05$), indicating that the data were suitable for PCA.

Once more, the initial analysis displayed two components with eigenvalues greater than one. A review of variance explained and a visual inspection of the scree plot further confirmed the retention of the two factors. Furthermore, the two-component solution met the interpretability criterion and explained 60.30% of the total variance. Employing orthogonal rotation to aid in the interpretation, the factor loadings revealed citizenship perception clusters similar to those of the perception spectrum. Component 1 appears to embody engaged citizenship and Component 2 dutiful citizenship.

Reliability and Sensitivity Analysis

A reliability and sensitivity analysis were conducted for each of the PCAs to assess whether the combination of variables consistently reflected the constructs it intended to measure (Tabachnick & Fidell, 2007). Reliability and sensitivity analysis for the first two PCAs inquiring into dimensions of citizenship (perception) all suggested that the subscale for engaged citizenship displayed reliability, as indicated by Cronbach's α = .72. However, the subscale for dutiful citizenship displayed low reliability with Cronbach's α = .49. A further review of the data using both, the *Corrected Item-Total Correlation* and *Cronbach's α If Item Deleted*, indicated that the removal of Milserve would improve the scale's reliability. Comparable results were obtained for the dimensions of citizenship (action) analysis. Once more, the scale for engaged citizenship exhibited reliability, as reflected in Cronbach's α = .73, whereas Cronbach's α = .46 pointed to low reliability for the dutiful citizenship scale. The reliability and sensitivity analysis of the scales obtained via the remaining two PCAs exploring the categories of

citizenship norms point to low reliability for each of the four items as all values for Cronbach's α are below the threshold, Cronbach's α < .7.

Composite Indicators

Four methods for constructing CIs were reviewed and evaluated before selecting the final method. The first and simplest method examined was the construction of all CIs through equal weighing (i.e., Equal Weighing = $\frac{1}{n} \times var_1 + \frac{1}{n} \times var_2 + \frac{1}{n} \times var_3 + \ldots + \frac{1}{n} \times var_n$). The second strategy utilized the factor scores calculated by SPSS via the Anderson-Rubin method, including the calculation of uncorrelated and standardized factor scores with a mean of zero and a standard deviation of one (DiStefano, Zhu, & Mindrila, 2009). The third technique, the weighted component score, entailed the use of the weights obtained from the PCA and assigning them to each component in each factor to create the CIs (e.g., Weighted Component Score = $b_1 \times var_1 + b_2 \times var_2 + b_3 \times var_3 + \ldots + b_n \times var_n$). The OECD (2008) handbook for constructing CIs guided the fourth and most advanced method. The procedure took the weights from the rotated matrix of factor loadings and normalized the squared factor loadings to assemble intermediate composite indicators. Only the highest factor loadings for each component were retained to create the intermediate CIs. Lastly, the intermediate CIs were "aggregated by assigning a weight to each one of them equal to the proportion of the explained variance in the data set" (OECD, 2008, p. 90). The CIs produced by this method were essentially the product of a reduction in dimensions.

Due to the divergence between the theorized categories of citizenship norms and those obtained via the PCA, I decided to forgo the use of the dimension reduction

method. Adding to this, a review of the values obtained by each strategy through the use of descriptive statistics and histograms further suggested either the use of CIs obtained via the weighted component score method or the factor scores calculated by SPSS. Both met the requirements for multiple linear regression analysis.

Multiple Linear Regression (MLR)

After concluding the construction of the dependent variables, I proceeded with my investigation into the relationship between ICT use and citizenship norms and dimensions by conducting a multiple linear regression (MLR) analysis. Due to the nature of the two research questions and associated hypotheses, I conducted several separate MLRs to explore the relationship between the variables and test the hypotheses.

MLR Assumptions

Before conducting the analysis, assumptions underlying MLR were examined and evaluated. These included (Tabachnick & Fidell, 2007):

- Assumption 1—Random sampling: Due to full probability sampling with a multistage cluster design the assumption was met.
- Assumption 2—One dependent variable measured at the continuous level, interval or ratio: Both, the factor scores calculated by SPSS as well as the CIs obtained via the weighted component score method are continuous. In other words, the assumption was met due to the creation of CIs for each of the dependent variables.
- Assumption 3—Two or more independent variables measured at the continuous or nominal level: The variables associated with ICTs as well as the

covariates met the requirement, as they were either continuous, dichotomous, or nominal.

- Assumption 4—Independence of observations: I used the Durbin-Watson statistic to assess the independence of observations. Values for the statistics obtained ranged from 1.73 to 2.34. Because values between 1.5 and 2.5 are considered acceptable, with values close to two suggesting the absence of first-order autocorrelation, the assumption was met.
- Assumption 5—Linear relationship between the dependent variable and each of the independent ones, individually and collectively: I tested linearity in two parts. First, I created a scatterplot plotting the studentized residuals against the unstandardized predicted values to examine whether a linear relationship existed between the dependent and independent variables collectively. Second, I inspected the partial regression plots to assess whether the dependent variable had a linear relationship with any of the independent variables. A visual inspection of the graphs indicated the existence of somewhat to approximately linear relationships in each instance.
- Assumption 6—Homoscedasticity of residuals: A visual inspection of the scatterplot of studentized residuals versus unstandardized predicted values suggested the assumption was met for each MLR iteration. Residuals appeared to be randomly scattered.
- Assumption 7—Absence of multicollinearity: Multicollinearity was evaluated by examining the correlation coefficients and tolerance/VIF values. All

correlation coefficients for the independent variables were below the threshold of r = .7, with the highest correlation being r = .68. Similarly, tolerance values exceeded the minimum level of .10 while VIF values remained below 10 for each independent variable. Based on the findings, I concluded that multicollinearity did not pose a significant threat.

- Assumption 8—No significant outliers, high leverage, or highly influential points: A review of *Casewise Diagnostics* and studentized deleted residuals highlighted the existence of some outliers outside ± 3 standard deviations. Since most MLR iterations contained no more than three outliers, I decided to retain the affected cases. Furthermore, an inspection of the leverage values did not highlight any notable issues. Indeed, in most cases leverage values remained close to .20, which is considered safe. Only in a few instances did leverage values rise to risky levels with values close to .50. Lastly, I examined Cook's distance values for each case. None of the cases displayed a Cook's distance above 1, suggesting the absence of highly influential points.
- Assumption 9—Approximately normally distributed residuals: A visual inspection of the histograms and P-P plots pointed to approximately normally distributed residuals. Although some deviations were evident, none of the graphs displayed a marked violation of the assumption.

MLR Results

Using the CIs created from the PCA results, I performed several MLRs to test the hypotheses and answer the research questions. I conducted the analyses using both the

factor scores calculated by SPSS as well as the CIs created via the weighted component score method to assess potential differences, ensure consistency, and promote reliability of findings. Likewise, I evaluated the inclusion of the separate variables for ICTs as well as the application of the CI constructed via equal weighing.

Data interpretation included the evaluation of model fit via the multiple correlation coefficient R to determine the strength of the linear association between the variables. I considered values closer to $R = 1$ indicative of a strong relationships between the variables, while deeming values approaching $R = 0$ as weak. Furthermore, I reviewed the coefficients of determination, R^2, to measure the proportion of variance in the dependent variables above the mean model. Lastly, I examined the statistical significance of the model as well as model coefficients. Unless otherwise noted, the statistical power for the analysis was .8 and the confidence interval 95%, $\alpha = .05$.

Preanalysis. Before proceeding with the investigation, I conducted four separate analyses to examine the separate and individual effect of ICTs and the covariates on the dependent variables. As such, I performed separate MLRs to predict engaged citizenship first from the CI for ICTs, then the separate ICT variables (Compuse, Emailtime, Infofrom, Internet_Home, and Wwwtime), and lastly from the covariates (Age, Degree, Income, Marital2, Partyid, Race2, Sex, ICTs * Year, and Year_Dummy). Reviewing the results, the model containing the CI for ICTs was not statistically significant in predicting engaged citizenship, $F(1, 306) = 1.50$, $p > .05$, adjusted $R^2 = .002$ (Table A9). Moreover, R^2 for the overall model was only .50% with an adjusted R^2 of .20%, a negligible size effect according to conventions established by Cohen (1988).

Similarly, the model containing the individual ICT variables was not statistically significant in predicting engaged citizenship, $F(5, 302) = 2.12$, $p > .05$, adjusted $R^2 = .02$. Although it fared better than the model containing the CI for ICTs, the size effect remained trivial as evidenced by R^2 for the overall model of 3.40% and an adjusted R^2 of 1.80%. By contrast, the model containing the covariates was statistically significant in predicting engaged citizenship, $F(8, 396) = 2.74$, $p < .05$, adjusted $R^2 = .03$ (Table A9). Nevertheless, R^2 for the overall model was 5.20%, also a minimal size effect.

The model containing the CI for ICTs, the interaction term, and the covariates was statistically significant in predicting engaged citizenship, $F(10, 270) = 2.08$, $p < .05$, adjusted $R^2 = .04$. Likewise, the model containing the individual variables for ICTs, the interaction terms, and the covariates was statistically significant in predicting engaged citizenship, $F(17, 263) = 1.79$, $p < .05$, adjusted $R^2 = .03$. However, neither of the models displayed a remarkable size effect, as reflected in their respective R^2 for the overall models (Table A9, Table A10).

Lastly, I compared the CIs created for citizenship norms and dimensions to the factor scores calculated by SPSS. Reviewing the results, the model containing the CI for ICTs and the covariates was not statistically significant in predicting the CI for engaged citizenship, $F(10, 270) = 1.82$, $p > .05$, adjusted $R^2 = .03$ (Table A9). In contrast, the model containing the CI for ICTs and the covariates was statistically significant in predicting the factor scores for engaged citizenship, $F(10, 270) = 2.08$, $p < .05$, adjusted $R^2 = .04$ (Table A9, Table A10).

Based on the findings of these preliminary MLRs, I decided to retain the CI for ICTs to ease the interpretation of the analysis results. In addition, I opted for the factor scores created by SPSS rather than the CIs created via the weighted component score method to reduce variability and minimize potential bias in the findings.

MLR. To test the hypotheses and furnish insights regarding the research questions, I assessed the relationship among the variables using the combined years. I completed a MLR to predict citizenship norms from ICT use while controlling for the covariates (Age, Degree, Income, Marital2, Partyid, Race2, Sex, ICTs * Year, and Year_Dummy). After reviewing the data it became evident that the model was not statistically significant in predicting autonomy, $F(10, 270) = 1.36$, $p > .05$, adjusted $R^2 = .01$; and participation, $F(10, 270) = 1.26$, $p > .05$, adjusted $R^2 = .01$. However, it was statistically significant for solidarity, $F(10, 270) = 3.80$, $p < .05$, adjusted $R^2 = .09$; and social order, $F(10, 270) = 3.04$, $p < .05$, adjusted $R^2 = .07$ (Table A9). Nevertheless, size effects remained small for both, with R^2 for the overall model of 4.46% and 10.12% respectively. Additionally, only some of the variables contained in the model added statistically significantly to the prediction, $p < .05$. The regression coefficients and standard errors can be found in Table A11.

The model run to predict perceptions of citizenship dimensions was statistically significant in predicting engaged citizenship, $F(10, 270) = 2.08$, $p < .05$, adjusted $R^2 = .04$; and dutiful citizenship, $F(10, 270) = 2.73$, $p < .05$, adjusted $R^2 = .06$ (Table A9). Again, only some of the variables contained in the model added statistically significantly to the prediction, as indicated by $p < .05$. Moreover, size effects for engaged and dutiful

citizenship remained small with R^2 for the overall model of 7.15% and 9.19%, respectively. The regression coefficients and standard errors can be found in Table A12.

Similarly, the MLR model run to predict actions of citizenship dimensions was statistically significant in predicting engaged citizenship, $F(10, 272) = 2.75$, $p < .05$, adjusted $R^2 = .06$; and dutiful citizenship, $F(10, 272) = 6.33$, $p < .05$, adjusted $R^2 = .16$ (Table A9). Once more, not all the variables contained in the model added statistically significantly to the prediction, as indicated by the *p*-values. Furthermore, size effects for engaged and dutiful citizenship (action) remained small with R^2 for the overall model of 9.18% and 18.87%, respectively. The regression coefficients and standard errors can be found in Table A13.

Results, Research Question 1

As a result of ICTs, how have citizenship norms changed for 18- to 35-year-olds between 2004 and 2014?

The null hypotheses associated with RQ1 presumed that the effect of ICT use and year as a model did not have a significant effect on the categories of citizenship norms. I, therefore, evaluated the β-values and significance levels of the variables in the model to either accept or reject the null hypotheses.

$H_0 1_A$. The relationship between ICT use and the citizenship category of participation has remained constant for 18- to 35-year-olds between 2004 and 2014.

Reviewing the data from the analysis, the null hypothesis could not be rejected since only Degree emerged as significant and contributing to the explanatory power of the model (Table A11). The results indicated the absence of a statistically significant

relationship between the independent variable and participation. The findings further suggested that neither the year nor the interaction term had a statistically significant effect. Adding to this, the model was not statistically significant in predicting participation, $F(10, 270) = 1.26$, $p > .05$, adjusted $R^2 = .01$.

$H_0 1_B$. The relationship between ICT use and the citizenship category of autonomy has remained constant for 18- to 35-year-olds between 2004 and 2014.

The null hypothesis could not be rejected because none of variables of inquiry were significant or contributed significantly to the explanatory power of the model (Table A11). The results indicated the absence of a statistically significant relationship between ICT use and autonomy. The findings further suggested that neither the year nor the interaction term had a statistically significant effect. Lastly, the model was not statistically significant in predicting autonomy, $F(10, 270) = 1.36$, $p > .05$, adjusted $R^2 = .01$.

$H_0 1_C$. The relationship between ICT use and the citizenship category of social order has remained constant for 18- to 35-year-olds between 2004 and 2014.

Reviewing the data from the analysis, the null hypothesis could not be rejected since only the variables Income and Marital2 were significant and contributed significantly to the explanatory power of the model (Table A11). None of the variables related to ICT use or the year demonstrated a statistically significant effect or contributed to the explanatory power of the model. However, the model was statistically significant in predicting social order, $F(10, 270) = 3.04$, $p < .05$, adjusted $R^2 = .07$, albeit only minimally (R^2 for the overall model is 10.12%).

$H_0 1_D$. The relationship between ICT use and the citizenship category of solidarity has remained constant for 18- to 35-year-olds between 2004 and 2014.

The null hypothesis could not be rejected because neither ICT use nor year were significant or contributed significantly to the explanatory power of the model (Table A11). Yet, the model was statistically significant in predicting solidarity, $F(10, 270) = 3.80$, $p < .05$, adjusted $R^2 = .09$, albeit only minimally (R^2 for the overall model is 12.33%).

Results, Research Question 2

As a result of ICTs, how have perceptions and actions concerning the dimensions of citizenship (traditional vs. engaged) changed for 18- to 35-year-olds between 2004 and 2014?

The null hypotheses associated with RQ2 presumed that the effect of ICT use and year as a model did not have a significant effect on the dimensions of citizenship, perception and actions. Therefore, I explored the β-values and significance levels of the variables in the model to either accept or reject the null hypotheses.

$H_0 2_A$. The relationship between ICT use and the significance attributed to dutiful/traditional citizenship norms has remained constant for 18- to 35-year-olds between 2004 and 2014.

Reviewing the data from the analysis, the null hypothesis could not be rejected since the results indicated the absence of a statistically significant relationship between the independent variable ICTs and the significance attributed to dutiful/traditional citizenship (Table A12). The findings further suggested that neither the year nor the

interaction term had a statistically significant effect or contributed to the explanatory power of the model. The only two variables adding to the explanatory power of the model, as indicated by $p < .05$, were the covariates Income and Marital2. Nevertheless, the model appeared statistically significant in predicting dutiful/traditional citizenship, $F(10, 270) = 2.73$, $p < .05$, adjusted $R^2 = .06$.

$H_0 2_B$. The relationship between ICT use and levels of dutiful/traditional citizenship actions has remained constant for 18- to 35-year-olds between 2004 and 2014.

The null hypothesis could not be rejected because ICT use was not statistically significant, $p < .05$ (Table A13). By contrast, the year had a statistically significant effect and contributed to the explanatory power of the model. The model was statistically significant in predicting levels of dutiful/traditional citizenship actions, $F(10, 272) = 6.33$, $p < .05$, adjusted $R^2 = .16$.

$H_0 2_C$. The relationship between ICT use and the significance attributed to engaged citizenship norms has remained constant for 18- to 35-year-olds between 2004 and 2014.

Reviewing the data from the analysis, the null hypothesis could not be rejected since only the variables Age and Degree were statistically significant and contributed significantly to the explanatory power of the model (Table A12). None of the variables related to ICT use or the year demonstrated a statistically significant effect. However, the model was statistically significant in predicting engaged citizenship, $F(10, 270) = 2.08$, $p < .05$, adjusted $R^2 = .04$.

H_02_D. The relationship between ICT use and levels of engaged citizenship actions has remained constant for 18- to 35-year-olds between 2004 and 2014.

The null hypothesis could not be rejected because the results indicated the absence of a statistically significant relationship between ICT use and levels of engaged citizenship actions (Table A13). The findings further suggested that the year did not have a statistically significant effect or contributed to the explanatory power of the model. Even so, the model was statistically significant in predicting engaged citizenship actions, $F(10, 272) = 2.75$, $p < .05$, adjusted $R^2 = .06$.

Additional Analysis and MLR Results

Given the findings and the resulting inability to reject any of the null hypotheses, I elected to further explore the data. Since I had to remove Milserve from the dataset due to the absence of data for 2014, I added the variable to align my analysis with Dalton's (2008, 2009, 2015) model and acquire insights into the effects Milserve may have had. Consequently, I preformed several MLRs to examine the effect of Milserve by concentrating solely on data from 2004. Furthermore, I conducted a series of MLRs for each of the years to test for potential differences in the strength of the linear associations between the variables.

MLR—2004 Comparison

To obtain a better understanding of the effect of the variable Milserve on the relationship between ICTs and citizenship norms and dimensions, I performed a separate analysis on the data for 2004—the only year containing the variable. Comparing the results for the MLRs completed, using the CIs containing Milserve and those without, I

discovered a remarkable shift in the data. Findings indicated that the addition of Milserve revised the models, improving model predictability and statistical significance. Moreover, it transformed the previously statistically insignificant models for autonomy and participation into statistically significant ones. Accordingly, it elevated model adequacy through improved effect sizes. To be more specific, I conducted a MLR to predict citizenship norms including Milserve from ICTs while controlling for the covariates (Age, Degree, Income, Marital2, Partyid, Race2, and Sex) and restricting the year to 2004 (Year_Dummy = 0). The model was statistically significant in predicting autonomy, $F(8, 188) = 2.51$, $p < .05$, adjusted $R^2 = .06$; solidarity, $F(8, 188) = 3.48$, $p < .05$, adjusted $R^2 = .09$; participation, $F(8, 188) = 3.64$, $p < .05$, adjusted $R^2 = .10$; and social order, $F(8, 188) = 3.27$, $p < .05$, adjusted $R^2 = .09$ (Table A14). Size effects for autonomy, solidarity, participation, and social order were small, with R^2 for the overall model of 9.64%, 12.91%, 13.42%, and 12.22%, respectively. Not all variables contained in the model added statistically significantly to the prediction, as indicated by few $p < .05$. The regression coefficients and standard errors can be found in Table A15.

Interestingly, differences in the models became apparent when I performed the analysis using the CIs excluding Milserve. In this case, the model was statistically significant in predicting solidarity, $F(8, 189) = 4.40$, $p < .05$, adjusted $R^2 = .12$, and social order, $F(8, 189) = 4.35$, $p < .05$, adjusted $R^2 = .12$; but not participation, $F(8, 189) = 1.37$, $p > .05$, adjusted $R^2 = .02$, and autonomy, $F(8, 189) = .78$, $p > .05$, adjusted $R^2 = -.01$ (Table A14). The differences in the results indicated that the absence of Milserve negatively affected model predictability, thus diminishing statistical significance.

Furthermore, to investigate the relationship between citizenship dimensions and ICTs with and without the influence of the variable Milserve, I completed MLRs to predict citizenship dimensions from ICTs while controlling for the covariates and restricting the year to 2004. Here, the addition of Milserve only had a minor effect on statistical predictability. Although it moderately improved model predictability and statistical significance, it had a negligible effect on model adequacy. Specifically, the model examining perceptions of citizenship dimensions containing Milserve was statistically significant in predicting engaged citizenship, $F(8, 188) = 3.03$, $p < .05$, adjusted $R^2 = .08$; and dutiful citizenship, $F(8, 188) = 2.77$, $p < .05$, adjusted $R^2 = .07$ (Table A14). Size effects for engaged and dutiful citizenship were small with R^2 for the overall model of 11.42% and 10.53%, respectively. Only two of the variables contained in the model, Age and Race2, added statistically significantly to the prediction, as indicated by $p < .05$. The regression coefficients and standard errors can be found in Table A16.

As in the previous case, differences emerged in the results when using the CI excluding Milserve. The model assessing perceptions of citizenship dimensions excluding Milserve was statistically significant in predicting engaged citizenship, $F(8, 189) = 2.45$, $p < .05$, adjusted $R^2 = .06$; and dutiful citizenship, $F(8, 189) = 3.28$, $p < .05$, adjusted $R^2 = .09$ (Table A14). Size effects for engaged and dutiful citizenship were small with R^2 for the overall model of 9.39% and 12.18%, respectively. Again, only some of the variables contained in the model added statistically significantly to the prediction, as

indicated by $p < .05$. The regression coefficients and standard errors can be found in Table A18.

MLR—2004 vs. 2014

I also completed a separate analysis on each of the years contained in the dataset to test the strength of the linear association between the variables in each. Specifically, I performed a MLR to predict citizenship norms from ICTs while controlling for the covariates (Age, Degree, Income, Marital2, Partyid, Race2, and Sex) and restricting the year first to 2004 (Year_Dummy = 0) and then to 2014 (Year_Dummy = 1). Although the model for 2004 was not statistically significant in predicting autonomy, $F(8, 189) = .78$, $p > .05$, adjusted $R^2 = -.01$ and participation, $F(8, 189) = 1.37$, $p > .05$, adjusted $R^2 = .02$; it was statistically significant for solidarity, $F(8, 189) = 4.40$, $p < .05$, adjusted $R^2 = .12$ and social order, $F(8, 189) = 4.35$, $p < .05$, adjusted $R^2 = .12$ (Table A14). Only some of the variables contained in the model added statistically significantly to the prediction, $p < .05$. The regression coefficients and standard errors can be found in Table A17. By contrast, none of the 2014 models were statistically significant in predicting the categories of citizenship, as demonstrated by autonomy, $F(8, 74) = .73$, $p > .05$, adjusted $R^2 = -.03$; solidarity, $F(8, 74) = .89$, $p > .05$, adjusted $R^2 = -.01$; participation, $F(8, 74) = .76$, $p > .05$, adjusted $R^2 = -.02$; and social order, $F(8, 74) = .45$, $p > .05$, adjusted $R^2 = -.06$ (Table A14).

To explore the relationship between citizenship dimensions and ICTs in both years, I completed MLRs to predict citizenship dimensions from ICTs while controlling for the covariates and restricting the year to either 2004 or 2014. The model examining

perceptions of citizenship dimensions for 2004 was statistically significant in predicting engaged citizenship, $F(8, 189) = 2.45$, $p < .05$, adjusted $R^2 = .06$; and dutiful citizenship, $F(8, 189) = 3.28$, $p < .05$, adjusted $R^2 = .09$. Size effects for engaged and dutiful citizenship were small with R^2 for the overall model of 9.39% and 12.18%, respectively (Table A14). Again, not all the variables contained in the model added statistically significantly to the prediction, as indicated by $p < .05$. The regression coefficients and standard errors can be found in Table A18. Additionally, the MLR model inspecting actions of citizenship dimensions for 2004 was statistically significant in predicting engaged citizenship, $F(8, 189) = 2.44$, $p < .05$, adjusted $R^2 = .06$; and dutiful citizenship, $F(8, 189) = 5.16$, $p < .05$, adjusted $R^2 = .15$ (Table A14). Size effects for engaged and dutiful citizenship were small with R^2 for the overall model of 9.37% and 17.93%, respectively.

Once more, differences materialized in the results for 2014. The model evaluating perceptions of citizenship dimensions for 2014 was not statistically significant in predicting engaged citizenship, $F(8, 74) = .70$, $p > .05$, adjusted $R^2 = -.03$; or dutiful citizenship, $F(8, 74) = .56$, $p > .05$, adjusted $R^2 = -.05$. Additionally, the MLR model inspecting actions of citizenship dimensions for 2014 was not statistically significant in predicting engaged citizenship, $F(8, 76) = 1.46$, $p > .05$, adjusted $R^2 = .04$; but was statistically significant for dutiful citizenship, $F(8, 76) = 4.24$, $p < .05$, adjusted $R^2 = .24$ (Table A14). Again, only some of the variables contained in the model added statistically significantly to the prediction, as indicated by $p < .05$. The regression coefficients and standard errors can be found in Table A18 and Table A19.

MLR—Age Unrestricted

Lastly, I inquired into the overall relationship between ICTs, citizenship norms, and dimensions by removing the restrictions on age. To assess the strength of the linear association between the variables, I conducted a separate analysis covering the population aged 18 to 89 years and older to predict citizenship norms from ICTs while controlling for the covariates (Age, Degree, Income, Marital2, Partyid, Race2, Sex, ICTs * Year, and Year_Dummy). The age unrestricted model was statistically significant in predicting autonomy, $F(10, 798) = 1.90$, $p < .05$, adjusted $R^2 = .01$; solidarity, $F(10, 798) = 7.41$, $p < .05$, adjusted $R^2 = .07$; participation, $F(10, 798) = 5.00$, $p < .05$, adjusted $R^2 = .05$; and social order, $F(10, 798) = 5.27$, $p < .05$, adjusted $R^2 = .05$. Size effects for citizenship norms were small with R^2 for the overall models of 2.30%, 8.50%, 5.90%, and 6.20%, respectively (Table A20). Only some of the variables contained in the model added statistically significantly to the prediction, $p < .05$.

To explore the relationship between ICTs and citizenship dimensions, I performed MLRs to predict citizenship dimensions from ICTs while controlling for the covariates. The model examining perceptions of citizenship dimensions was statistically significant in predicting engaged citizenship, $F(10, 798) = 6.29$, $p < .05$, adjusted $R^2 = .61$; and dutiful citizenship, $F(10, 798) = 5.40$, $p < .05$, adjusted $R^2 = .05$. Size effects for engaged and dutiful citizenship were small with R^2 for the overall model of 7.30% and 6.30%, respectively (Table A20). Again, not all the variables contained in the model added statistically significantly to the prediction, as indicated by $p < .05$. Additionally, the MLR model exploring actions of citizenship dimensions was statistically significant in

predicting engaged citizenship, $F(10, 818) = 8.07$, $p < .05$, adjusted $R^2 = .08$; and dutiful citizenship, $F(10, 818) = 24.53$, $p < .05$, adjusted $R^2 = .22$ (Table A20). Size effects for engaged and dutiful citizenship were small with R^2 for the overall model of 9.00% and 23.10%, respectively. Regression coefficients and standard errors for each of the age unrestricted MLR can be found in Table A21.

Insights gained by exploring the age unrestricted dataset highlighted that even though each analysis contained variables adding statistically significantly to the prediction, none found ICTs or the interaction term ICTs * Year to be statistically significant. This suggests that ICTs are not, as previously theorized, linked to changes in participatory perceptions or behaviors between 2004 and 2014.

Discussion

While findings indicated that the regression models for perceptions and actions of engaged and dutiful citizenship as well as solidarity and social order were a good fit for the data, none of the null hypotheses could be rejected. Indeed, despite results suggesting that ICTs, the covariates, and the dummy variables together as a model statistically significantly predicted citizenship dimensions and two categories of citizenship norms, none of the models indicated that this is due to ICT use. Thus, even though the relationship between the variables and citizenship norms and dimensions had not remained constant for 18- to 35-year-olds between 2004 and 2014, changes appeared not to be linked to ICT use or the interaction term ($p > .05$). Consequently, the results from the statistical analysis did not allow for the rejection of any of the null hypotheses. All null hypotheses were retained since the data suggested that none of the variables of

interest—ICTs, the interaction term, and the dummy variable for year—contributed to model predictability or added statistically significantly to the model.

In spite of the analysis demonstrating that some of the regression models were a good fit for the data, concerns remain. Especially, discrepancies between overall model fit and the statistical significance of the variables of interest left questions unanswered. While the analysis suggested that ICTs, the covariates, and dummy variables as a model statistically significantly predicted perceptions and actions of dutiful/traditional and engaged citizenship, the same could not be said for citizenship norms. Despite statistically significantly predicting solidarity and social order, the models for autonomy and participation were nonsignificant. Although retaining the outliers may have introduced bias and decreased the predictive reliability of the model, their removal would not have markedly improved the models. Adding to this, the *t*-statistic suggested that ICTs did not add statistically significantly to the prediction in any of the models, even though ICT use increased from 2004 to 2014. Indeed, the statistical results highlighted that increases in ICT use did not equate to increases in participation or changes in citizenship norms or dimensions. Furthermore, the size effects for all models considered were small with R^2 for the overall model below 20% and adjusted R^2 less than 15%. Finally, an assessment of model adequacy via R^2 indicated that while the regression models predicted changes in citizenship norms and dimensions, ICTs may not constitute an adequate predictor. More specifically, the findings from the MLRs suggested that ICT use did not play a major role in changing citizenship norms and dimensions as theorized. Rather, they appeared to behave more like a covariate and less like a predictor.

Summary

The results of the MLRs displayed mixed results for the relationship between ICT use and citizenship norms and dimensions. Although the models indicated that a relationship between the variables exists, a closer look at the data revealed that ICT use was not a statistically significant predictor for how citizenship norms or dimensions of citizenship (traditional vs. engaged) have changed for 18- to 35-year-olds between 2004 and 2014. Given the findings, I was unable to reject the null hypotheses proposed and had to conclude that ICTs may not have significantly contributed to changes in citizenship norms and dimensions, despite increases in ICT use between 2004 and 2014. In Chapter 5, I present and interpret the research findings in detail, the implications for social change, and the limitations of the study along with recommendations for further inquiry.

Chapter 5: Results

Introduction

The purpose of the study was the examination of the relationship between ICTs, citizenship norms, and dimensions of citizenship for 18- to 35-year-olds in the United States between 2004 and 2014. By pooling cross-sectional data obtained from the GSS, I tested whether ICT use influenced categories of citizenship norms and dimensions of citizenship over the period of inquiry. Due to the multifaceted nature of the variables involved in the analysis, I constructed CIs using PCA as a weighing method. To determine the relationship between ICTs, citizenship norms, and dimensions of citizenship, I performed a series of multiple linear regression analyses. ICT use was specified as the independent variable contributing to changes in the outcomes of citizenship norms and dimensions. Two interaction terms, Year and ICTs * Year, were added to ascertain the effect of time on the relationship between the independent and dependent variables. To control for the mediating or intervening effects of age, gender, education, income, political identification (ranging from extremely liberal to extremely conservative), and race/ethnicity, I added these as covariates.

The statistical analysis and MLR results indicated that ICTs, the covariates, and dummy variables as a model statistically significantly predicted perceptions and actions of dutiful and engaged citizenship. However, the same could not be said for citizenship norms. Out of the four categories, the model only provided statistically significant results for two, solidarity and social order. Adding to this, discrepancies between overall model fit and the statistical significance of the variables did not allow for the rejection of any of

the null hypotheses. Analysis results suggested that neither ICT use nor the interaction term or the dummy variable for year contributed to model predictability or added statistically significantly to the model. Moreover, even though the relationship between the variables and citizenship norms and dimensions had not remained constant for 18- to 35-year-olds between 2004 and 2014 in the models, changes appear not to be linked to ICT usage or change over time ($p > .05$).

Beginning with an interpretation of the findings, the chapter contains a discussion of the results from the statistical analysis and their implications. I also examine the findings within the context of the theoretical framework and provide recommendations for further research. The chapter concludes with an assessment of the implications for social change and recommendations for politically engaging with individuals.

Interpretation of Findings

Findings from this quantitative pooled cross-sectional study offer new insights and extend understanding of changes in democratic participation for 18- to 35-year-olds in the United States between 2004 and 2014. Because I sought to uncover how ICT use impacted citizenship norms and dimensions of citizenship, I primarily explored the nature of the relationship between the variables. Interestingly, neither ICT use nor the interaction terms emerged as statistically significant predictors for changes in the dependent variables. Despite the independent variables showing a statistically significant increase over the time frame, their relationship with the dependent variables remained moderating rather than effecting change. It can therefore be concluded that increased ICT usage among 18- to 35-year-olds did not translate into more citizen-related activities.

Similarly, ICTs did not function as a prominent factor affecting dimensions of citizenship or influencing citizenship norms. Indeed, research findings suggest that previous assumptions concerning the effect of ICTs on citizenship engagement are exaggerated.

Based on the statistical results, ICT use should, at best, be considered a covariate rather than a catalyst for change. As illustrated in the analysis, its impact on citizenship norms and dimensions was negligible. This contrasts with prior research beginning with Putnam (1995, 2000) declaring ICTs as the evil from which all political apathy springs. Additionally, they did not align with accounts of the effect of ICTs on disengagement detailed by Gil de Zúñiga and Valenzuela (2011), Papacharissi (2009), and Schlozman et al. (2010). Nevertheless, the findings neither confirmed Dalton (2006, 2008, 2009, 2011, 2012) and his supporters' contentions concerning ICTs as a fountain of participation, playing a pivotal role in changing participatory patterns and transforming citizenship norms and dimensions. Although changes have manifested in citizenship norms, findings suggest that these were not fueled by ICT use as Meijer (2012), Nam (2011), Speer (2012), and Vissersa and Stolle (2014) insinuated. Given existing research by scholars from both sides of the debate, the findings from this study were unexpected.

Research Question 1

The first research question inquired into the changes in citizenship norms, namely participation, autonomy, solidarity, and social order, as a result of ICTs for 18- to 35-year-olds between 2004 and 2014. Results from the MLR indicated that the models were not statistically significant in predicting participation and autonomy ($p > .05$) but were statistically significant in predicting solidarity and social order ($p < .05$). Despite model

significance, none of the citizenship models displayed a statistically significant relationship between ICT use and norms. Furthermore, neither year nor the interaction term were found to have a statistically significant effect or to have contributed to the explanatory power of the model. In addition, statistical significance of the covariates varied depending on the model. For example, a participant's level of education, assessed via degree, contributed to the explanatory power of the participation model, whereas income and marital status had a statistically significant effect on social order. Similarly, age, gender, race/ethnicity, and political identification added to the predictive power of the solidarity model.

Research Question 2

The second research question explored how perceptions and actions concerning the dimensions of citizenship (traditional vs. engaged) changed for 18- to 35-year-olds between 2004 and 2014 as a result of ICTs. All models examining the dimensions of citizenship were statistically significant. Nevertheless, as with citizenship norms, ICT use did not have a statistically significant effect on the explanatory power of the model ($p >$ .05). Furthermore, the interaction term was statistically significant in the model assessing engaged citizenship action, whereas the year contributed to the explanatory power in the dutiful citizenship action model. Again, the covariates presented mixed results concerning their explanatory power and their contribution to the predictive power of the model.

Additional Analysis

The additional analysis further highlighted the absence of a statistically significant relationship between ICT use and citizenship norms and dimensions. Although an analysis of 2004 data including Milserve found that the addition of the variable revised the models, improving model predictability and statistical significance, ICTs remained statistically insignificant. Likewise, the comparison of the separate years revealed that ICT use was not a statistically significant predictor in either year, for any of the models. Moreover, the analysis exploring the overall relationship between ICT usage, citizenship norms, and dimensions by removing the restrictions on age produced statistically significant models in predicting citizenship norms and dimensions. Yet, similar to the previous analyses, ICT use continued not to contribute to the models' explanatory power, as indicated by $p > .05$.

Interpretation of Results

Within the scope and context of this study, it can be concluded that ICTs have had no notable effect on citizenship norms and dimensions. They appear to be indicators of the likelihood for civic engagement, as opposed to predictors. Considering that the significance levels for ICT use exceeded the threshold, with $p > .05$, it can be surmised that the variable did not play a pivotal role in influencing the dependent variables. This is contrary to proposals by Dalton (2006, 2008, 2009, 2015) as well as Putnam (1995, 2000), linking ICTs to changes in the categories of citizenship norms and dimensions as well as the deterioration of political involvement. Although ICT use may influence the functions assigned to individuals, modifying who, how, and where participation takes

place, they appear not to be materially involved in altering perceptions and actions of civic participation and political engagement. Put differently, while ICTs have created and continue to create numerous new ways to mobilize, motivate, realize opportunities, frame issues, and engage in political action, they are not agents of change (Boulianne, 2009; Fung et al., 2013; Garrett, 2006; Meijer, 2012; Morris & Morris, 2013). They are tools, fostering interaction among individuals and between government and citizens. They tend to promote a coming together to achieve common purposes via open and unrestricted virtual arenas, facilitating an interface for exchange through lowering maintenance and organizational costs, promoting network fluidity and flexibility, and offering ease of diffusion (Fung et al., 2013; Garrett, 2006; Loader & Mercea, 2011; Singh, 2013). However, they have neither generated nor influenced changes in perceptions or actions relating to citizen engagement. Moreover, while previous research demonstrated that they are able to address longstanding limitations to political participation by overcoming existing barriers of scale and scope, they have not fundamentally altered citizenship norms and dimensions (Fung et al., 2013; Nam, 2012; Singh, 2013).

These interpretations are further supported by the additional analysis. In particular, insights gained by exploring the age-unrestricted dataset highlighted that even though each analysis contained variables adding statistically significantly to the prediction, none found ICTs or the interaction term ICTs * Year to be statistically significant. As such, the research study revealed that increased ICT usage did not translate into changes in citizenship dimensions or more citizen-related activities for 18- to 35-year-olds, or for those aged 18 to 89 years and older.

In Context of the Theoretical Framework

The theoretical framework for the exploration into the relationship between ICT use, citizenship norms, and dimensions of citizenship was Olson's (1965) theory of collective action. The theory was appropriate with regard to this study, as society and government are inherently efforts of collective action, with individuals sharing a common interest in obtaining a collective good. Within the context of the theoretical framework, the absence of statistically significant results linking ICT use to citizenship norms and dimensions could be deemed consistent with aspects relating to large groups, the group size paradox, as well as the zero contribution thesis (Hardin, 1982; Ostrom, 2014; Pecorino, 2015). Indeed, the lack of a link between ICT use and citizenship norms and dimensions could be explained by individuals' highly unequal degrees of interest and dedication as well as participatory and communicatory restrictions inherent in large groups. Likewise, the findings could be interpreted as indicating a deficiency inherent in ICTs in creating a collective rationality based on shared norms and perceptions, thus inadequately representing and transmitting interests. One could even make the argument that the results are indicative of an absence of effective coordination mechanisms and credible mutual commitment, crowding out social norms and restraining the influence of ICTs on citizenship norms and dimensions.

Although research by Ostrom (2000, 2014), Hu et al. (2014), Valenzuela (2013), and others suggested that ICTs connect people, enabling them to participate and promote common interests, the results of the statistical analysis indicate no statistically significant influence on citizenship participation. Nevertheless, the models containing ICTs, the

covariates, and the interaction terms were statistically significant in predicting changes in citizenship norms and dimensions in most cases. This indicates that even though the nature of the relationship is negligible, it may be influenced by other, yet unknown variables. Furthermore, despite civic participation and political engagement being expressions of collective action, it appears that ICT use has had little influence on transforming citizenship norms and shifting dimensions of citizenship. Based on the statistical analysis, one could contend that ICTs are just information resources, platforms for engagement and exchange, or message boards for ideas. Despite lowering barriers to participation, reducing organizational and maintenance costs as anticipated by Olson's (1965) theory, ICT usage appears to have had a marginal effect on the types and forms of civic participation. Rather than being influential in affecting collective citizenship participation, they appear to be enabling technological tools. One possible interpretation is that this stems from barriers and limitations concerning coercion, offering individuals an easy way out by keeping them psychologically disconnected and incentivizing free-riding on the efforts of others due to a lack of efficacious motivators and deterrents. However, such assertions would be beyond the scope of this study and would require further inquiry into the matter.

Limitations

The limitations encountered from the execution of the study were consistent with those described in Chapter 1. For instance, limitations arising from the application of the repeated cross-sectional design restricted the interpretation of findings to comparing population characteristics, assessing prevalence, and making general inferences about

changes in the relationship between ICT use, citizenship norms, and dimensions of citizenship over the 10-year period. No assertions about causal order or underlying reasons for changes were made, because the method was not suited for this purpose. While secondary data limitations relating to quality, reliability, and validity had been addressed, discrepancies in the research purpose driving data collection contributed to disparities between desired and available data. Due to missing or inconsistently collected data, analytical compromises were made. Changes were noted, and additional analysis was conducted to assess and document potential effects. Although these adjustments and accommodations aided in accomplishing the research goal, they confined the scope of the study to the available data and variables.

Additionally, limitations arising during the execution of the study were consistent with concerns relating to PCA and multiple linear regression analysis. Because I applied PCA to determine the statistical dimensions of the dependent variables, using it to construct the dependent variables for the MLRs, the introduction of statistical noise was of concern. Initially, I planned to assemble the measures employing the method proposed by the OECD (2008), which would have limited unexplained variations in the components by determining the optimal number of variables to create each CI. However, dissimilarities between the theorized categories of citizenship norms and those obtained via the PCA supported the use of either the weighted component score method or the factor scores calculated by SPSS. Even though I reviewed and evaluated the dependent variables obtained, the decision to use the factor scores may not have reduced noise and may have made the interpretation of results more challenging. Specifically, the study may

have oversimplified the analysis by reducing and collapsing the dimensionality of the original data. This, in turn, may have influenced the interpretation of findings through the choice of variable scaling. As a result, the interpretation of the MLR results may have been impacted by the application of CIs, despite the selection of appropriate confidence intervals, significance levels, and power to assure accuracy, generalizability, and reliability of research findings. Furthermore, the MLR analysis was only used to ascertain the relationship between ICT use, citizenship norms, and dimensions of citizenship. The method was not used to evaluate underlying causes or discover alternative explanations. Therefore, the results obtained through the statistical analysis were limited to assessing whether a relationship existed between the variables. It did not inquire into the nature of relationship or underlying causes.

Recommendations for Further Research

The research study narrowly focused on the relationship between ICT use and citizenship norms and dimensions, inquiring if, as a result of ICTs, citizenship norms and dimensions had changed for 18- to 35-year-olds between 2004 and 2014. Consequently, research questions involving different variables, parameters, and timeframes remain unaddressed and present opportunities for further inquiry. Likewise, new data points or levels of data concerning ICTs, citizenship norms, and dimensions could offer a better understanding through an in-depth analysis of potential relationships. Specifically, more exhaustive and complete data concerning ICT usage could present new or even different insights into the relationship between ICTs and citizenship norms and dimensions than ascertained in this study.

Given the limitations imposed by the use of secondary data, future research based on primary data would be advantageous. Although primary data collection is an arduous, time-consuming process, survey questions could be formulated to specifically align with the research purpose and construct key variables. Data collected would likely be more exhaustive, complete, and representative of the research purpose, thus overcoming some of the limitations of this study. Moreover, an additional inquiry into the matter through a statistical analysis based on primary data would be beneficial by supporting the research findings presented, further expand upon them, or bridge additional gaps in the literature.

Additionally, the use of a different statistical method may reveal insights obscured by the combination of PCA and multiple linear regression analysis. For instance, path analysis would allow the assessment of a relationship between several independent, exogenous variables and several endogenous, dependent variables (Menard, 2010). Unlike the method used, it would acknowledge relations between the independent variables, such that computer use and time spent on the Internet may be linked (Hancock & Mueller, 2004; Menard, 2010; Lleras, 2005). Because the method is a causal modeling technique, it would allow for causal inferences to be drawn from correlational data. Moreover, by requiring the development of a diagram depicting the relationships between the variables, it would permit an examination of both direct and indirect relationships among the variables. Path analysis would, therefore, overcome limitations of the cross-sectional design by testing whether hypothesized relationships are plausible and indicative of potential causal relations (Lleras, 2005).

Additionally, the collection of panel data could add insights beyond the scope of this research study. Through gathering data on specific individuals and their behaviors over time, a panel design could provide insights into changes at the micro level. The design also has the added benefit of controlling for variables that cannot be adequately observed or measured, as well as account for individual heterogeneity. Consequently, it may extend insights into causal order and produce detailed insights into why changes may be occurring.

Last, since there is a need for a better understanding concerning changes in citizenship norms and dimensions, a qualitative research approach may be helpful in discovering what, how, and why changes may be occurring. In-depth interviews or a case study design concentrating on a particular group may elaborate on changes in citizenship norms and dimensions. The approaches may yield more specific answers concerning changes in citizenship norms and dimensions as well as offer a better understanding of the influences and causes for the same. Although findings may only apply to the group or individuals included, a qualitative approach could establish the foundation for further inquiry.

Implications

The findings from the study allow for several implications to be drawn. First and foremost, the study contributes to the literature by filling a previously unexplored gap. More precisely, the study did not perpetuate the conclusion that certain dimensions of citizenship increase the likelihood of virtual engagement or that political apathy is on the rise due to the deleterious effects of ICTs. Rather than entering the debate over civic

apathy versus the evolution of engagement begun by Putnam (1995) and Dalton (2006) or adding to the literature outlining the maladies caused by new technologies versus their beneficial effects on civic participation discussed by Min (2010), Morris and Morris (2013), and Branstetter (2011), it was the purpose of the study to understand the relationship between ICT use and citizenship norms and dimensions. The study, therefore, aimed at adding to the literature by filling a previously unexplored gap through turning the argument on its head. Instead of adding to the existing literature concerning the impact of citizenship norms on ICT use, the study explored whether ICT use influenced citizenship norms and dimensions. Moreover, the study added to the literature by going beyond value statements concerning the beneficial and deleterious effects of ICT use by examining the influence of ICTs on perceptions. Accordingly, the study filled the previously existing gap through the expansion of knowledge and refining previously held perceptions about the relationship between the variables.

Despite findings demonstrating the absence of a statistically significant link between ICT use and citizenship norms and dimensions, the study has the potential to shift the debate from lamentation about the negative effects of ICTs on perceptions about good citizenship and participation to the adaptation of existing processes for targeted engagement and participation. Recognizing ICTs as tools and treating ICT use as a form of expression rather than a transformative medium permits policy and process innovation. Although not explicitly visible, the study has implications for social change as well as practitioners and policy.

Social Change Implications

A holistic understanding of the relationship between ICT use and citizenship norms and dimensions has the potential for positive social change. The results of the research study have shown that the relationship between the variables is not statistically significant, meaning that ICTs are not key in changing dimensions of citizenship. Contrary to the proposed research questions, there was no notable connection between ICTs and how citizenship norms or dimensions have changed for 18- to 35-year-olds between 2004 and 2014. This suggests that changes in the dependent variables were due to other factors not explored in this study. Moreover, viewing the research findings in conjunction with previous studies implies that ICTs are nothing more than tools. Therefore, by focusing less on ICTs as an agent of change or a factor contributing to political apathy or the deterioration of civic engagement, this study can contribute to new policy approaches. Applying ICTs to influence change will then depend on tool selection and motivators for engagement, not considerations pertaining to the effect of ICT use on perceptions.

Through refocusing efforts and shifting the debate from changing perceptions of civic engagement to the application of tools to accommodate the changes, findings from this study can become instrumental in generating positive social change. Specifically, a focus on ICTs as tools can promote participation beyond elite groups and traditionally represented demographics through the targeting of efforts and adaptation. While they may not change perceptions of good citizenship or influence changes in participatory patterns, ICTs can be used to expand and promote involvement in policy processes by

paying attention to access and use. Furthermore, through leveraging new technologies and platforms individuals across a variety of dimensions can be connected, linking those seeking collective action with likeminded people and groups. The resulting benefits from deploying ICTs as tools to support civic engagement are likely to accrue to all involved in collective efforts, individuals, society, and practitioners alike.

In addition, results may further social change by highlighting that while certain citizenship dimensions are linked to a preference for ICT use, ICTs do not affect citizenship norms and dimensions. This distinction is integral, as it will enable governmental and public entities to adopt democratic practices reflective of modern participatory demands and behaviors. Realizing the limitations of the influence of ICT use on dimensions of citizenship may encourage organizations to engage differently with individuals. Rather than attempting to shape perceptions and change engagement behaviors, it may lead them to use online and offline forums to connect with individuals, give political voice to the public, bridge information and feedback gaps, and enable political actors and citizens to engage directly with one another. Concerns pertaining to access, use, and consequence separating participating from disengaged individuals will become less focused on the digital divide, but emphasize the need to address democratic and participatory ones. Furthermore, even though ICTs will not motivate changes in participatory patterns or create meaning, empowerment, and transparency, they will contribute to positive social change through a surge in collective action, anchored in the tools and virtual spaces produced, offered, and delivered by ICTs. Thus, as actors across the political spectrum recognize ICT use as a form of expression they will take advantage

of the same, leveraging Twitter, Facebook, YouTube, and other sites to voice grievances and demand action.

Practitioner and Policy Implications

From a theoretical position, findings from the study may alter ideas concerning the effect of ICTs on changes in citizenship norms and dimensions. Although the study failed to generate a better understanding of changes in perceptions of good citizenship and participatory choices, it refined existing views of civic engagement by highlighting the peripheral effect of ICTs on shifts in citizenship norms and dimensions. Accordingly, the results enable researchers to pursue new avenues of investigation by refocusing the debate. Findings may even lead to a reevaluation of the existing rationale underlying engagement initiatives and participatory offerings. Moreover, highlighting the limited influence of ICT use on changes in citizenship norms and dimensions allows practitioners to move beyond considerations pertaining to the effect of ICTs on perceptions. Instead, influence and effect of an initiative or collective action will depend on appropriate tool selection and motivators for engagement.

In addition, recognizing ICTs as tools as opposed to agents of change permits policy changes and adaptation. Rather than concentrating on the beneficial or deleterious effects of ICT use on participation, practitioners can employ ICTs to further collective objectives and advance policy initiatives. It allows for policy innovation and adaptation beyond the current scope by taking agent of change considerations out of the equation. Design and implementation of initiatives can focus on adapting approaches to the engagement preferences of distinct groups. This further enables targeting and

specialization of collective measures, appealing to the differential perceptions of good citizenship of individuals. More precisely, the identification of ICTs as tools permits practitioners to consider a variety of avenues for engagement—online and offline—to reach the intended audience and promote participation.

Understanding that ICTs are used for expression and connecting individuals with likeminded ones will also aid practitioners in refining policy approaches. It will permit them to adapt to modern engagement repertoires as well as allow the incorporation of multiavenue approaches to inform, engage, and participate with individuals. This may essentially lead to policy innovations and democratic adaptations, permitting practitioners to catch up with and integrate contemporary participatory patterns, demands, and objectives. Findings from the study can aid in deciding on best fit between engagement path and target audience. It may not only contribute to the creation of new avenues for civic and political participation, but also foster alignment between existing policy approaches and contemporary participatory patterns, demands, and objectives; therefore, enhancing and advancing policy outcomes.

Conclusion

As illustrated by the research findings, increased ICT use was not linked to changes in citizenship norms and dimensions. Indeed, findings from the study imply that ICTs are but tools for political and civic engagement, rather than influences on the same. Put differently, ICTs play no role in motivating specific forms of engagement or influence changes in participatory patterns. While it appears that the results are indicative of an absence of a collective rationality based on shared norms and perceptions, further

research is needed to confirm the assertion. Moreover, despite previous research demonstrating the capacity of ICTs to inform and mobilize individuals as well as linking certain citizenship dimensions to a preference for ICT use, the study illustrated that the opposite does not apply: ICTs do not influence citizenship norms and dimensions, and increased ICT usage does not translate into changes in citizenship dimensions or more citizen related activities for 18- to 35-year-olds. Nevertheless, practitioners can benefit from the findings by adjusting their focus. Recognizing ICTs as tools and ICT use as a form of expression they can take advantage of the same, leverage them to achieve collective objectives, and advance socially desirable goals. In fact, by detailing the marginal effect of ICT usage on the perceptions and types of civic engagement, the study allows them to move beyond considerations pertaining to the effect of ICTs on citizenship norms and dimensions.

References

Abbott, J. (2012). Democracy@internet.org revisited: Analysing the socio-political impact of the Internet and new social media in East Asia. *Third World Quarterly*, *33*(2), 333–357. doi:10.1080/01436597.2012.666015

Abdi, H., & Williams, L. J. (2010). Principal component analysis. *Wiley Interdisciplinary Reviews: Computational Statistics, 2*, 433-459. doi:10.1002/wics.101

Acharya, A., Lavalle, A. G., & Houtzager, P. P. (2004). Civil society representation in the participatory budget and deliberative councils of Sao Paulo, Brazil. *IDS Bulletin, 35*(2), 40-48. doi:10.1111/j.1759-5436.2004.tb00120.x

Adams-Huet, B., & Ahn, C. (2009). Bridging clinical investigators and statisticians: Writing the statistical methodology for a research proposal. *Journal of Investigative Medicine: The Official Publication of the American Federation for Clinical Research*, *57*(8), 818–824. doi:10.231/JIM.0b013e3181c2996c

Agarwal, N., Lim, M., & Wigand, R. T. (2011). Collective action theory meets the blogosphere: A new methodology. *Networked Digital Technologies, 136*, 224-239. doi:10.1007/978-3-642-22185-9_20

Aiyar, Y. (2010). Invited spaces, invited participation: Effects of greater participation on accountability in service delivery. *India Review, 9*(2), 204-229. doi:10.1080/14736489.2010.483370

Amalia, P., Mihaela, D., & Ionut, P. (2012). From market orientation to the community orientation for an open public administration: A conceptual framework.

Procedia—Social and Behavioral Sciences, *62*, 871-875. doi:10.1016/j.sbspro.2012.09.146

Arnstein, S. R. (1969). A ladder of citizen participation. *Journal of the American Institute of Planners, 35*(4), 216-224. doi:10.1080/01944366908977225

Bailard, C. S. (2012). Testing the Internet's effect on democratic satisfaction: A multi-methodological, cross-national approach. *Journal of Information Technology & Politics*, *9*(2), 185–204. doi:10.1080/19331681.2011.641495

Bakker, T. P., & de Vreese, C. H. (2011). Good news for the future? Young people, Internet use, and political participation. *Communication Research, 38*(4), 451–470. doi:10.1177/0093650210381738

Bannister, F., & Connolly, R. (2012). Forward to the past: Lessons for the future of e-government from the story so far. *Information Polity*, *17*(3/4), 211–226. doi:10.3233/IP-2012-000282

Baumgartner, J. C., & Morris, J. S. (2009). MyFaceTube politics: Social networking web sites and political engagement of young adults. *Social Science Computer Review, 28*(1), 24-44. doi:10.1177/0894439309334325

Bennett, W. L. (2008). Changing citizenship in the digital age. *Civic Life Online: Learning How Digital Media Can Engage Youth*, *1*, 1–24. doi:10.1162/dmal.9780262524827.001

Bennett, W. L. (2012). The personalization of politics: Political identity, social media, and changing patterns of participation. *ANNALS of the American Academy of Political and Social Science, 664*(1), 20-39. doi:10.1177/0002716212451428

Bennett, W. L., & Segerberg, A. (2011). Digital media and the personalization of collective action. *Information, Communication & Society*, *14*(6), 770–799. doi:10.1080/1369118X.2011.579141

Bennett, W. L., & Segerberg, A. (2012). The logic of connective action. *Information, Communication & Society*, *15*(5), 739–768. doi:10.1080/1369118X.2012.670661

Bentivegna, S. (2006). Rethinking politics in the world of ICTs. *European Journal of Communication*, *21*(3), 331–343. doi:10.1177/0267323106066638

Berry, W. D., & Feldman, S. (1985). *Multiple regression in practice*. Newbury Park, PA: SAGE.

Bimber, B. (2003). *Information and American democracy: Technology in the evolution of political power*. New York, NY: Cambridge University Press.

Bimber, B. (2012). Digital media and citizenship. In H. A. Semetko & M. Scammell (Eds.), *The Sage handbook of political communication* (p. 115-126). Thousand Oaks, CA: SAGE.

Bimber, B. (2016). Three prompts for collective action in the context of digital media. *Political Communication*, *00*, 1–15. doi:10.1080/10584609.2016.1223772

Bimber, B., Flanagin, A. J., & Stohl, C. (2005). Reconceptualizing collective action in the contemporary media environment. *Communication Theory*, *15*(4), 365–388. doi:10.1111/j.1468-2885.2005.tb00340.x

Blaug, R., & Schwarzmantel, J. (2001). *Democracy: A reader*. New York, NY: Columbia University Press.

Bolzendahl, C., & Coffé, H. (2013). Are "good" citizens "good" participants? Testing citizenship norms and political participation across 25 nations. *Political Studies*, *61*(S1), 45–65. doi:10.1111/1467-9248.12010

Boulianne, S. (2009). Does Internet use affect engagement? A meta-analysis of research. *Political Communication*, *26*(2), 193–211. doi:10.1080/10584600902854363

Branstetter, J. (2011). The (broken?) promise of digital democracy: An early assessment. *The International Journal of Technology, Knowledge and Society*, *7*(3), 151-162. doi:10.2139/ssrn.1802673

Brody, B. (2015, February 26). How John Oliver transformed the net neutrality debate once and for all. *Bloomberg*. Retrieved from http://www.bloomberg.com/politics/articles/2015-02-26/how-john-oliver-transformed-the-net-neutrality-debate-once-and-for-all

Bruinius, H. (2015, February 26). Net neutrality's stunning reversal of fortune: Is it John Oliver's doing? *Christian Science Monitor*. Retrieved from http://www.csmonitor.com/USA/Society/2015/0226/Net-neutrality-s-stunning-reversal-of-fortune-Is-it-John-Oliver-s-doing

Buccus, I., Hemson, D., Hicks, J., & Piper, L. (2008). Community development and engagement with local governance in South Africa. *Community Development Journal*, 43(3), 297- 311. doi:10.1093/cdj/bsn011

Carpentier, N. (2011). The concept of participation: If they have access and interact, do they really participate? *CM, Communication Management Quarterly*, *6*(21), 13-36. doi:10.4013/fem.2012.142.10

Christensen, H. S. (2011). Political activities on the Internet: Slacktivism or political participation by other means? *First Monday*, *16*(2). doi:10.5210/fm.v16i2.3336

Christensen, H. S. (2012). Simply slacktivism? Internet participation in Finland. *JeDEM—eJournal of eDemocracy and Open Government*, *4*(1), 1–23. Retrieved from http://www.jedem.org

Coffé, H., & Bolzendahl, C. (2010). Same game, different rules? Gender differences in political participation. *Sex Roles*, *62*(5/6), 318–333. doi:10.1007/s11199-009-9729-y

Coffé, H., & Van Der Lippe, T. (2010). Citizenship norms in Eastern Europe. *Social Indicators Research*, *96*(3), 479-496. doi:10.1007/s11205-009-9488-8

Cohen, J. (1988). *Statistical power analysis for the behavioral sciences* (2nd ed.). Hillsdale, NJ: Lawrence Erlbaum.

Coleman, S., & Gotze, J. (2001). *Bowling together: Online public engagement in policy deliberation*. London, UK: Hansard Society London.

Congleton, R. D. (2015). The logic of collective action and beyond. *Public Choice, 164*, 217–234. doi:10.1007/s11127-015-0266-7

Conroy, M., Feezell, J. T., & Guerrero, M. (2012). Facebook and political engagement: A study of online political group membership and offline political engagement. *Computers in Human Behavior*, *28*(5), 1535–1546. doi:10.1016/j.chb.2012.03.012

Cornwall, A. (2002). Locating citizen participation. *IDS Bulletin*, *33*(2), i-x. doi:10.1111/j.17595436.2002.tb00016.x

Cornwall, A. (2002). Making spaces, changing spaces: Situating participation in development. *IDS Working Paper*. Retrieved from http://www.drc-citizenship.org/system/assets/1052734369/original/1052734369-cornwall.2002-making.pdf?1289311080

Cornwall, A. (2004). Introduction: New democratic spaces? The politics and dynamics of institutionalized participation. *IDS Bulletin*, *35*(2), 1-10. doi:10.1111/j.1759-5436.2004.tb00115.x

Cornwall, A. (2008). Unpacking participation: Models, meanings and practices. *Community Development Journal*, *43*(3), 269–283. doi:10.1093/cdj/bsn010

Cornwall, A. (2011). *The Participation Reader*. New York, NY: Zed Books.

Creswell, J. W. (2009). *Research design: Qualitative, quantitative, and mixed methods approaches*. Thousand Oaks, CA: SAGE.

Cunningham, F. (2002). *Theories of democracy: A critical introduction*. New York, NY: Routledge.

Dahlgren, P. (2012). Young citizens and political participation online media and civic cultures. *Taiwan Journal of Democracy*, *7*(2), 11-25. Retrieved from http://www.tfd.org.tw

Dalton, R. J. (2006). *Citizenship norms and political participation in America: The good news is ... the bad news is wrong*. Retrieved from Center for Democracy and Civil Society, Georgetown University: http://www8.georgetown.edu/centers/cdacs/cid/DaltonOccasionalPaper.pdf

Dalton, R. J. (2007). Partisan mobilization, cognitive mobilization and the changing American electorate. *Electoral Studies*, *26*(2), 274–286. doi:10.1016/j.electstud.2006.04.009

Dalton, R. J. (2008). Citizenship norms and the expansion of political participation. *Political Studies*, *56*(1), 76-98. doi:10.1111/j.1467-9248.2007.00718.x

Dalton, R. J. (2009). *The good citizen: How a younger generation is reshaping American politics.* Washington, DC: CQ Press.

Dalton, R. J. (2011). Youth and participation beyond elections. In R. Dalton*, Engaging Youth in Politics: Debating Democracy's Future* (p. 112–131). New York, NY: IDEBATE Press.

Dalton, R. J. (2012). Apartisans and the changing German electorate. *Electoral Studies*, *31*(1), 35–45. doi:10.1016/j.electstud.2011.06.005

Dalton, R. J. (2015). *The good citizen: How a younger generation is reshaping American politics* (2nd ed.). Washington, DC: CQ Press.

Dalton, R. J., & Kittilson, M. C. (2012). Virtual civil society in the United States and Australia. *Australian Journal of Political Science*, *47*(1), 11–29. doi:10.1080/10361146.2011.643162

Davis, C. S., Gallardo, H. L., & Lachlan, K. A. (2010). *Straight talk about communication research methods*. Dubuque, IA: Kendall-Hunt.

DeForge, B. R. (2010). Research design principles. In N. J. Salkind (Eds.), *The Encyclopedia of Research Design* (p. 1253-1260). Thousand Oaks, CA: SAGE. doi:10.4135/9781412961288.n381

Dejaeghere, Y., & Hooghe, M. (2009). Brief report: Citizenship concepts among adolescents. Evidence from a survey among Belgian 16-year olds. *Journal of Adolescence*, *32*(2009), 723-732. doi:10.1016/j.adolescence.2009.01.007

Denzin, N. K. (1970). *Sociological methods: A sourcebook*. New Brunswick, NJ: Transaction.

DiStefano, C., Zhum, M., & Mindrila, D. (2009). Understanding and using factor scores: Considerations for the applied researcher. *Practical Assessment, Research & Evaluation*, 14(20), 1-11. doi:10.1.1.460.8553

Dunne, K. (2010). Can online forums address political disengagement for local government? *Journal of Information Technology & Politics*, *7*, 300-317. doi:10.1080/19331681.2010.491023

Escobar, O. (2011). *The work of participation: Local deliberative policy making as mediated by public engagement practitioners*. Paper presented at the 61st Conference of the Political Studies Association, London, UK. Retrieved from http://oliversdialogue.wordpress.com/oliver-escobar/

Farrell, H. (2012). The consequences of the Internet for politics. *Annual Review of Political Science*, *15*(1), 35–52. doi:10.1146/annurev-polisci-030810-110815

Feezell, J. T., Conroy, M., & Guerrero, M. (2013). *The online socialization of citizenship norms and political participation of youth* (SSRN Scholarly Paper No. ID 2301037). Rochester, NY: Social Science Research Network. Retrieved from http://papers.ssrn.com/abstract=2301037

Fenton, N., & Barassi, V. (2011). Alternative media and social networking sites: The politics of individuation and political participation. *The Communication Review, 14*, 179–196. doi:10.1080/10714421.2011.597245

Field, A. (2013). *Discovering Statistics Using IBM SPSS Statistics* (4th ed.). Washington, DC: SAGE.

File, T. (2014). Young adult voting: An analysis of presidential elections, 1964 – 2012. Retrieved from the U.S. Census Bureau: https://www.census.gov/prod/2014pubs/p20-573.pdf

Finkel, S. E., Muller, E. N., & Opp, K.D. (1989). Personal influence, collective rationality, and mass political action. *American Political Science Review*, *83*(03), 885–903. doi:10.2307/1962065

Frankfort-Nachmias, C., & Nachmias, D. (2008). *Research methods in the social sciences* (7th ed.). New York, NY: Worth.

Fung, A., Gilman, H. R., & Shkabatur, J. (2013). Six models for the Internet + politics. *International Studies Review*, *15*(1), 30–47. doi:10.1111/misr.12028

Garrett, K. R. (2006). Protest in an information society: A review of literature on social movements and new ICTs. *Information, Communication & Society*, *9*(2), 202–224. doi:10.1080/13691180600630773

Gaventa, J. (2006). Finding the spaces for change: A power analysis. *IDS Bulletin*, *37*(6), 23-32. doi:10.1111/j.1759-5436.2006.tb00320.x

Gaventa, J., & Barrett, G. (2012). Mapping the outcomes of citizen engagement. *World Development*, *40*(12), 2399–2410. doi:10.1016/j.worlddev.2012.05.014

Gaventa, J., & Pettit, J. (2011). A response to Powercube: Understanding power for social change. *Journal of Political Power*, *4*(2), 309-316. doi:10.1080/2158379X.2011.589182

Gibson, R. K., & McAllister, I. (2013). Online social ties and political engagement. *Journal of Information Technology & Politics*, *10*(1), 21–34. doi:10.1080/19331681.2012.712461

Gibson, R., & Cantijoch, M. (2013). Conceptualizing and measuring participation in the age of the Internet: Is online political engagement really different to offline? *Journal of Politics*, *75*(3), 701–716. doi:10.1017/S0022381613000431

Gil de Zuñiga, H., & Valenzuela, S. (2011). The mediating path to stronger citizenship: Online and offline networks, weak ties, and civic engagement. *Communication Research*, *38*(3), 397–421. doi:10.1177/0093650210384984

Gil de Zúñiga, H., Puig-I-Abril, E., & Rojas, H. (2009). Weblogs, traditional sources online and political participation: An assessment of how the Internet is changing the political environment. *New Media & Society*, *11*(4), 553–574. doi:10.1177/1461444809102960

Gil de Zúñiga, H., Veenstra, A., Vraga, E., & Shah, D. (2010). Digital democracy: Reimagining pathways to political participation. *Journal of Information Technology & Politics*, *7*(1), 36–51. doi:10.1080/19331680903316742

Gimmler, A. (2001). Deliberative democracy, the public sphere and the Internet. *Philosophy & Social Criticism*, *27*(4), 21-39. doi:10.1177/019145370102700402

Grasso, M. T. (2014). Age, period and cohort analysis in a comparative context: Political generations and political participation repertoires in Western Europe. *Electoral Studies, 33*, 63-76. doi:10.1016/j.electstud.2013.06.003

Green, D. P., & Shapiro, I. (1994). *Pathologies of rational choice theory: A critique of applications in political science.* New Haven, CT: Yale University Press.

Grill, H. (2011). Does social media technology promote democracy? *The New Presence*, *2*(Spring), 27–33. Retrieved http://www.pritomnost.cz/en/

Halpern, D., & Gibbs, J. (2013). Social media as a catalyst for online deliberation? Exploring the affordances of Facebook and YouTube for political expression. *Computers in Human Behavior*, *29*(3), 1159–1168. doi:10.1016/j.chb.2012.10.008

Hardin, G. (1968). The tragedy of the commons. *Science*, *162*(3859), 1243–1248. doi:10.1126/science.162.3859.1243

Hardin, R. (1982). *Collective action* (3rd ed.). New York, NY: Johns Hopkins University Press.

Harris, A., Wyn, J., & Younes, S. (2010). Beyond apathetic or activist youth "ordinary" young people and contemporary forms of participation. *Young*, *18*(1), 9–32. doi:10.1177/110330880901800103

Harrison, E. (2012). Performing partnership: Invited participation and older people's forums. *Human Organization*, *71*(2), 157-166. Retrieved http://www.sfaa.net/publications/human-organization/

Held, D. (2006). *Models of democracy*. Malden, MA: Polity Press.

Hilbert, M. (2009). The maturing concept of e-democracy: From e-voting and online consultations to democratic value out of jumbled online chatter. *Journal of Information Technology & Politics*, *6*(2), 87–110. doi:10.1080/19331680802715242

Himelboim, I. (2010). Civil society and online political discourse: The network structure of unrestricted discussions**.** *Communication Research, XX*(X), 1-26. doi:10.1177/0093650210384853

Hindman, M. (2009). *The myth of digital democracy*. Princeton, NJ: Princeton University Press.

Hirzalla, F., Van Zoonen, L., & de Ridder, J. (2010). Internet use and political participation: Reflections on the Mobilization/Normalization Controversy *The Information Society*, *27*(1), 1-15, doi:10.1080/01972243.2011.534360

Hooghe, M., & Oser, J. (2015a). Internet, television and social capital: The effect of 'screen time' on social capital. *Information, Communication, & Society, 1*, 1-25. doi:10.1080/1369118X.2015.1022568

Hooghe, M., & Oser, J. (2015b). The rise of engaged citizenship: The evolution of citizenship norms among adolescents in 21 countries between 1999 and 2009. *International Journal of Comparative Sociology, 56*(1), 29–52. doi:10.1177/0020715215578488

Hu, H., Cui, W., Lin, J., & Qian, Y. (2014). ICTs, social connectivity, and collective action: A Cultural-Political Perspective. *Journal of Artificial Societies and Social Simulation*, *17*(2), 7. Retrieved from http://jasss.soc.surrey.ac.uk/JASSS.html

Hudrliková, L. (2013). Composite indicators as a useful tool for international comparison: The Europe 2020 example. *Prague Economic Papers, 4*, 459-473. doi:10.18267/j.pep.462

Hume, D. (1854). *The philosophical works of David Hume*. Edinburgh, UK: Little, Brown.

Imraan, B., David, H., Janine, H., & Laurence, P. (2008). Community development and engagement with local governance in South Africa. *Community Development Journal*, *43*(3), 297. doi:10.1093/cdj/bsn011

Innes, J. E., & Booher, D. E. (2004). Reframing public participation: Strategies for the 21st century. *Planning Theory & Practice*, *5*(4), 419–436. doi:10.1080/1464935042000293170

John, P., Fieldhouse, E., & Liu, H. (2011). How civic is the civic culture? Explaining community participation using the 2005 English Citizenship Survey. *Political Studies*, *59*(2), 230–252. doi:10.1111/j.1467-9248.2011.00891.x

Kahne, J., Lee, N. J., & Feezell, J. T. (2013). The civic and political significance of online participatory cultures among youth transitioning to adulthood. *Journal of Information Technology & Politics*, *10*(1), 1–20. doi:10.1080/19331681.2012.701109

Katz, J. E., & Rice, R. E. (2002). *Social consequences of Internet use: Access, involvement, and interaction*. Cambridge, MA: The MIT Press.

Kavanaugh, A., Kim, B. J., Pérez-Quiñones, M. A., Schmitz, J., & Isenhour, P. (2008). Net gains in political participation: Secondary effects of Internet on community.

Information, Communication & Society, *11*(7), 933–963. doi:10.1080/13691180802108990

Kiecolt, K. J., & Nathan, L. E. (1985). *Secondary analysis of survey data*. Newbury Park, CA: SAGE.

Kittilson, M., & Dalton, R. (2011). Virtual civil society: The new frontier of social capital? *Political Behavior*, *33*(4), 625–644. doi:10.1007/s11109-010-9143-8

Klandermans, B., & Roggeband, C. (2007). *Handbook of social movements across disciplines*. New York, NY: Springer Science and Business Media.

Kraut, R., Kiesler, S., Mukhopadhya, T., Scherlis, W., & Patterson, M. (1998). Social impact of the Internet: What does it mean? *Communications of the ACM*, *41*(12), 21–22. doi:10.1145/290133.290140

Lavarkas, P. J. (2008). *Encyclopedia of survey research methods*. Thousand Oaks, CA: SAGE.

Lawford-Smith, H. (2011). The feasibility of collectives' actions. *Australasian Journal of Philosophy*, *90*(3), 453–467. doi:10.1080/00048402.2011.594446

Leighninger, M. (2011). Citizenship and governance in a wild, wired world: How should citizens and public managers use online tools to improve democracy? *National Civic Review*, *100*(2), 20-29. doi:10.1002/ncr.20056

Levin, J., & Milgrom, P. (2004). *Introduction to choice theory*. Retrieved from Stanford University, Department of Economics: http://web.stanford.edu/~jdlevin/Econ%20202/Choice%20Theory.pdf

Lewis-Beck, M. S. (1980). *Applied regression: An introduction*. Newbury Park, PA: SAGE.

Lewis-Beck, M. S. (1995). *Data analysis: An introduction*. Newbury Park, PA: SAGE.

Livingstone, S., & Markham, T. (2008). The contribution of media consumption to civic participation. *British Journal of Sociology*, *59*(2), 351–371. doi:10.1111/j.1468-4446.2008.00197.x

Loader, B. D., & Mercea, D. (2011). Networking democracy? *Information, Communication & Society*, *14*(6), 757–769. doi:10.1080/1369118X.2011.592648

Loader, B. D., Vromen, A., & Xenos, M. A. (2014). The networked young citizen: Social media, political participation and civic engagement. *Information, Communication & Society, 17*(2), 143–150. doi:10.1080/1369118X.2013.871571

Macedo, S., Alex-Assensoh, Y., Berry, J. M., Brintnall, M., Campbell, D. E., Fraga, L. R., … Walsh, K. C. (2005). *Democracy at risk: How political choices undermine citizen participation and what we can do about it.* Washington, DC: Brookings Press.

Marshall**,** T.H. (1950). *Citizenship and social class.* Cambridge, UK: Cambridge University Press.

McAtee, A., & Wolak, J. (2011). Why do people decide to participate in state politics. *Political Research Quarterly*, *64*(1), 45-58. doi:10.1177/1065912909343581

McBeth, M. K., Lybecker, D. L., & Garner, K. A. (2010). The story of good citizenship: Framing public policy in the context of duty-based versus engaged citizenship. *Politics & Policy*, *38*(1), 1-23. doi:10.1111/j.1747-1346.2009.00226.x

McDonald, S. N. (2014, June 4). John Oliver's net neutrality rant may have caused FCC site crash. *The Washington Post*. Retrieved from http://www.washingtonpost.com/news/morning-mix/wp/2014/06/04/john-olivers-net-neutrality-rant-may-have-caused-fcc-site-crash/

Meijer, A. J. (2012). The do-it-yourself state. *Information Polity: The International Journal Of Government & Democracy In The Information Age*, *17*(3/4), 303-314. doi:10.3233/IP-2012-000283

Mihailidis, P., & Thevenin, B. (2013). Media literacy as a core competency for engaged citizenship in participatory democracy. *American Behavioral Scientist*, *57*(11), 1611–1622. doi:10.1177/0002764213489015

Milakovich, M. E. (2010). The Internet and increased citizen participation in government. *JeDEM—eJournal of eDemocracy and Open Government*, *2*(1), 1–9. Retrieved from http://www.jedem.org

Mills, C. W. (1951). *White collar: The American middle classes*. New York, NY: Oxford University Press.

Min. S. J. (2010). From the digital divide to the democratic divide: Internet skills, political interest, and the second-level digital divide in political Internet use. *Journal of Information Technology & Politics*, *7*(1), 22–35. doi:10.1080/19331680903109402

Miraftab, F. (2004). Invited and invented spaces of participation: Neoliberal citizenship and feminists' expanded notion of politics. *Wagadu*, *1*, 1-7. Retrieved from http://journals.cortland.edu/wordpress/wagadu/

Morozov, E. (2009). The brave new world of slacktivism. *Foreign Policy*, *19*(05). Retrieved from http://foreignpolicy.com

Morozov, E. (2012). *The net delusion: The dark side of Internet freedom.* New York, NY: Perseus Books Group.

Morris, D. S., & Morris, J. S. (2013). Digital inequality and participation in the political process real or imagined? *Social Science Computer Review*, *31*(5), 589–600. doi:10.1177/0894439313489259

Mossberger, K., Tolbert, C. J., & McNeal, R. S. (2008). *Digital citizenship*. Cambridge, MA: The MIT Press.

Myers, D. (2013). Measuring change over time: Comparing longitudinal and repeated cross-sectional surveys. *The Social Research Newsletter*. Retrieved from https://www.ipsos-mori.com/_emails/scotland/approach/summer2013/sri_scotland_newsletter_approach_summer2013_measuring_change.pdf

Nam, T. (2011). Dual effects of the Internet on political activism: Reinforcing and mobilizing. *Government Information Quarterly*, *29*(S1), S90-S97. doi:10.1016/j.giq.2011.08.010

Nardo, M., Saisana, M., Saltelli, A., Tarantola, S., Hoffmann, A., Giovannini, E., … Moore, S. (2008). *Handbook on constructing composite indicators: Methodology and user guide*. Retrieved from OECD Publications Database: http://www.oecd.org/std/42495745.pdf

National Opinion Research Center (NORC). (2014). *GSS – General Social Survey*. Retrieved from http://www3.norc.org/GSS+Website/

National Opinion Research Center (NORC). (2015). *General Social Surveys, 1972-2014* [machine-readable data file & codebook]. Retrieved from http://www3.norc.org/GSS+Website/

NIH Office of Extramural Research (NIH). (2013). *Protecting human research participants*. Retrieved from http://phrp.nihtraining.com/users/login.php

Norris, P. (2001). *Digital divide: Civic engagement, information poverty, and the Internet worldwide*. Cambridge, MA: Cambridge University Press.

Norris, P. (2002). The bridging and bonding role of online communities. *The International Journal of Press/Politics*, *7*(3), 3-13. doi:10.1177/1081180X0200700301

Norris, P. (2005). The impact of the Internet on political activism: Evidence from Europe. *International Journal of Electronic Government Research*, *1*(1), 19–39. doi:10.4018/jegr.2005010102

O'Neill, B. (2010). The media's role in shaping Canadian civic and political engagement. *Policy and Society*, *29*(1), 37–51. doi:10.1016/j.polsoc.2009.11.004

Olson, M. (1965). *The logic of collective action: Public goods and the theory of groups.* Cambridge, MA: Harvard University Press.

Opp, K. D. (2001). Collective political action. *Analyse & Kritik, 23*(1), 1–20. doi:10.1515/auk-2001-0101

Oppenheimer, J. A. (2008). Rational choice theory. In M. Bevir (Ed.), *Encyclopedia of political theory.* (p. 1150-1159). Thousand Oaks, CA: SAGE. doi:10.4135/9781412958660.n377

Organisation for Economic Co-operation and Development. (2008). *Handbook on the constructing composite indicators: Methodology and user guide*. Danvers, MA: OECD.

Oser, J., Hooghe, M., & Marien, S. (2013). Is online participation distinct from offline participation? A latent class analysis of participation types and their stratification. *Political Research Quarterly*, *66*(1), 91–101. doi:10.1177/1065912912436695

Ostrom, E. (2000). Collective action and the evolution of social norms. *Journal of Economic Perspectives*, *14*(3), 137–158. doi:10.1257/jep.14.3.137

Ostrom, E. (2003). *Governing the commons*. New York, NY: Cambridge University Press.

Ostrom, E. (2014). Collective action and the evolution of social norms. *Journal of Natural Resources Policy Research*, *6*(4), 235–252. doi:19390459.2014.935173

Pantazidou, M. (2012). What next for power analysis? A review of recent experience with the Powercube and related frameworks. *IDS Working Papers*, *2012*(400), 1-46. doi:10.1111/j.2040-0209.2012.00400.x

Papacharissi, Z. (2009). The virtual sphere 2.0: The Internet, the public sphere, and beyond. In A. Chadwick & P. N. Howard (Eds.), *Routledge Handbook of Internet Politics* (p. 230–245). New York, NY: Routledge.

Parke, C. S. (2013). *Essential first steps to data analysis*. Thousand Oaks, CA: SAGE.

Parkinson, J. (2006). *Holistic democracy and physical public space*. Paper presented at the British Journal of Political Science Conference, London, UK. Retrieved from http://johnrparkinson.net/Democracy%20and%20public%20space%20-%20BJPolS%20conf.pdf

Pateman, C. (2012). Participatory democracy revisited. *Perspectives on Politics*, *10*(01), 7–19. doi:10.1017/S1537592711004877

Pecorino, P. (2015). Olson's logic of collective action at fifty. *Public Choice, 2015*, 162–243. doi:10.1007/s11127-014-0186-y

Ployhart, R. E., & Vandenberg, R. J. (2010). Longitudinal research: The theory, design, and analysis of change. *Journal of Management*, *36*(1), 94–120. doi:10.1177/0149206309352110

Putnam, R. D. (1993). The prosperous community: Social capital and public life. *American Prospect, 13*(Spring 1993), 35-42. Retrieved from http://prospect.org

Putnam, R. D. (1995). Bowling alone: America's declining social capital. *Journal of Democracy*, *6*(1), 65–78. doi:10.1353/jod.1995.0002

Putnam, R. D. (2000). *Bowling alone: The collapse and renewal of American community*. New York, NY: Simon & Schuster.

Rahim, S. A., Pawanteh, L., & Salman, A. (2012). Citizenship norms and the participation of young adults in a democracy. *International Journal of Social, Human Science and Engineering*, *6*(4), 75-79. Retrieved from https://www.waset.org

Reuben, E. (2003). *The Evolution of Theories of Collective Action* (Doctoral thesis, Universidad de Amsterdam, Amsterdam, Netherlands). Retrieved from http://ereuben.net/research/MPhilThesis.pdf

Rojas, H., & Puig-i-Abril, E. (2009). Mobilizers mobilized: Information, expression, mobilization and participation in the digital age. *Journal of Computer-Mediated Communication*, *14*(4), 902–927. doi:10.1111/j.1083-6101.2009.01475.x

Rushkoff, D. (2013). Permanent revolution: Occupying democracy. *Sociological Quarterly*, *54*(2), 164-173. doi:10.1111/tsq.12018

Sander, T. H., & Putnam, R. D. (2010). Still bowling alone? The post-9/11 split. *Journal of Democracy*, *21*(1), 9–16. doi:10.1353/jod.0.0153

Sandler, T. (2015). Collective action: Fifty years later. *Public Choice, 2015*, 195–216. doi:10.1007/s11127-015-0252-0

Savić, V. (2012). Integration of deliberative democracy and policy-making: A vision of a deliberative system. *Filozofija I Društvo*, *XXIII*(4), 170-189. doi:10.2298/FID1204170S

Schlozman, K. L., Verba, S., & Brady, H. E. (2010). Weapon of the strong? Participatory inequality and the Internet. *Perspectives on Politics*, *8*(02), 487–509. doi:10.1017/S1537592710001210

Schlozman, K. L., Verba, S., & Brady, H. E. (2011). Who Speaks? Citizen political voice on the Internet Commons. *Daedalus*, *140*(4), 121–139. doi:10.1162/DAED_a_00119

Schmidt, K. R. T., & Teti, D. M. (2006). Issues in the use of longitudinal and cross-sectional designs. In D. M. Teti (Eds.), *Handbook of Research Methods in Developmental Science* (p. 3-20). Malden, MA: Blackwell.

Segerberg, A., & Bennett, W. L. (2011). Social media and the organization of collective action: Using Twitter to explore the ecologies of two climate change protests. *Communication Review*, *14*(3), 197–215. doi:10.1080/10714421.2011.597250

Shelton, C., & Garkovich, L. (2013). Assessing factors influencing political engagement in local communities. *Community Development*, *44*(4), 469–491. doi:10.1080/15575330.2013.822401

Shier, H. (2008). *Constructing active citizenship: Interacting participation spaces in the participation and organization of children and young people as active citizens in Nicaragua*. Paper presented at the Active Citizenship in Central America: Twenty-first Century Challenges Seminar, Dublin City University, Dublin, UK. Retrieved from http://www.harryshier.comxa.com/docs/Shier-Constructing_active_citizenship.pdf

Shirky, C. (2011). Political power of social media-technology, the public sphere, and political change. *Foreign Affairs*, *90*, 1-27. Retrieved from https://www.foreignaffairs.com

Singh, J. P. (2013). Information technologies, meta-power, and transformations in global politics. *International Studies Review, 15*(1), 5–29. doi:10.1111/misr.12025

Smith, A. (2010). *Pew Internet & American life project: Government online*. Retrieved from PEW Research Center: http://www.pewinternet.org/2010/04/27/government-online/

Smith, A. K., Ayanian, A. Z., Covinsky, K. E., Landon, B. E., McCarthy, E. P., Wee, C. C., & Steinman, M. A. (2011). Conducting high-value secondary dataset analysis: An introductory guide and resources. *Journal Gen Intern Med*, *26*(8), 920-9. doi:10.1007/s11606-010-1621-5.

Smith, T. (2008). General Social Survey (GSS). In P. Lavrakas (Ed.), *Encyclopedia of survey research methods* (p. 301-303). Thousand Oaks, CA: SAGE. doi:10.4135/9781412963947.n201

Speer, J. (2012). Participatory governance reform: A good strategy for increasing government responsiveness and improving public services? *World Development*, *40*(12), 2379–2398. doi:10.1016/j.worlddev.2012.05.034

Springer, S. (2011). Public space as emancipation: Meditations on anarchism, radical democracy, neoliberalism and violence. *Antipode*, *43*(2), 525–562. doi:10.1111/j.1467-8330.2010.00827.x

Staeheli, L. A. (2008). Citizenship and the problem of community. *Political Geography*, *27*(1), 5–21. doi:10.1016/j.polgeo.2007.09.002

Steel, D. (2008). Repeated cross-sectional design. In P. Lavrakas (Ed.), *Encyclopedia of Survey Research Methods.* (p. 715-717). Thousand Oaks, CA: SAGE. doi:10.4135/9781412963947.n465

Stern, P. C., Dietz, T., Abel, T., Guagnano, G. A., & Kalof, L. (1999). A value-belief-norm theory of support for social movements: The case of environmentalism. *Human Ecology Review*, *6*(2), 81–98. Retrieved from http://www.humanecologyreview.org

Straughn, J. B., & Andriot, A. L. (2011). Education, civic patriotism, and democratic citizenship: Unpacking the education effect on political involvement. *Sociological Forum*, *26*(3), 556–580. doi:10.1111/j.1573-7861.2011.01262.x

Sturesson, A. (2008). *Inclusive places, inclusive spaces: Evaluating female councilors' participation in Municipal Councils in Burkina Faso*. Retrieved from Lund University, Department of Political Science: http://lup.lub.lu.se/student-papers/record/1319145

Suoronta, J. (2004). Youth and information communication technologies (ICTs). In United Nations (Eds.), *World youth report 2003*. Retrieved from http://www.un.org/esa/socdev/unyin/documents/worldyouthreport.pdf

Sykes, A. O. (1993). An introduction to regression analysis. *Law & Economics Working Papers No. 20*, 1-33. Retrieved from http://chicagounbound.uchicago.edu/cgi/viewcontent.cgi?article=1050&context=law_and_economics&sei-redir=1&referer=https%3A%2F%2Fscholar.google.com%2Fscholar%3Fq%3DAn%2BIntroduction%2BTo%2BRegression%2BAnalysis%2BChicago%2BWorking%2BPaper%2BIn%2BLaw%2BAnd%2BEconomics%2BAlan%2BO%2BSykes

#search=%22An%20Introduction%20Regression%20Analysis%20Chicago%20Working%20Paper%20Law%20Economics%20Alan%20O%20Sykes%22

Sylvester, D. E., & McGlynn, A. J. (2010). The digital divide, political participation, and place. *Social Science Computer Review*, *28*(1), 64–74. doi:10.1177/0894439309335148

Tabachnick, B. G., & Fidell, L. S. (2007). *Using multivariate statistics*. Boston, MA: Pearson.

Tatarchevskiy, T. (2011). The "popular" culture of Internet activism. *New Media & Society*, *13*(2), 297–313. doi:10.1177/1461444810372785

Taylor-Smith, E. (2012). *Participation spaces*. Paper presented at Fourth International Conference on eParticipation, Kristiansand, Norway. Retrieved from http://researchrepository.napier.ac.uk/5628/

Taylor, M. (2007). Community participation in the real world: Opportunities and pitfalls in new governance spaces. *Urban Studies*, *44*(2), 297-317. doi:10.1080/00420980601074987

Tercheck, R. J., & Conte, T. C. (2001). *Theories of democracy: A reader*. Oxford, UK: Rowen & Littlefield.

Trochim, Donnelly, & Arora, (2015). *Research methods: The essential knowledge base*. Boston, MA: Cengage Learning.

Tumin, Z., & Fung, A. (2011). *From government 2.0 to society 2.0*. Retrieved from Ash Center for Democratic Governance and Innovation, Harvard Kennedy School:

http://belfercenter.ksg.harvard.edu/publication/21475/from_government_20_to_society_20.html

U.S. Census. (2012). *Voter eligibility and participation*. Retrieved from https://www.census.gov/compendia/statab/2012/tables/12s0397.pdf

U.S. Census. (2013). *Voting and registration* [Data file]. Retrieved from http://www.census.gov/hhes/www/socdemo/voting/publications/historical/index.html

Valenzuela, S. (2013). Unpacking the use of social media for protest behavior: The roles of information, opinion expression, and activism. *American Behavioral Scientist*, *57*(7), 920–942. doi:10.1177/0002764213479375

Van Deth, J. W. (2014). A conceptual map of political participation. *Acta Politica*, *49*, 349–367. doi:10.1057/ap.2014.6

Van Laer, J., & Van Aelst, P. (2010). Internet and social movement action repertoires. *Information, Communication & Society*, *13*(8), 1146–1171. doi:10.1080/13691181003628307

Van Voorhis, C. W., & Morgan, B. L. (2007). Understanding power and rules of thumb for determining sample sizes. *Tutorials in Quantitative Methods for Psychology*, *3*(2), 43–50. Retrieved from http://www.tqmp.org

Verba, S., Schlozman, K. L., & Brady, H. E. (1995). *Voice and equality: Civic voluntarism in American politics*. New York, NY: Cambridge University Press.

Verba, S., Schlozman, K. L., Brady, H., & Nie, N. H. (1993). Citizen activity: Who participates? What do they say? *American Political Science Review*, *87*(2), 303-318. doi:10.2307/2939042

Vissersa, S., & Stolle, D. (2013). The Internet and new modes of political participation: online versus offline participation. *Information, Communication & Society*, *17*(8), 937–955. doi:10.1080/1369118X.2013.867356

Voss, T., & Abraham, M. (2000). Rational choice theory in sociology: A survey. In S. Quah, & A. Sales (Eds.), *The international handbook of sociology.* (pp. 50-84). London: SAGE. doi:10.4135/9781848608405.n3

Wooldridge, J. M. (2013). *Introductory econometrics: A modern approach.* Boston, MA: Cengage Learning.

Xenos, M., & Moy, P. (2007). Direct and differential effects of the Internet on political and civic engagement. *Journal of Communication*, *57*(4), 704–718. doi:10.1111/j.1460-2466.2007.00364.x

Appendix A: Tables

Table A1

Variables per Research Question

Research questions	Independent variables	Dependent variables	Covariates	Dummy variable & interaction term
RQ1	ICTs	Participation Autonomy Social order Solidarity	Age of respondents Degree Education Gender Income Political views Race/Ethnicity	Year ICTs * Year
RQ2	ICTs	Engaged citizenship (perceptions) Traditional citizenship (perceptions) Engaged citizenship (actions) Traditional citizenship (actions)	Age of respondents Degree Education Gender Income Political views Race/Ethnicity	Year ICTs * Year

Table A2

Variables, Survey Questions, and Measures

Variables	GSS code	Survey question	Measure
Participation			
Vote in elections	VOTEELEC	There are different opinions as to what it takes to be a good citizen? - Always to vote in elections	Ordinal
	VOTE00; VOTE04; VOTE08; VOTE12	Do you remember for sure whether or not you voted in that election?	Categorical
Be active in social or polit. organizations	ACTASSOC	There are different opinions as to what it takes to be a good citizen: To be active in social or political associations	Ordinal
	ATTRALLY	Here are some different forms of political and social action that people can take: Attended a political meeting or rally	Ordinal
	SIGNDPET	Here are some different forms of political and social action that people can take: Signed a petition	Ordinal
	VOLCHRTY	During the past 12 months, how often have you done each of the following things: Done volunteer work for a charity	Ordinal
Choose products for polit., ethical, or environmental reasons	BUYPOL	There are different opinions as to what it takes to be a good citizen: : To choose products for political, ethical or environmental reasons, even if they cost a bit more.	Ordinal
	AVOIDBUY	Here are some different forms of political and social action that people can take: Boycotted, or deliberately bought, certain products for political, ethical or environmental reasons	Ordinal
Protest	JOINDEM	Here are some different forms of political and social action that people can take: Took part in a demonstration	Ordinal
	SIGNDPET	Here are some different forms of political and social action that people can take: Signed a petition	Ordinal
Autonomy			
Try to understand reasoning of people with other opinions	OTHREASN	There are different opinions as to what it takes to be a good citizen: To try to understand the reasoning of people with other opinions	Ordinal
	ACCPTOTH	During the past 12 months, how often have you done each of the following things: I accept others even when they do things I think are	Ordinal

(table continues)

Variables	GSS code	Survey question	Measure
		wrong.	
Keep watch on gov.	WATCHGOV	There are different opinions as to what it takes to be a good citizen: To keep watch on the actions of government	Ordinal
	NEWS	How often do you read the newspaper--every day, a few times a week, once a week, less than once a week, or never?	Ordinal
	POLINT1	How interested would you say you personally are in politics?	Ordinal
Social order			
Never try to evade taxes	PAYTAXES	There are different opinions as to what it takes to be a good citizen: Never to try to evade taxes	Ordinal
Always obey the laws & regulations	OBEYLAW	There are different opinions as to what it takes to be a good citizen: Always to obey laws and regulations	Ordinal
Being willing to serve in military	MILSERVE	There are different opinions as to what it takes to be a good citizen: To be willing to serve in the military at a time of need	Ordinal
Solidarity			
Support people in U.S. who are worse off than yourself	HELPUSA	There are different opinions as to what it takes to be a good citizen: To help people in America who are worse off than yourself	Ordinal
Help others/assisting people in trouble	OTHSHELP	During the past 12 months, how often have you done each of the following things: People should be willing to help others who are less fortunate	Ordinal
Help people in the rest of the world who are worse off than yourself	HELPWRLD	There are different opinions as to what it takes to be a good citizen: To help people in the rest of the world who are worse off than yourself	Ordinal
ICTs			
Computer Use	COMPUSE	Do you personally ever use a computer at home, at work, or at some other location?	Categorical
	INTRHOME	Do you have access to the Internet in your home?	Categorical
	HOMEBAND	Is your home connected to the World Wide Web by a telephone line, a DSL, cable, some other way, or not at all?	Categorical
	EMAILHR; EMAILMIN	About how many minutes or hours per week do you spend sending and answering electronic mail or e-mail?	Ordinal
	USEWWW	Other than for e-mail, do you ever use the Internet or World Wide Web?	Categorical
Internet/WWW	WWWHR; WWWMIN	Not counting e-mail, about how many minutes or hours per week do you use the Web?	Ordinal

(table continues)

Variables	GSS code	Survey question	Measure
Information from…		We are interested in how people get information about events in the news. Where do you get most of your information about current news events – newspapers, magazines, the Internet, books or other printed materials, TV, radio, government agencies, family, friends, colleagues, or some other source?	
	NEWSFROM		Categorical
	POL30	In the past 30 days, how often have you visited a web site for? Looked up political information?	Ordinal
	NEWS30	In the past 30 days, how often have you visited a web site for? News and current events?	Ordinal
Dummy variable			
	YEAR	Survey year	Categorical
Interaction term			
	ICTs * YEAR	Interaction term	
Covariates			
Age of respondents	AGE	Respondent's age	Continuous
Degree	DEGREE	Respondent's degree	Ordinal
Education	EDUC	Respondent's education	Ordinal
Gender	SEX	Respondent's sex	Categorical
Income	INCOME	In which of these groups did your total family income, from all sources, fall last year before taxes, that is?	Ordinal
Political views		I'm going to show you a seven-point scale on which the political views that people might hold are arranged from extremely liberal--point 1--to extremely conservative-- point 7. Where would you place yourself on this scale?	
	POLVIEWS		Categorical
Polotical party affiliation	PARTYID	Generally speaking, do you usually think of yourself as a Republican, Democrat, Independent, or what?	Categorical
Race	RACE	What race do you consider yourself?	Categorical

Table A3

Variables by Category—Perception vs. Action

Variables	GSS code	2004 Perceptions	2004 Actions	2014 Perceptions	2014 Actions
Participation					
Vote in elections	VOTE00; VOTE04; VOTE08; VOTE12; VOTEELEC	VOTEELEC	VOTE00; VOTE04	VOTEELEC	VOTE08; VOTE12;
Be active in social or polit. organizations	ATTRALLY; VOLCHRTY; ACTASSOC	ACTASSOC	ATTRALLY; VOLCHRTY	ACTASSOC	VOLCHRTY; ATTRALLY
Choose products for polit., ethical, or environ reasons	BUYPOL; AVOIDBUY	BUYPOL	AVOIDBUY	BUYPOL	AVOIDBUY
Protest	JOINDEM; SIGNDPET		JOINDEM; SIGNDPET		JOINDEM; SIGNDPET
Autonomy					
Try to understand reasoning of people with other opinions	ACCPTOTH; OTHREASN	OTHREASN	ACCPTOTH	OTHREASN	ACCPTOTH
Keep watch on gov./Follow public affairs	NEWS; POLINT1; WATCHGOV	WATCHGOV	NEWS; POLINT1	WATCHGOV	NEWS; POLINT1
Social order					
Never try to evade taxes	PAYTAXES	✓		✓	
Always obey the laws & regs	OBEYLAW	✓		✓	
Being willing to serve in military	MILSERVE	✓			
Solidarity					
Support people in U.S. who are worse off than yourself	HELPUSA; OTHSHELP	HELPUSA	OTHSHELP	HELPUSA	OTHSHELP
Help people in the rest of the world who are worse off than yourself	HELPWRLD	✓		✓	
ICTs					
Computer Use	COMPUSE; INTRHOME/HOMEBAND		COMPUSE; INTRHOME		COMPUSE; HOMEBAND
Internet/WWW	USEWWW; WWWHR;		✓		✓

(table continues)

Variables	GSS code	2004 Perceptions	2004 Actions	2014 Perceptions	2014 Actions
Information from…	WWWMIN; EMAILHR; EMAILMIN NEWSFROM; POL30; NEWS30		POL30; NEWS30		NEWSFROM
Dummy variable					
	YEAR		✓		✓
Interaction term					
	ICTs * YEAR		✓		✓
Covariates					
Age of respondents	AGE		✓		✓
Degree	DEGREE		✓		✓
Education	EDUC		✓		✓
Gender	SEX		✓		✓
Income	INCOME		✓		✓
Political party affiliation	PARTYID		✓		✓
Political views	POLVIEWS		✓		✓
Race	RACE		✓		✓

Table A4

Cleaned Dataset—Variables & Cases

Variables	GSS year for Rs		*N*	Percent (%)	Missing	Percent (%)
Citizenship variables - Significance/Perception	2004	2014				
How important to…						
…be active in soc. & polit. assoc.	218	102	320	100.00%	0	0.00%
…choose products for polit. reasons	218	102	320	100.00%	0	0.00%
…help worse off ppl in America	218	102	320	100.00%	0	0.00%
…help worse off ppl in rest of world	218	102	320	100.00%	0	0.00%
…serve in military when needed	**217**	**0**	**217**	**67.80%**	**103**	**32.20%**
…always obey the laws	218	102	320	100.00%	0	0.00%
…understand reasoning of others	218	102	320	100.00%	0	0.00%
…never try to evade taxes	218	102	320	100.00%	0	0.00%
…always vote in elections	218	102	320	100.00%	0	0.00%
…keep watch on actions of govt.	218	102	320	100.00%	0	0.00%
Citizenship variables - Action						
Attended a polit. meeting or rally	218	100	318	99.40%	2	0.60%
Boycotted products for polit. reasons	217	97	314	98.10%	6	1.90%
Took part in a demonstration	218	100	318	99.40%	2	0.60%
How often does R read newspaper	**0**	**102**	**102**	**31.90%**	**218**	**68.10%**
Signed a petition	217	100	317	99.10%	3	0.90%
How interested in politics	218	100	318	99.40%	2	0.60%
Did R vote in presidential election?	217	101	318	99.40%	2	0.60%
ICTs						
R use computer	218	102	320	100.00%	0	0.00%
Time spent on email per week	218	102	320	100.00%	0	0.00%
Information retrieved from	218	93	311	97.20%	9	2.80%
Internet access @ home	218	93	311	97.20%	9	2.80%
R use www other than email	**218**	**20**	**238**	**74.40%**	**82**	**25.60%**
Time spent on the Internet per week	218	99	317	99.10%	3	0.90%

(table continues)

Variables	GSS year for Rs		*N*	Percent (%)	Missing	Percent (%)
Covariates						
Age of respondent	218	102	320	100.00%	0	0.00%
Respondent's highest degree	218	102	320	100.00%	0	0.00%
Total family income	198	94	292	91.30%	28	8.80%
Marital status	218	102	320	100.00%	0	0.00%
Polit. party affiliation	218	101	319	99.70%	1	0.30%
Respondent's race	218	102	320	100.00%	0	0.00%
Respondent's sex	218	102	320	100.00%	0	0.00%
Composite indicators						
CI for ICTs	218	90	308	96.30%	12	3.80%
Engaged MIL A-R factor score (2004)	217	0	217	67.80%	103	32.20%
Dutiful MIL A-R factor score (2004)	217	0	217	67.80%	103	32.20%
Engaged A-R factor score	218	102	320	100.00%	0	0.00%
Dutiful A-R factor score	218	102	320	100.00%	0	0.00%
Autonomy MIL A-R factor score (2004)	**217**	**0**	**217**	**67.80%**	**103**	**32.20%**
Solidarity MIL A-R factor score (2004)	**217**	**0**	**217**	**67.80%**	**103**	**32.20%**
Participation MIL A-R factor score (2004)	**217**	**0**	**217**	**67.80%**	**103**	**32.20%**
Social order MIL A-R factor score (2004)	**217**	**0**	**217**	**67.80%**	**103**	**32.20%**
Autonomy A-R factor score	218	102	320	100.00%	0	0.00%
Solidarity A-R factor score	218	102	320	100.00%	0	0.00%
Participation A-R factor score	218	102	320	100.00%	0	0.00%
Social order A-R factor score	218	102	320	100.00%	0	0.00%
Engaged Action A-R factor score	215	93	308	96.30%	12	3.80%
Dutiful Action A-R factor score	215	93	308	96.30%	12	3.80%
Dummy variable & interaction term						
ICTs * Year (Interaction term)	218	90	308	96.30%	12	3.80%
Dummy variable for year (GSS year 2004/2014)	218	102	320	100.00%	0	0.00%

Note. $N = 320$; missing values > 25% are in boldface.

Table A5

Descriptive Statistics—Scale Variables

Variables	Categories									
Citizenship variables - Significance	Least to most important:								Missing	Valid
How important to…	1	2	3	4	5	6	7			
…be active in soc. & polit. assoc.	3.80%	6.60%	10.60%	26.60%	25.90%	15.60%	10.90%		0%	100.00%
…choose products for polit. reasons	5.30%	3.80%	8.10%	20.90%	28.80%	15.60%	17.50%		0%	100.00%
…help worse off ppl in America	0.90%	0.30%	1.60%	11.30%	21.90%	22.50%	41.60%		0%	100.00%
…help worse off ppl in rest of world	2.80%	5.90%	10%	20.90%	17.50%	20.30%	22.50%		0%	100.00%
…serve in military when needed	5.60%	4.70%	5.60%	9.70%	14.10%	10%	18.10%		32.20%	67.80%
…always obey the laws	0.60%	0.60%	0.90%	5%	10.30%	21.60%	60.90%		0%	100.00%
…understand reasoning of others	2.50%	1.30%	3.10%	9.70%	17.80%	23.10%	42.50%		0%	100.00%
…never try to evade taxes	1.60%	0.90%	1.60%	4.10%	8.80%	14.10%	69.10%		0%	100.00%
…always vote in elections	2.80%	2.20%	5.90%	7.20%	14.40%	12.80%	54.70%		0%	100.00%
…keep watch on actions of govt.	1.30%	0.90%	2.50%	9.10%	17.80%	22.50%	45.90%		0%	100.00%
Citizenship variables - Action	Past year	Dist. past	Might do	Never do					Missing	Valid
Attended a polit. meeting or rally	8.40%	17.20%	49.70%	24.10%					0.60%	99.40%
Boycotted products for polit. reasons	23.40%	14.40%	38.80%	21.60%					1.90%	98.10%
Took part in a demonstration	6.60%	14.10%	51.60%	27.20%					0.60%	99.40%
Signed a petition	34.10%	25.90%	30.30%	8.80%					0.90%	99.10%
How interested in politics	14.70%	44.40%	30%	10.30%					0.60%	99.40%
Covariates	< High School	High School	Jr. College	Bachelor	Graduate				Missing	Valid
Respondent's highest degree	6.90%	48.80%	9.40%	25.90%	9.10%				0.00%	100.00%
	< $5,999	-$6,999	-$9,999	-$14,999	-$19,999	-$24,999	> $25,000		Missing	Valid
Total family income	1.30%	0.90%	1.30%	5.30%	3.80%	7.80%	61.60%		8.80%	91.30%
	Strong democrat	Not strong	Ind,near dem.	Independent	Ind, near rep.	Not strong	Strong republican	Other	Missing	Valid
Polit. party affiliation	12.20%	18.80%	15.30%	19.70%	8.40%	16.60%	7.80%	0.90%	0.30%	99.70%

Note. $N = 320$.

Table A6

Independent Samples t Test (Age 18–35)

ICT variables	Year	*N*	*M*	*SD*	Levene's test (*p*)	*t*	*df*	*p*	Mean difference	Std. error difference
R use computer	GSS 2004	218	1.00	0.00	0.00	-3.34	318.00	0.00	-0.05	0.02
	GSS 2014	102	1.05	0.22		-2.28	101.00	**0.03**	-0.05	0.02
Time spent on email per week	GSS 2004	218	399.79	580.72	0.74	0.69	318.00	0.49	49.58	71.45
	GSS 2014	102	350.22	626.43		0.68	184.66	0.50	49.58	73.44
Information retrieved from	GSS 2004	218	2.34	0.86	0.00	10.11	309.00	0.00	0.96	0.10
	GSS 2014	93	1.38	0.49		12.48	285.60	**0.00**	0.96	0.08
Internet access @ home	GSS 2004	218	1.17	0.38	0.00	-4.65	309.00	0.00	-0.23	0.05
	GSS 2014	93	1.10	0.30		-4.10	135.40	**0.00**	-0.23	0.06
Time spent on the Internet per week	GSS 2004	218	441.95	616.57	0.00	-4.79	315.00	0.00	-405.43	84.60
	GSS 2014	99	847.38	851.23		-4.26	146.51	**0.00**	-405.43	95.20
CI for ICTs	GSS 2004	223	167.18	191.87	0.00	-3.50	324.00	0.00	-91.43	26.15
	GSS 2014	103	258.61	269.97		-3.10	151.36	**0.00**	-91.43	29.54

Note. *p*-values are for 2-tailed; $p < .05$.

Table A7

Independent Samples t Test (Age Unrestricted)

	Year	*N*	*M*	*SD*	Levene's test (*p*)	*t*	*df*	*p*	Mean difference	Std. error difference
R use computer	GSS 2004	681	1.00	0.00	0.00	-8.70	1458.00	0.00	-0.10	0.01
	GSS 2014	779	1.10	0.30		-9.30	778.00	**0.00**	-0.10	0.01
Time spent on email per week	GSS 2004	582	378.73	557.36	0.15	-0.01	1310.00	1.00	-0.16	32.05
	GSS 2014	730	378.89	591.62		-0.01	1274.19	1.00	-0.16	31.83
Information retrieved from	GSS 2004	677	2.32	0.80	0.00	15.33	1099.00	0.00	0.66	0.04
	GSS 2014	424	1.66	0.48		17.13	1095.87	**0.00**	0.66	0.04
Internet access @ home	GSS 2004	672	1.14	0.34	0.06	-0.97	1094.00	0.33	-0.02	0.02
	GSS 2014	424	1.16	0.37		-0.95	859.42	0.34	-0.02	0.02
Time spent on Internet per week	GSS 2004	578	431.16	577.71	0.00	-6.77	1290.00	0.00	-295.75	43.71
	GSS 2014	714	726.90	913.18		-7.08	1222.92	**0.00**	-295.75	41.78

Note. *p*-values are for 2-tailed; $p < .05$.

Table A8

Principal Component Analysis—Results Overview

	PCA1	PCA2	PCA3	PCA4	PCA5	PCA6
Data	Perception, 2004, MILSERVE	Perception, 2004/2014	Perception, 2004, MILSERVE	Perception, 2004/2014	Action, 2004	Action, 2004/2014
n	1,406	2,511	1,406	2,511	1,436	2,606
Dimensions	4	4	2	2	2	2
Correlation matrix *(r)*	0.30 < r < 0.54	0.30 < r < 0.50	0.30 < r < 0.54	0.30 < r < 0.50	0.30 < r < 0.51	0.30 < r < 0.50
Determinant	0.19	0.21	0.19	0.21	0.32	0.31
KMO	0.78	0.77	0.78	0.77	0.76	0.76
Bartlett's Test	0.001 < p	0.001 < p	0.001 < p	0.001 < p	0.001 < p	0.001 < p
Total variance explained	63.14%	67.81%	42.89%	45.57%	59.39%	60.30%
Nonredundant residuals	71%	36%	60%	72%	66%	73%
Factor Rotation	varimax	varimax	varimax	varimax	varimax	Varimax

Note. N = 5,350.

Table A9

MLR Model Summaries

	R	R^2	Adjusted R^2	Std. error of the estimate	Change statistics				Durbin-Watson
					F change	*df1*	*df2*	Sig. F change	
Preanalysis: ICTs & covariates									
CI ICTs	0.07	0.01	0.00	0.98	1.50	1	306	0.22	1.95
CI ICTs & Interaction	0.08	0.01	0.00	0.98	0.97	2	305	0.36	1.95
ICTs	0.18	0.03	0.02	0.98	2.12	5	302	0.06	1.93
ICTs & Interaction	0.20	0.04	0.01	0.98	1.25	10	297	0.26	1.94
Covariates	0.23	0.05	0.03	0.98	2.74	8	396	**0.01**	1.82
CI ICTs, Interaction, Cov.	0.27	0.07	0.04	0.98	2.08	10	270	**0.03**	1.97
ICTs, Interaction, Cov.	0.32	0.10	0.05	0.97	1.79	17	263	**0.03**	1.98
Engaged MIL, CI ICTs	0.34	0.11	0.08	0.96	3.03	8	188	**0.00**	1.91
Engaged MIL, ICTs	0.35	0.12	0.07	0.96	2.39	8	188	**0.01**	1.94
Engaged WA, CI ICTs	0.25	0.06	0.03	3.86	1.82	10	270	0.06	1.92
Engaged WA, ICTs	0.31	0.10	0.04	3.84	1.69	17	263	0.04	1.96
Citizenship norms									
Autonomy	0.22	0.05	0.01	0.98	1.36	10	270	0.20	1.99
Solidarity	0.35	0.12	0.09	0.95	3.80	10	270	**0.00**	2.09
Participation	0.21	0.05	0.01	1.04	1.26	10	270	0.25	2.18
Social order	0.32	0.10	0.07	0.95	3.04	10	270	**0.00**	1.89
Citizenship dimensions									
Engaged	0.27	0.07	0.04	0.98	2.08	10	270	**0.03**	1.97
Dutiful	0.30	0.09	0.06	0.93	2.73	10	270	**0.00**	1.90
Engaged action	0.30	0.09	0.06	0.92	2.75	10	272	**0.00**	1.88
Dutiful action	0.43	0.19	0.16	0.95	6.33	10	272	**0.00**	1.99

Note. Predictors: (Constant), ICTs x Year, CI for ICTs, Respondent's race, Respondent's sex, Total family income, RS highest degree, Political party affiliation, Dummy variable for year (GSS year 2004/2014), Age of respondent, Marital status; *p*-values < .05 are in boldface.

Table A10

Summary of MLR—ICTs & Covariates

Model	Unstandardized coefficients		Standardized coefficients	*t*	Sig.	Correlations			Collinearity statistics	
	B	*SE*	*ß*			*ZO*	Partial	Part	Tolerance	*VIF*
CI ICTs										
(Constant)	-0.05	0.06		-0.82	0.41					
CI for ICTs	0.00	0.00	0.07	1.23	0.22	0.07	0.07	0.07	1.00	1.00
CI ICTs & interaction										
(Constant)	-0.05	0.06		-0.94	0.35					
CI for ICTs	0.00	0.00	0.03	0.46	0.64	0.07	0.03	0.03	0.59	1.70
ICTs * Year	0.00	0.00	0.06	0.74	0.46	0.08	0.04	0.04	0.59	1.70
ICTs										
(Constant)	-0.04	0.06		-0.76	0.45					
R use computer	-0.05	0.58	-0.01	-0.09	0.93	-0.03	-0.01	-0.01	0.95	1.05
Time spent on email per week	0.00	0.00	-0.03	-0.48	0.63	0.02	-0.03	-0.03	0.88	1.13
Information retrieved from	-0.39	0.14	-0.16	-2.72	**0.01**	-0.15	-0.16	-0.15	0.91	1.10
Internet access @ home	0.16	0.16	0.06	0.98	0.33	0.02	0.06	0.06	0.94	1.06
Time spent on the Internet per week	0.00	0.00	0.10	1.60	0.11	0.09	0.09	0.09	0.91	1.10
ICTs & interaction										
(Constant)	0.00	0.12		-0.02	0.99					
R use computer	2.84	4.60	0.28	0.62	0.54	-0.03	0.04	0.04	0.02	65.44
Time spent on email per week	0.00	0.00	0.01	0.14	0.89	0.02	0.01	0.01	0.58	1.73
Information retrieved from	-0.39	0.19	-0.16	-2.04	**0.04**	-0.15	-0.12	-0.12	0.51	1.96
Internet access @ home	0.16	0.18	0.06	0.90	0.37	0.02	0.05	0.05	0.77	1.30
Time spent on the Internet per week	0.00	0.00	0.02	0.24	0.81	0.09	0.01	0.01	0.47	2.13
Compuse_year	-2.99	4.63	-0.30	-0.65	0.52	-0.03	-0.04	-0.04	0.02	64.71
Emailtime_year	0.00	0.00	-0.06	-0.80	0.42	0.00	-0.05	-0.05	0.58	1.73

(table continues)

Model	Unstandardized coefficients		Standardized coefficients	*t*	Sig.	Correlations			Collinearity statistics	
	B	*SE*	*β*			*ZO*	Partial	Part	Tolerance	*VIF*
Infofrom2_year	-0.03	0.31	-0.01	-0.09	0.93	-0.11	-0.01	-0.01	0.46	2.16
Internethome_year	0.05	0.46	0.01	0.10	0.92	-0.01	0.01	0.01	0.62	1.60
Wwwtime_year	0.00	0.00	0.10	1.17	0.25	0.11	0.07	0.07	0.48	2.08
Covariates										
(Constant)	-0.32	0.55		-0.59	0.56					
CI for ICTs	-0.01	0.01	-0.06	-1.06	0.29	-0.04	-0.05	-0.05	0.79	1.26
Age of respondent	0.11	0.04	0.13	2.47	0.01	0.10	0.12	0.12	0.93	1.08
Rs highest degree	0.01	0.02	0.03	0.57	0.57	0.00	0.03	0.03	0.86	1.16
Total family income	0.08	0.11	0.04	0.74	0.46	0.07	0.04	0.04	0.77	1.30
Marital status	-0.07	0.03	-0.14	-2.66	**0.01**	-0.16	-0.13	-0.13	0.91	1.10
Political party affiliation	0.20	0.11	0.09	1.79	0.07	0.11	0.09	0.09	0.93	1.07
Respondent's race	0.08	0.10	0.04	0.75	0.45	0.04	0.04	0.04	0.95	1.06
Respondent's sex	0.08	0.10	0.04	0.78	0.44	0.03	0.04	0.04	0.98	1.03
CI ICTs, interaction, covariates										
(Constant)	0.38	0.67		0.57	0.57					
CI for ICTs	0.00	0.00	0.06	0.74	0.46	0.08	0.05	0.04	0.54	1.85
ICTs x Year	0.00	0.00	0.03	0.39	0.69	0.08	0.02	0.02	0.56	1.79
Age of respondent	-0.04	0.02	-0.17	-2.42	**0.02**	-0.12	-0.15	-0.14	0.74	1.36
Rs highest degree	0.12	0.05	0.14	2.31	**0.02**	0.10	0.14	0.14	0.90	1.11
Total family income	0.02	0.02	0.06	0.92	0.36	0.02	0.06	0.05	0.88	1.13
Marital status	0.06	0.14	0.03	0.46	0.64	0.11	0.03	0.03	0.73	1.38
Political party affiliation	-0.06	0.03	-0.12	-1.89	0.06	-0.13	-0.11	-0.11	0.91	1.10
Respondent's race	0.22	0.14	0.10	1.57	0.12	0.10	0.10	0.09	0.94	1.06
Respondent's sex	-0.04	0.12	-0.02	-0.30	0.76	-0.04	-0.02	-0.02	0.95	1.06
Dummy variable for year	0.02	0.13	0.01	0.11	0.91	0.02	0.01	0.01	0.94	1.07
ICTs, interaction, covariates										
(Constant)	0.33	0.71		0.47	0.64					
R use computer	4.96	4.81	0.51	1.03	0.30	-0.03	0.06	0.06	0.01	72.60

(table continues)

Model	Unstandardized coefficients		Standardized coefficients	*t*	Sig.	Correlations			Collinearity statistics	
	B	*SE*	*β*			*ZO*	Partial	Part	Tolerance	*VIF*
Time spent on email per week	0.00	0.00	0.06	0.73	0.47	0.02	0.05	0.04	0.55	1.81
Information retrieved from	-0.31	0.20	-0.13	-1.51	0.13	-0.17	-0.09	-0.09	0.48	2.10
Internet access @ home	0.08	0.19	0.03	0.39	0.70	0.02	0.02	0.02	0.70	1.43
Time spent on the Internet per week	0.00	0.00	-0.01	-0.08	0.94	0.10	-0.01	0.00	0.45	2.23
Compuse x Year	-4.93	4.84	-0.50	-1.02	0.31	-0.03	-0.06	-0.06	0.01	71.60
Emailtime x Year	0.00	0.00	-0.09	-1.18	0.24	0.00	-0.07	-0.07	0.56	1.79
Infofrom x Year	-0.19	0.33	-0.05	-0.59	0.56	-0.13	-0.04	-0.03	0.43	2.31
Internethome x Year	0.39	0.48	0.06	0.82	0.42	-0.01	0.05	0.05	0.58	1.72
Wwwtime x Year	0.00	0.00	0.10	1.10	0.27	0.11	0.07	0.06	0.46	2.18
Age of respondent	-0.03	0.02	-0.14	-2.04	**0.04**	-0.12	-0.13	-0.12	0.70	1.44
Rs highest degree	0.12	0.05	0.14	2.24	**0.03**	0.10	0.14	0.13	0.86	1.16
Total family income	0.02	0.02	0.06	0.86	0.39	0.02	0.05	0.05	0.83	1.20
Marital status	0.10	0.14	0.05	0.72	0.47	0.11	0.04	0.04	0.67	1.48
Political party affiliation	-0.07	0.03	-0.13	-2.00	0.05	-0.13	-0.12	-0.12	0.86	1.17
Respondent's race	0.20	0.14	0.09	1.38	0.17	0.10	0.09	0.08	0.90	1.11
Respondent's sex	-0.03	0.13	-0.01	-0.22	0.82	-0.04	-0.01	-0.01	0.90	1.11
<u>Engaged MIL, CI ICTs</u>										
(Constant)	0.87	0.79		1.11	0.27					
ICTs_centered	0.00	0.00	0.04	0.55	0.58	0.01	0.04	0.04	0.92	1.09
Age of respondent	-0.05	0.02	-0.24	-3.01	**0.00**	-0.25	-0.22	-0.21	0.75	1.34
Rs highest degree	0.06	0.06	0.07	1.02	0.31	0.01	0.07	0.07	0.91	1.10
Total family income	0.01	0.03	0.02	0.24	0.81	-0.05	0.02	0.02	0.89	1.13
Marital status	0.10	0.17	0.05	0.57	0.57	0.19	0.04	0.04	0.68	1.47
Political party affiliation	-0.06	0.04	-0.12	-1.58	0.12	-0.19	-0.11	-0.11	0.83	1.20
Respondent's race	0.33	0.17	0.14	1.98	**0.05**	0.17	0.14	0.14	0.94	1.07
Respondent's sex	0.00	0.15	0.00	-0.01	0.99	-0.04	0.00	0.00	0.92	1.09
<u>Engaged MIL, ICTs</u>										
(Constant)	0.78	0.80		0.97	0.33					

(table continues)

Model	Unstandardized coefficients		Standardized coefficients	*t*	Sig.	Correlations			Collinearity statistics	
	B	*SE*	*β*			*ZO*	Partial	Part	Tolerance	*VIF*
Time spent on email per week	0.00	0.00	0.09	1.18	0.24	0.02	0.09	0.08	0.84	1.19
Information retrieved from	-0.16	0.20	-0.06	-0.79	0.43	-0.08	-0.06	-0.05	0.88	1.14
Internet access @ home	0.04	0.19	0.01	0.19	0.85	0.05	0.01	0.01	0.84	1.20
Time spent on the Internet per week	0.00	0.00	-0.04	-0.59	0.55	0.00	-0.04	-0.04	0.84	1.18
Age of respondent	-0.05	0.02	-0.24	-3.02	**0.00**	-0.25	-0.22	-0.21	0.73	1.36
Rs highest degree	0.06	0.06	0.07	0.97	0.34	0.01	0.07	0.07	0.91	1.10
Total family income	0.01	0.03	0.02	0.21	0.83	-0.05	0.02	0.02	0.84	1.19
Marital status	0.11	0.17	0.06	0.68	0.50	0.19	0.05	0.05	0.67	1.50
Political party affiliation	-0.06	0.04	-0.12	-1.53	0.13	-0.19	-0.11	-0.11	0.82	1.22
Respondent's race	0.35	0.17	0.15	2.07	**0.04**	0.17	0.15	0.14	0.91	1.10
Respondent's sex	0.02	0.15	0.01	0.10	0.92	-0.04	0.01	0.01	0.88	1.14
Engaged WA, CI ICTs										
(Constant)	23.67	2.65		8.93	**0.00**					
CI for ICTs	0.00	0.00	0.07	0.81	0.42	0.08	0.05	0.05	0.54	1.85
ICTs * Year	0.00	0.00	0.02	0.23	0.82	0.07	0.01	0.01	0.56	1.79
Age of respondent	-0.13	0.06	-0.15	-2.17	**0.03**	-0.08	-0.13	-0.13	0.74	1.36
Rs highest degree	0.49	0.21	0.15	2.36	**0.02**	0.11	0.14	0.14	0.90	1.11
Total family income	0.12	0.08	0.09	1.38	0.17	0.06	0.08	0.08	0.88	1.13
Marital status	-0.06	0.55	-0.01	-0.11	0.91	0.05	-0.01	-0.01	0.73	1.38
Political party affiliation	-0.20	0.13	-0.10	-1.59	0.11	-0.11	-0.10	-0.09	0.91	1.10
Respondent's race	1.06	0.55	0.12	1.92	0.06	0.11	0.12	0.11	0.94	1.06
Respondent's sex	0.05	0.48	0.01	0.10	0.92	-0.02	0.01	0.01	0.95	1.06
Dummy variable for year	0.14	0.52	0.02	0.26	0.80	0.02	0.02	0.02	0.94	1.07
Engaged WA, ICTs										
(Constant)	23.62	2.80		8.44	**0.00**					
R use computer	23.28	18.98	0.61	1.23	0.22	-0.01	0.08	0.07	0.01	72.60
Time spent on email per week	0.00	0.00	0.08	1.05	0.29	0.03	0.07	0.06	0.55	1.81
Information retrieved from	-1.29	0.81	-0.14	-1.61	0.11	-0.15	-0.10	-0.09	0.48	2.10

(table continues)

Model	Unstandardized coefficients		Standardized coefficients	*t*	Sig.	Correlations			Collinearity statistics	
	B	*SE*	*ß*			*ZO*	Partial	Part	Tolerance	*VIF*
Internet access @ home	0.32	0.76	0.03	0.42	0.67	0.01	0.03	0.03	0.70	1.43
Time spent on the Internet per week	0.00	0.00	-0.03	-0.31	0.76	0.08	-0.02	-0.02	0.45	2.23
Compuse x Year	-22.61	19.09	-0.59	-1.19	0.24	-0.01	-0.07	-0.07	0.01	71.60
Emailtime x Year	0.00	0.00	-0.11	-1.45	0.15	-0.02	-0.09	-0.09	0.56	1.79
Infofrom x Year	-0.45	1.30	-0.03	-0.34	0.73	-0.10	-0.02	-0.02	0.43	2.31
Internethome x Year	1.96	1.90	0.08	1.03	0.30	0.01	0.06	0.06	0.58	1.72
Wwwtime x Year	0.00	0.00	0.11	1.27	0.20	0.11	0.08	0.08	0.46	2.18
Age of respondent	-0.12	0.06	-0.13	-1.88	0.06	-0.08	-0.12	-0.11	0.70	1.44
Rs highest degree	0.50	0.21	0.15	2.37	**0.02**	0.11	0.14	0.14	0.86	1.16
Total family income	0.12	0.09	0.09	1.37	0.17	0.06	0.08	0.08	0.83	1.20
Marital status	0.09	0.56	0.01	0.16	0.88	0.05	0.01	0.01	0.67	1.48
Political party affiliation	-0.23	0.13	-0.11	-1.77	0.08	-0.11	-0.11	-0.10	0.86	1.17
Respondent's race	0.98	0.56	0.11	1.73	0.08	0.11	0.11	0.10	0.90	1.11
Respondent's sex	0.10	0.49	0.01	0.20	0.84	-0.02	0.01	0.01	0.90	1.11

Note. Significance values, $p < .05$, are in boldface.

Table A11

Summary of MLR—Citizenship Norms

Model	Unstandardized coefficients		Standardized coefficients	*t*	Sig.	Correlations			Collinearity statistics	
	B	*SE*	*ß*			*ZO*	Partial	Part	Tolerance	*VIF*
Autonomy										
(Constant)	0.04	0.68		0.06	0.96					
CI for ICTs	0.00	0.00	0.02	0.19	0.85	0.09	0.01	0.01	0.54	1.85
ICTs * Year	0.00	0.00	0.07	0.86	0.39	0.11	0.05	0.05	0.56	1.79
Age of respondent	-0.01	0.02	-0.06	-0.87	0.39	0.00	-0.05	-0.05	0.74	1.36
Rs highest degree	0.06	0.05	0.07	1.14	0.25	0.08	0.07	0.07	0.90	1.11
Total family income	0.04	0.02	0.11	1.77	0.08	0.11	0.11	0.11	0.88	1.13
Marital status	-0.02	0.14	-0.01	-0.13	0.90	0.00	-0.01	-0.01	0.73	1.38
Political party affiliation	-0.02	0.03	-0.03	-0.55	0.59	-0.02	-0.03	-0.03	0.91	1.10
Respondent's race	-0.01	0.14	0.00	-0.06	0.95	-0.01	0.00	0.00	0.94	1.06
Respondent's sex	-0.14	0.12	-0.07	-1.15	0.25	-0.09	-0.07	-0.07	0.95	1.06
Dummy variable for year	0.23	0.13	0.11	1.74	0.08	0.12	0.11	0.10	0.94	1.07
Solidarity										
(Constant)	0.37	0.65		0.56	0.57					
CI for ICTs	0.00	0.00	0.01	0.07	0.95	-0.05	0.00	0.00	0.54	1.85
ICTs x Year	0.00	0.00	-0.01	-0.11	0.91	-0.04	-0.01	-0.01	0.56	1.79
Age of respondent	-0.04	0.02	-0.17	-2.49	**0.01**	-0.19	-0.15	-0.14	0.74	1.36
Rs highest degree	0.01	0.05	0.02	0.25	0.80	-0.07	0.02	0.01	0.90	1.11
Total family income	-0.01	0.02	-0.03	-0.54	0.59	-0.11	-0.03	-0.03	0.88	1.13
Marital status	0.10	0.13	0.05	0.76	0.45	0.14	0.05	0.04	0.73	1.38
Political party affiliation	-0.07	0.03	-0.13	-2.13	**0.03**	-0.19	-0.13	-0.12	0.91	1.10
Respondent's race	0.41	0.14	0.18	3.01	**0.00**	0.20	0.18	0.17	0.94	1.06
Respondent's sex	0.25	0.12	0.12	2.08	**0.04**	0.12	0.13	0.12	0.95	1.06
Dummy variable for year	-0.17	0.13	-0.08	-1.31	0.19	-0.10	-0.08	-0.07	0.94	1.07
Participation										
(Constant)	0.11	0.72		0.15	0.88					

(table continues)

Model	Unstandardized coefficients		Standardized coefficients	*t*	Sig.	Correlations			Collinearity statistics	
	B	*SE*	*β*			*ZO*	Partial	Part	Tolerance	*VIF*
CI for ICTs	0.00	0.00	0.10	1.22	0.22	0.09	0.07	0.07	0.54	1.85
ICTs * Year	0.00	0.00	-0.03	-0.41	0.68	0.04	-0.03	-0.02	0.56	1.79
Age of respondent	-0.01	0.02	-0.05	-0.75	0.45	0.01	-0.05	-0.05	0.74	1.36
Rs highest degree	0.16	0.06	0.17	2.74	**0.01**	0.17	0.16	0.16	0.90	1.11
Total family income	0.01	0.02	0.03	0.40	0.69	0.05	0.02	0.02	0.88	1.13
Marital status	-0.03	0.15	-0.01	-0.20	0.84	0.00	-0.01	-0.01	0.73	1.38
Political party affiliation	-0.02	0.03	-0.03	-0.54	0.59	-0.01	-0.03	-0.03	0.91	1.10
Respondent's race	0.02	0.15	0.01	0.13	0.90	0.00	0.01	0.01	0.94	1.06
Respondent's sex	-0.14	0.13	-0.06	-1.05	0.29	-0.08	-0.06	-0.06	0.95	1.06
Dummy variable for year	-0.10	0.14	-0.04	-0.68	0.50	-0.03	-0.04	-0.04	0.94	1.07
Social order										
(Constant)	-1.09	0.65		-1.67	0.10					
CI for ICTs	0.00	0.00	0.01	0.06	0.95	-0.04	0.00	0.00	0.54	1.85
ICTs * Year	0.00	0.00	-0.04	-0.52	0.61	-0.05	-0.03	-0.03	0.56	1.79
Age of respondent	0.02	0.02	0.07	1.06	0.29	0.16	0.06	0.06	0.74	1.36
Rs highest degree	-0.05	0.05	-0.06	-1.00	0.32	-0.02	-0.06	-0.06	0.90	1.11
Total family income	0.05	0.02	0.14	2.23	**0.03**	0.18	0.13	0.13	0.88	1.13
Marital status	-0.34	0.13	-0.17	-2.54	**0.01**	-0.25	-0.15	-0.15	0.73	1.38
Political party affiliation	0.03	0.03	0.06	0.96	0.34	0.06	0.06	0.06	0.91	1.10
Respondent's race	0.18	0.14	0.08	1.29	0.20	0.04	0.08	0.07	0.94	1.06
Respondent's sex	0.22	0.12	0.11	1.83	0.07	0.11	0.11	0.11	0.95	1.06
Dummy variable for year	0.08	0.13	0.04	0.62	0.54	0.01	0.04	0.04	0.94	1.07

Note. Significance values, $p < .05$, are in boldface.

Table A12

Summary of MLR—Citizenship Dimensions (Perception)

Model	Unstandardized coefficients		Standardized coefficients	*t*	Sig.	Correlations			Collinearity statistics	
	B	*SE*	*ß*			*ZO*	Partial	Part	Tolerance	*VIF*
Engaged										
(Constant)	0.38	0.67		0.57	0.57					
CI for ICTs	0.00	0.00	0.06	0.74	0.46	0.08	0.05	0.04	0.54	1.85
ICTs * Year	0.00	0.00	0.03	0.39	0.69	0.08	0.02	0.02	0.56	1.79
Age of respondent	-0.04	0.02	-0.17	-2.42	**0.02**	-0.12	-0.15	-0.14	0.74	1.36
Rs highest degree	0.12	0.05	0.14	2.31	**0.02**	0.10	0.14	0.14	0.90	1.11
Total family income	0.02	0.02	0.06	0.92	0.36	0.02	0.06	0.05	0.88	1.13
Marital status	0.06	0.14	0.03	0.46	0.64	0.11	0.03	0.03	0.73	1.38
Political party affiliation	-0.06	0.03	-0.12	-1.89	0.06	-0.13	-0.11	-0.11	0.91	1.10
Respondent's race	0.22	0.14	0.10	1.57	0.12	0.10	0.10	0.09	0.94	1.06
Respondent's sex	-0.04	0.12	-0.02	-0.30	0.76	-0.04	-0.02	-0.02	0.95	1.06
Dummy variable for year	0.02	0.13	0.01	0.11	0.91	0.02	0.01	0.01	0.94	1.07
Dutiful										
(Constant)	-1.01	0.64		-1.58	0.12					
CI for ICTs	0.00	0.00	0.04	0.51	0.61	0.00	0.03	0.03	0.54	1.85
ICTs * Year	0.00	0.00	-0.05	-0.69	0.49	-0.03	-0.04	-0.04	0.56	1.79
Age of respondent	0.01	0.01	0.06	0.90	0.37	0.17	0.06	0.05	0.74	1.36
Rs highest degree	0.00	0.05	0.00	0.01	0.99	0.04	0.00	0.00	0.90	1.11
Total family income	0.05	0.02	0.14	2.22	**0.03**	0.19	0.13	0.13	0.88	1.13
Marital status	-0.33	0.13	-0.17	-2.55	**0.01**	-0.24	-0.15	-0.15	0.73	1.38
Political party affiliation	0.03	0.03	0.05	0.85	0.40	0.07	0.05	0.05	0.91	1.10
Respondent's race	0.15	0.13	0.07	1.15	0.25	0.03	0.07	0.07	0.94	1.06
Respondent's sex	0.15	0.12	0.08	1.33	0.19	0.08	0.08	0.08	0.95	1.06
Dummy variable for year	0.04	0.13	0.02	0.30	0.77	0.00	0.02	0.02	0.94	1.07

Note. Significance values, $p < .05$, are in boldface.

Table A13

Summary of MLR—Citizenship Dimensions (Action)

Model	Unstandardized coefficients		Standardized coefficients	*t*	Sig.	Correlations			Collinearity statistics	
	B	*SE*	*ß*			*ZO*	Partial	Part	Tolerance	*VIF*
Engaged action										
(Constant)	-1.22	0.63		-1.95	0.05					
CI for ICTs	0.00	0.00	0.14	1.76	0.08	0.01	0.11	0.10	0.50	2.00
ICTs * Year	0.00	0.00	-0.19	-2.30	**0.02**	-0.10	-0.14	-0.13	0.52	1.94
Age of respondent	0.03	0.01	0.13	1.96	0.05	0.07	0.12	0.11	0.75	1.34
Rs highest degree	-0.18	0.05	-0.22	-3.66	**0.00**	-0.20	-0.22	-0.21	0.91	1.11
Total family income	0.00	0.02	0.01	0.19	0.85	0.01	0.01	0.01	0.90	1.12
Marital status	0.06	0.13	0.03	0.43	0.67	-0.03	0.03	0.03	0.75	1.34
Political party affiliation	0.06	0.03	0.12	2.02	**0.04**	0.10	0.12	0.12	0.91	1.10
Respondent's race	0.15	0.13	0.07	1.11	0.27	0.05	0.07	0.06	0.93	1.07
Respondent's sex	0.10	0.12	0.05	0.83	0.41	0.05	0.05	0.05	0.95	1.05
Dummy variable for year	-0.05	0.12	-0.03	-0.44	0.66	-0.02	-0.03	-0.03	0.94	1.06
Dutiful action										
(Constant)	1.82	0.64		2.83	**0.01**					
CI for ICTs	0.00	0.00	-0.13	-1.69	0.09	-0.17	-0.10	-0.09	0.50	2.00
ICTs * Year	0.00	0.00	0.00	0.01	0.99	-0.12	0.00	0.00	0.52	1.94
Age of respondent	-0.03	0.02	-0.14	-2.23	**0.03**	-0.24	-0.13	-0.12	0.75	1.34
Rs highest degree	-0.28	0.05	-0.31	-5.40	**0.00**	-0.36	-0.31	-0.30	0.91	1.11
Total family income	0.00	0.02	-0.01	-0.10	0.93	-0.08	-0.01	-0.01	0.90	1.12
Marital status	0.04	0.13	0.02	0.28	0.78	0.09	0.02	0.02	0.75	1.34
Political party affiliation	-0.01	0.03	-0.01	-0.21	0.83	-0.04	-0.01	-0.01	0.91	1.10
Respondent's race	-0.03	0.14	-0.01	-0.22	0.82	0.01	-0.01	-0.01	0.93	1.07
Respondent's sex	-0.10	0.12	-0.05	-0.81	0.42	-0.03	-0.05	-0.04	0.95	1.05
Dummy variable for year	0.32	0.13	0.14	2.51	**0.01**	0.12	0.15	0.14	0.94	1.06

Note. Significance values, $p < .05$, are in boldface.

Table A14

MLR Model Summaries—Additional Analysis

	R	R^2	Adjusted R^2	Std. error of the estimate	Change statistics				Durbin-Watson
					F change	*df1*	*df2*	Sig. F change	
Citizenship norms									
Autonomy MIL	0.31	0.10	0.06	0.98	2.51	8	188	**0.01**	1.98
Autonomy 2004	0.18	0.03	-0.01	0.98	0.78	8	189	0.62	1.95
Autonomy 2014	0.27	0.07	-0.03	1.02	0.73	8	74	0.66	1.68
Solidarity MIL	0.36	0.13	0.09	0.99	3.48	8	188	**0.00**	2.07
Solidarity 2004	0.40	0.16	0.12	0.92	4.40	8	189	**0.00**	2.05
Solidarity 2014	0.30	0.09	-0.01	1.01	0.89	8	74	0.53	1.70
Participation MIL	0.37	0.13	0.10	0.90	3.64	8	188	**0.00**	1.85
Participation 2004	0.23	0.06	0.02	1.05	1.37	8	189	0.21	2.09
Participation 2014	0.28	0.08	-0.02	1.04	0.76	8	74	0.64	2.29
Social order MIL	0.35	0.12	0.09	0.96	3.27	8	188	**0.00**	1.76
Social order 2004	0.39	0.16	0.12	0.90	4.35	8	189	**0.00**	1.89
Social order 2014	0.22	0.05	-0.06	1.08	0.45	8	74	0.89	1.69
Citizenship dimensions									
Engaged MIL	0.34	0.11	0.08	0.96	3.03	8	188	**0.00**	1.91
Engaged 2004	0.31	0.09	0.06	0.95	2.45	8	189	**0.02**	1.86
Engaged 2014	0.27	0.07	-0.03	1.05	0.70	8	74	0.69	1.75
Dutiful MIL	0.32	0.11	0.07	0.98	2.77	8	188	**0.01**	1.82
Dutiful 2004	0.35	0.12	0.09	0.92	3.28	8	189	**0.00**	1.79
Dutiful 2014	0.24	0.06	-0.05	0.98	0.56	8	74	0.81	1.82
Engaged action 2004	0.31	0.09	0.06	0.92	2.44	8	189	**0.02**	1.88
Engaged action 2014	0.37	0.13	0.04	0.95	1.46	8	76	0.19	1.97
Dutiful action 2004	0.42	0.18	0.15	0.98	5.16	8	189	**0.00**	2.08
Dutiful action 2014	0.56	0.31	0.24	0.83	4.24	8	76	**0.00**	1.87

Note. Predictors: (Constant), ICTs x Year, CI for ICTs, Respondent's race, Resondent's rex, Total family income, RS highest degree, Political party affiliation, Dummy variable for year (GSS year 2004/2014), Age of respondent, Marital status; *p*-values < .05 are in boldface.

Table A15

Summary of MLR—Citizenship Norms, Milserve

Model	Unstandardized coefficients		Standardized coefficients	*t*	Sig.	Correlations			Collinearity statistics	
	B	*SE*	*β*			*ZO*	Partial	Part	Tolerance	*VIF*
Autonomy MIL										
(Constant)	0.90	0.80		1.11	0.27					
CI for ICTs	0.00	0.00	0.09	1.30	0.20	0.11	0.09	0.09	0.92	1.09
Age of respondent	-0.03	0.02	-0.14	-1.75	0.08	-0.08	-0.13	-0.12	0.75	1.34
Rs highest degree	0.19	0.06	0.22	3.06	**0.00**	0.22	0.22	0.21	0.91	1.10
Total family income	0.01	0.03	0.02	0.33	0.74	0.04	0.02	0.02	0.89	1.13
Marital status	-0.04	0.17	-0.02	-0.26	0.80	0.04	-0.02	-0.02	0.68	1.47
Political party affiliation	-0.01	0.04	-0.02	-0.32	0.75	0.02	-0.02	-0.02	0.83	1.20
Respondent's race	-0.08	0.17	-0.03	-0.47	0.64	-0.04	-0.04	-0.03	0.94	1.07
Respondent's sex	-0.27	0.15	-0.13	-1.81	0.07	-0.18	-0.13	-0.13	0.92	1.09
Solidarity MIL										
(Constant)	0.34	0.81		0.42	0.67					
CI for ICTs	0.00	0.00	-0.01	-0.08	0.94	-0.05	-0.01	-0.01	0.92	1.09
Age of respondent	-0.04	0.02	-0.19	-2.35	**0.02**	-0.22	-0.17	-0.16	0.75	1.34
Rs highest degree	-0.04	0.06	-0.05	-0.68	0.50	-0.12	-0.05	-0.05	0.91	1.10
Total family income	0.01	0.03	0.02	0.32	0.75	-0.06	0.02	0.02	0.89	1.13
Marital status	0.08	0.17	0.04	0.48	0.63	0.15	0.04	0.03	0.68	1.47
Political party affiliation	-0.06	0.04	-0.12	-1.57	0.12	-0.21	-0.11	-0.11	0.83	1.20
Respondent's race	0.48	0.17	0.20	2.83	**0.01**	0.23	0.20	0.19	0.94	1.07
Respondent's sex	0.21	0.15	0.10	1.36	0.18	0.09	0.10	0.09	0.92	1.09
Participation MIL										
(Constant)	-1.19	0.74		-1.61	0.11					
CI for ICTs	0.00	0.00	0.03	0.37	0.71	0.00	0.03	0.03	0.92	1.09
Age of respondent	0.01	0.02	0.03	0.44	0.66	0.17	0.03	0.03	0.75	1.34
Rs highest degree	-0.03	0.06	-0.04	-0.50	0.62	-0.01	-0.04	-0.03	0.91	1.10
Total family income	0.05	0.02	0.15	2.01	0.05	0.19	0.15	0.14	0.89	1.13

(table continues)

Model	Unstandardized coefficients		Standardized coefficients	*t*	Sig.	Correlations			Collinearity statistics	
	B	*SE*	*β*			*ZO*	Partial	Part	Tolerance	*VIF*
Marital status	-0.37	0.16	-0.19	-2.35	**0.02**	-0.26	-0.17	-0.16	0.68	1.47
Political party affiliation	0.02	0.04	0.05	0.61	0.54	0.07	0.05	0.04	0.83	1.20
Respondent's race	0.37	0.16	0.17	2.36	**0.02**	0.13	0.17	0.16	0.94	1.07
Respondent's sex	0.30	0.14	0.15	2.15	**0.03**	0.16	0.16	0.15	0.92	1.09
Social order MIL										
(Constant)	-1.21	0.79		-1.54	0.13					
CI for ICTs	0.00	0.00	-0.08	-1.05	0.30	-0.01	-0.08	-0.07	0.92	1.09
Age of respondent	0.03	0.02	0.13	1.68	0.10	0.11	0.12	0.12	0.75	1.34
Rs highest degree	-0.08	0.06	-0.09	-1.32	0.19	-0.02	-0.10	-0.09	0.91	1.10
Total family income	0.04	0.03	0.11	1.47	0.14	0.14	0.11	0.10	0.89	1.13
Marital status	0.15	0.17	0.07	0.89	0.37	-0.07	0.07	0.06	0.68	1.47
Political party affiliation	0.12	0.04	0.23	3.11	**0.00**	0.26	0.22	0.21	0.83	1.20
Respondent's race	-0.14	0.17	-0.06	-0.87	0.39	-0.10	-0.06	-0.06	0.94	1.07
Respondent's sex	-0.35	0.15	-0.17	-2.39	**0.02**	-0.17	-0.17	-0.16	0.92	1.09

Note. Significance values, $p < .05$, are in boldface.

Table A16

Summary of MLR—Citizenship Dimensions, Milserve

Model	Unstandardized coefficients		Standardized coefficients	*t*	Sig.	Correlations			Collinearity statistics	
	B	*SE*	*ß*			*ZO*	Partial	Part	Tolerance	*VIF*
Engaged MIL										
(Constant)	0.87	0.79		1.11	0.27					
CI for ICTs	0.00	0.00	0.04	0.55	0.58	0.01	0.04	0.04	0.92	1.09
Age of respondent	-0.05	0.02	-0.24	-3.01	**0.00**	-0.25	-0.22	-0.21	0.75	1.34
Rs highest degree	0.06	0.06	0.07	1.02	0.31	0.01	0.07	0.07	0.91	1.10
Total family income	0.01	0.03	0.02	0.24	0.81	-0.05	0.02	0.02	0.89	1.13
Marital status	0.10	0.17	0.05	0.57	0.57	0.19	0.04	0.04	0.68	1.47
Political party affiliation	-0.06	0.04	-0.12	-1.58	0.12	-0.19	-0.11	-0.11	0.83	1.20
Respondent's race	0.33	0.17	0.14	1.98	0.05	0.17	0.14	0.14	0.94	1.07
Respondent's sex	0.00	0.15	0.00	-0.01	0.99	-0.04	0.00	0.00	0.92	1.09
Dutiful MIL										
(Constant)	-0.88	0.81		-1.10	0.27					
CI for ICTs	0.00	0.00	0.04	0.60	0.55	0.07	0.04	0.04	0.92	1.09
Age of respondent	0.01	0.02	0.04	0.47	0.64	0.16	0.03	0.03	0.75	1.34
Rs highest degree	0.07	0.06	0.07	1.03	0.31	0.14	0.08	0.07	0.91	1.10
Total family income	0.05	0.03	0.14	1.95	0.05	0.22	0.14	0.14	0.89	1.13
Marital status	-0.25	0.17	-0.12	-1.49	0.14	-0.22	-0.11	-0.10	0.68	1.47
Political party affiliation	0.07	0.04	0.13	1.69	0.09	0.20	0.12	0.12	0.83	1.20
Respondent's race	0.06	0.17	0.03	0.35	0.73	-0.02	0.03	0.02	0.94	1.07
Respondent's sex	-0.11	0.15	-0.05	-0.72	0.47	-0.07	-0.05	-0.05	0.92	1.09

Note. Significance values, $p < .05$, are in boldface.

Table A17

Summary of MLR—Citizenship Norms, 2004 & 2014

Model	Unstandardized coefficients		Standardized coefficients	*t*	Sig.	Correlations			Collinearity statistics	
	B	*SE*	*ß*			*ZO*	Partial	Part	Tolerance	*VIF*
Autonomy 2004										
(Constant)	0.39	0.81		0.48	0.63					
CI for ICTs	0.00	0.00	0.02	0.30	0.76	0.03	0.02	0.02	0.92	1.09
Age of respondent	-0.02	0.02	-0.11	-1.28	0.20	-0.06	-0.09	-0.09	0.74	1.34
Rs highest degree	0.10	0.06	0.12	1.64	0.10	0.12	0.12	0.12	0.91	1.10
Total family income	0.03	0.03	0.07	0.97	0.33	0.08	0.07	0.07	0.89	1.13
Marital status	-0.07	0.17	-0.03	-0.39	0.70	-0.01	-0.03	-0.03	0.68	1.47
Political party affiliation	-0.01	0.04	-0.03	-0.35	0.73	0.00	-0.03	-0.03	0.83	1.20
Respondent's race	-0.03	0.17	-0.01	-0.19	0.85	-0.02	-0.01	-0.01	0.93	1.08
Respondent's sex	-0.11	0.15	-0.05	-0.70	0.49	-0.08	-0.05	-0.05	0.92	1.09
Autonomy 2014										
(Constant)	-0.93	1.34		-0.69	0.49					
ICTs * Year	0.00	0.00	0.13	1.10	0.27	0.16	0.13	0.12	0.86	1.16
Age of respondent	0.02	0.03	0.07	0.51	0.61	0.12	0.06	0.06	0.66	1.53
Rs highest degree	-0.05	0.11	-0.06	-0.45	0.65	0.00	-0.05	-0.05	0.74	1.35
Total family income	0.06	0.04	0.18	1.49	0.14	0.20	0.17	0.17	0.82	1.22
Marital status	0.09	0.26	0.04	0.35	0.73	0.00	0.04	0.04	0.79	1.27
Political party affiliation	-0.01	0.07	-0.02	-0.21	0.84	-0.07	-0.02	-0.02	0.89	1.12
Respondent's race	0.05	0.28	0.02	0.18	0.86	-0.01	0.02	0.02	0.87	1.15
Respondent's sex	-0.12	0.23	-0.06	-0.53	0.60	-0.09	-0.06	-0.06	0.94	1.06
Solidarity 2004										
(Constant)	0.39	0.76		0.52	0.61					
CI for ICTs	0.00	0.00	0.00	0.05	0.96	-0.04	0.00	0.00	0.92	1.09
Age of respondent	-0.04	0.02	-0.19	-2.38	**0.02**	-0.23	-0.17	-0.16	0.74	1.34
Rs highest degree	-0.06	0.06	-0.06	-0.92	0.36	-0.15	-0.07	-0.06	0.91	1.10
Total family income	0.00	0.02	-0.01	-0.08	0.94	-0.10	-0.01	-0.01	0.89	1. 13

(table continues)

Model	Unstandardized coefficients		Standardized coefficients	*t*	Sig.	Correlations			Collinearity statistics	
	B	*SE*	*β*			*ZO*	Partial	Part	Tolerance	*VIF*
Marital status	0.14	0.16	0.07	0.84	0.40	0.19	0.06	0.06	0.68	1.47
Political party affiliation	-0.06	0.04	-0.12	-1.60	0.11	-0.23	-0.12	-0.11	0.83	1.20
Respondent's race	0.52	0.16	0.23	3.25	**0.00**	0.26	0.23	0.22	0.93	1.08
Respondent's sex	0.18	0.14	0.09	1.24	0.22	0.08	0.09	0.08	0.92	1.09
Solidarity 2014										
(Constant)	0.13	1.33		0.10	0.92					
ICTs * Year	0.00	0.00	-0.04	-0.37	0.71	-0.03	-0.04	-0.04	0.86	1.16
Age of respondent	-0.03	0.03	-0.11	-0.80	0.43	-0.06	-0.09	-0.09	0.66	1.53
Rs highest degree	0.14	0.11	0.16	1.25	0.21	0.12	0.14	0.14	0.74	1.35
Total family income	-0.03	0.04	-0.10	-0.79	0.43	-0.14	-0.09	-0.09	0.82	1.22
Marital status	0.03	0.26	0.02	0.12	0.91	0.05	0.01	0.01	0.79	1.27
Political party affiliation	-0.05	0.07	-0.10	-0.83	0.41	-0.08	-0.10	-0.09	0.89	1.12
Respondent's race	0.21	0.28	0.09	0.75	0.46	0.09	0.09	0.08	0.87	1.15
Respondent's sex	0.32	0.23	0.16	1.38	0.17	0.20	0.16	0.15	0.94	1.06
Participation 2004										
(Constant)	0.60	0.87		0.69	0.49					
CI for ICTs	0.00	0.00	0.08	1.13	0.26	0.10	0.08	0.08	0.92	1.09
Age of respondent	-0.02	0.02	-0.08	-1.00	0.32	-0.05	-0.07	-0.07	0.74	1.34
Rs highest degree	0.14	0.07	0.15	2.01	0.05	0.16	0.15	0.14	0.91	1.10
Total family income	0.00	0.03	0.00	0.01	0.99	0.02	0.00	0.00	0.89	1.13
Marital status	-0.02	0.18	-0.01	-0.08	0.93	0.04	-0.01	-0.01	0.68	1.47
Political party affiliation	0.00	0.04	-0.01	-0.08	0.93	0.02	-0.01	-0.01	0.83	1.20
Respondent's race	-0.01	0.18	0.00	-0.05	0.96	-0.01	0.00	0.00	0.93	1.08
Respondent's sex	-0.27	0.16	-0.12	-1.65	0.10	-0.16	-0.12	-0.12	0.92	1.09
Participation 2014										
(Constant)	-1.54	1.36		-1.13	0.26					
ICTs * Year	0.00	0.00	0.04	0.30	0.77	0.09	0.04	0.03	0.86	1.16
Age of respondent	0.01	0.03	0.06	0.42	0.68	0.18	0.05	0.05	0.66	1.53
Rs highest degree	0.15	0.11	0.17	1.30	0.20	0.21	0.15	0.15	0.74	1.35
Total family income	0.03	0.04	0.09	0.73	0.47	0.11	0.08	0.08	0.82	1.22

(table continues)

Model	Unstandardized coefficients		Standardized coefficients	*t*	Sig.	Correlations			Collinearity statistics	
	B	*SE*	*ß*			*ZO*	Partial	Part	Tolerance	*VIF*
Marital status	-0.06	0.26	-0.03	-0.24	0.81	-0.08	-0.03	-0.03	0.79	1.27
Political party affiliation	-0.03	0.07	-0.04	-0.37	0.71	-0.11	-0.04	-0.04	0.89	1.12
Respondent's race	0.17	0.29	0.07	0.60	0.55	0.01	0.07	0.07	0.87	1.15
Respondent's sex	0.17	0.24	0.08	0.73	0.47	0.11	0.09	0.08	0.94	1.06
Social order 2004										
(Constant)	-1.32	0.74		-1.79	0.08					
CI for ICTs	0.00	0.00	0.01	0.18	0.85	-0.01	0.01	0.01	0.92	1.09
Age of respondent	0.01	0.02	0.05	0.68	0.50	0.20	0.05	0.05	0.74	1.34
Rs highest degree	-0.03	0.06	-0.04	-0.58	0.57	-0.01	-0.04	-0.04	0.91	1.10
Total family income	0.05	0.02	0.16	2.28	**0.02**	0.22	0.16	0.15	0.89	1.13
Marital status	-0.40	0.16	-0.21	-2.54	**0.01**	-0.30	-0.18	-0.17	0.68	1.47
Political party affiliation	0.03	0.04	0.07	0.90	0.37	0.09	0.07	0.06	0.83	1.20
Respondent's race	0.32	0.16	0.14	2.04	**0.04**	0.11	0.15	0.14	0.93	1.08
Respondent's sex	0.31	0.14	0.16	2.25	**0.03**	0.17	0.16	0.15	0.92	1.09
Social order 2014										
(Constant)	-0.32	1.42		-0.23	0.82					
ICTs * Year	0.00	0.00	-0.07	-0.56	0.58	-0.09	-0.07	-0.06	0.86	1.16
Age of respondent	0.03	0.04	0.11	0.77	0.44	0.08	0.09	0.09	0.66	1.53
Rs highest degree	-0.10	0.12	-0.12	-0.87	0.39	-0.06	-0.10	-0.10	0.74	1.35
Total family income	0.01	0.04	0.04	0.29	0.77	0.09	0.03	0.03	0.82	1.22
Marital status	-0.16	0.27	-0.08	-0.60	0.55	-0.14	-0.07	-0.07	0.79	1.27
Political party affiliation	0.01	0.07	0.03	0.21	0.84	-0.01	0.02	0.02	0.89	1.12
Respondent's race	-0.25	0.30	-0.10	-0.84	0.40	-0.11	-0.10	-0.10	0.87	1.15
Respondent's sex	0.03	0.24	0.01	0.12	0.90	0.00	0.01	0.01	0.94	1.06

Note. Significance values, $p < .05$, are in boldface.

Table A18

Summary of MLR—Citizenship Dimensions (Perception), 2004 & 2014

Model	Unstandardized coefficients		Standardized coefficients	*t*	Sig.	Correlations			Collinearity statistics	
	B	*SE*	*ß*			*ZO*	Partial	Part	Tolerance	*VIF*
Engaged 2004										
(Constant)	0.87	0.78		1.11	0.27					
CI for ICTs	0.00	0.00	0.06	0.77	0.44	0.04	0.06	0.05	0.92	1.09
Age of respondent	-0.05	0.02	-0.22	-2.76	**0.01**	-0.21	-0.20	-0.19	0.74	1.34
Rs highest degree	0.10	0.06	0.12	1.68	0.09	0.08	0.12	0.12	0.91	1.10
Total family income	0.01	0.03	0.03	0.45	0.65	-0.02	0.03	0.03	0.89	1.13
Marital status	0.06	0.17	0.03	0.37	0.71	0.15	0.03	0.03	0.68	1.47
Political party affiliation	-0.05	0.04	-0.10	-1.25	0.21	-0.13	-0.09	-0.09	0.83	1.20
Respondent's race	0.24	0.16	0.11	1.46	0.15	0.12	0.11	0.10	0.93	1.08
Respondent's sex	-0.12	0.15	-0.06	-0.81	0.42	-0.10	-0.06	-0.06	0.92	1.09
Engaged 2014										
(Constant)	-1.21	1.38		-0.88	0.38					
ICTs * Year	0.00	0.00	0.09	0.72	0.48	0.14	0.08	0.08	0.86	1.16
Age of respondent	0.00	0.03	0.00	0.01	0.99	0.11	0.00	0.00	0.66	1.53
Rs highest degree	0.12	0.12	0.13	1.03	0.31	0.16	0.12	0.12	0.74	1.35
Total family income	0.04	0.04	0.11	0.85	0.40	0.10	0.10	0.10	0.82	1.22
Marital status	0.07	0.27	0.03	0.26	0.80	0.01	0.03	0.03	0.79	1.27
Political party affiliation	-0.05	0.07	-0.09	-0.78	0.44	-0.13	-0.09	-0.09	0.89	1.12
Respondent's race	0.25	0.29	0.10	0.87	0.39	0.06	0.10	0.10	0.87	1.15
Respondent's sex	0.17	0.24	0.08	0.71	0.48	0.10	0.08	0.08	0.94	1.06
Dutiful 2004										
(Constant)	-1.07	0.75		-1.43	0.16					
CI for ICTs	0.00	0.00	0.04	0.59	0.56	0.03	0.04	0.04	0.92	1.09
Age of respondent	0.01	0.02	0.03	0.42	0.67	0.18	0.03	0.03	0.74	1.34
Rs highest degree	0.01	0.06	0.01	0.20	0.84	0.05	0.02	0.01	0.91	1.10
Total family income	0.05	0.02	0.15	2.06	**0.04**	0.22	0.15	0.14	0.89	1.13

(table continues)

Model	Unstandardized coefficients		Standardized coefficients	*t*	Sig.	Correlations			Collinearity statistics	
	B	*SE*	*β*			*ZO*	Partial	Part	Tolerance	*VIF*
Marital status	-0.38	0.16	-0.20	-2.39	**0.02**	-0.28	-0.17	-0.16	0.68	1.47
Political party affiliation	0.03	0.04	0.07	0.89	0.38	0.11	0.06	0.06	0.83	1.20
Respondent's race	0.27	0.16	0.12	1.72	0.09	0.09	0.12	0.12	0.93	1.08
Respondent's sex	0.20	0.14	0.10	1.41	0.16	0.10	0.10	0.10	0.92	1.09
Dutiful 2014										
(Constant)	-0.78	1.29		-0.61	0.55					
ICTs * Year	0.00	0.00	-0.06	-0.51	0.61	-0.06	-0.06	-0.06	0.86	1.16
Age of respondent	0.03	0.03	0.13	0.96	0.34	0.15	0.11	0.11	0.66	1.53
Rs highest degree	-0.05	0.11	-0.06	-0.47	0.64	0.01	-0.06	-0.05	0.74	1.35
Total family income	0.02	0.04	0.07	0.52	0.61	0.13	0.06	0.06	0.82	1.22
Marital status	-0.18	0.25	-0.09	-0.73	0.47	-0.17	-0.09	-0.08	0.79	1.27
Political party affiliation	0.01	0.06	0.02	0.13	0.90	-0.04	0.02	0.02	0.89	1.12
Respondent's race	-0.19	0.27	-0.08	-0.70	0.49	-0.11	-0.08	-0.08	0.87	1.15
Respondent's sex	0.08	0.22	0.04	0.35	0.73	0.03	0.04	0.04	0.94	1.06

Note. Significance values, $p < .05$, are in boldface.

Table A19

Summary of MLR—Citizenship Dimensions (Action), 2004 & 2014

Model	Unstandardized coefficients		Standardized coefficients	*t*	Sig.	Correlations			Collinearity statistics	
	B	*SE*	*ß*			*ZO*	Partial	Part	Tolerance	*VIF*
Engaged action 2004										
(Constant)	-1.48	0.74		-2.00	0.05					
CI for ICTs	0.00	0.00	0.12	1.72	0.09	0.13	0.12	0.12	0.92	1.09
Age of respondent	0.03	0.02	0.15	1.83	0.07	0.14	0.13	0.13	0.75	1.33
Rs highest degree	-0.14	0.06	-0.17	-2.37	**0.02**	-0.13	-0.17	-0.16	0.91	1.10
Total family income	0.00	0.02	0.01	0.08	0.93	0.03	0.01	0.01	0.89	1.12
Marital status	0.05	0.16	0.02	0.29	0.77	-0.06	0.02	0.02	0.70	1.43
Political party affiliation	0.08	0.04	0.16	2.10	**0.04**	0.15	0.15	0.15	0.84	1.19
Respondent's race	0.13	0.16	0.06	0.81	0.42	0.03	0.06	0.06	0.93	1.07
Respondent's sex	0.19	0.14	0.10	1.32	0.19	0.10	0.10	0.09	0.92	1.09
Engaged action 2014										
(Constant)	-0.42	1.28		-0.33	0.74					
ICTs * Year	0.00	0.00	-0.14	-1.14	0.26	-0.18	-0.13	-0.12	0.79	1.27
Age of respondent	0.01	0.03	0.05	0.40	0.69	-0.12	0.05	0.04	0.70	1.42
Rs highest degree	-0.25	0.10	-0.30	-2.47	**0.02**	-0.34	-0.27	-0.26	0.77	1.29
Total family income	0.00	0.04	0.00	0.04	0.97	-0.04	0.00	0.00	0.84	1.20
Marital status	0.15	0.23	0.08	0.66	0.51	0.06	0.08	0.07	0.81	1.23
Political party affiliation	0.00	0.06	-0.01	-0.06	0.95	0.00	-0.01	-0.01	0.90	1.11
Respondent's race	0.15	0.27	0.07	0.56	0.58	0.12	0.06	0.06	0.81	1.23
Respondent's sex	-0.07	0.21	-0.03	-0.31	0.76	-0.07	-0.04	-0.03	0.96	1.04
Dutiful action 2004										
(Constant)	1.97	0.79		2.49	**0.01**					
CI for ICTs	0.00	0.00	-0.10	-1.48	0.14	-0.15	-0.11	-0.10	0.92	1.09
Age of respondent	-0.05	0.02	-0.21	-2.72	**0.01**	-0.29	-0.19	-0.18	0.75	1.33
Rs highest degree	-0.26	0.06	-0.29	-4.13	**0.00**	-0.34	-0.29	-0.27	0.91	1.10
Total family income	0.00	0.03	-0.01	-0.09	0.93	-0.10	-0.01	-0.01	0.89	1.12

(table continues)

Model	Unstandardized coefficients		Standardized coefficients	*t*	Sig.	Correlations			Collinearity statistics	
	B	*SE*	*ß*			*ZO*	Partial	Part	Tolerance	*VIF*
Marital status	0.00	0.17	0.00	-0.02	0.99	0.12	0.00	0.00	0.70	1.43
Political party affiliation	0.00	0.04	-0.01	-0.10	0.92	-0.09	-0.01	-0.01	0.84	1.19
Respondent's race	0.21	0.17	0.08	1.22	0.22	0.09	0.09	0.08	0.93	1.07
Respondent's sex	-0.09	0.15	-0.04	-0.62	0.53	-0.01	-0.05	-0.04	0.92	1.09
Dutiful action 2014										
(Constant)	1.48	1.12		1.32	0.19					
ICTs * Year	0.00	0.00	-0.15	-1.38	0.17	-0.29	-0.16	-0.13	0.79	1.27
Age of respondent	0.02	0.03	0.08	0.70	0.49	-0.15	0.08	0.07	0.70	1.42
Rs highest degree	-0.39	0.09	-0.49	-4.47	**0.00**	-0.44	-0.46	-0.43	0.77	1.29
Total family income	-0.03	0.04	-0.08	-0.76	0.45	-0.03	-0.09	-0.07	0.84	1.20
Marital status	0.13	0.20	0.07	0.63	0.53	0.01	0.07	0.06	0.81	1.23
Political party affiliation	0.03	0.06	0.06	0.56	0.58	0.10	0.06	0.05	0.90	1.11
Respondent's race	-0.65	0.23	-0.29	-2.77	**0.01**	-0.20	-0.30	-0.26	0.81	1.23
Respondent's sex	0.00	0.18	0.00	0.02	0.98	-0.07	0.00	0.00	0.96	1.04

Note. Significance values, $p < .05$, are in boldface.

Table A20

MLR Model Summaries—Age Unrestricted

	R	R^2	Adjusted R^2	Std. error of the estimate	Change statistics				Durbin-Watson
					F change	*df1*	*df2*	Sig. F change	
Citizenship norms									
Autonomy	0.15	0.02	0.01	0.96	1.90	10	798	**0.04**	2.04
Solidarity	0.29	0.09	0.07	0.96	7.41	10	798	**0.00**	1.91
Participation	0.24	0.06	0.05	0.91	5.00	10	798	**0.00**	2.07
Social order	0.25	0.06	0.05	0.93	5.27	10	798	**0.00**	1.89
Citizenship dimensions									
Engaged	0.27	0.07	0.61	0.93	6.29	10	798	**0.00**	1.97
Dutiful	0.25	0.06	0.05	0.91	5.40	10	798	**0.00**	1.93
Engaged action	0.30	0.09	0.08	0.91	8.07	10	818	**0.00**	2.01
Dutiful action	0.48	0.23	0.22	0.86	24.53	10	818	**0.00**	1.99

Note. N = 5,350; significance values, $p < .05$, are in boldface.

Table A21

Summary of MLR—Age Unrestricted

Model	Unstandardized coefficients		Standardized coefficients	*t*	Sig.	Correlations			Collinearity statistics	
	B	*SE*	*ß*			*ZO*	Partial	Part	Tolerance	*VIF*
Autonomy										
(Constant)	-0.37	0.33		-1.11	0.27					
CI for ICTs	0.00	0.00	0.04	0.78	0.43	0.06	0.03	0.03	0.47	2.13
ICTs * Year	0.00	0.00	0.02	0.31	0.75	0.05	0.01	0.01	0.48	2.08
Age of respondent	0.01	0.00	0.09	2.40	**0.02**	0.09	0.09	0.08	0.90	1.12
Rs highest degree	0.05	0.03	0.06	1.79	0.08	0.07	0.06	0.06	0.95	1.05
Total family income	0.00	0.02	0.00	-0.02	0.98	0.01	0.00	0.00	0.89	1.13
Marital status	0.12	0.07	0.06	1.64	0.10	0.06	0.06	0.06	0.88	1.14
Political party affiliation	-0.03	0.02	-0.06	-1.53	0.13	-0.06	-0.05	-0.05	0.89	1.12
Respondent's race	-0.04	0.09	-0.02	-0.43	0.67	-0.01	-0.02	-0.02	0.91	1.10
Respondent's sex	-0.01	0.07	0.00	-0.11	0.92	-0.01	0.00	0.00	0.97	1.03
Dummy variable for year	0.03	0.07	0.02	0.44	0.66	0.04	0.02	0.02	0.94	1.07
Solidarity										
(Constant)	-0.02	0.33		-0.06	0.95					
CI for ICTs	0.00	0.00	0.05	0.96	0.34	0.01	0.03	0.03	0.47	2.13
ICTs * Year	0.00	0.00	-0.04	-0.75	0.45	-0.02	-0.03	-0.03	0.48	2.08
Age of respondent	0.00	0.00	-0.05	-1.31	0.19	-0.10	-0.05	-0.04	0.90	1.12
Rs highest degree	0.04	0.03	0.04	1.28	0.20	0.04	0.05	0.04	0.95	1.05
Total family income	-0.02	0.02	-0.05	-1.45	0.15	-0.08	-0.05	-0.05	0.89	1.13
Marital status	0.04	0.07	0.02	0.56	0.57	0.05	0.02	0.02	0.88	1.14
Political party affiliation	-0.07	0.02	-0.14	-3.79	**0.00**	-0.18	-0.13	-0.13	0.89	1.12
Respondent's race	0.29	0.09	0.11	3.17	**0.00**	0.15	0.11	0.11	0.91	1.10
Respondent's sex	0.14	0.07	0.07	1.96	0.05	0.09	0.07	0.07	0.97	1.03
Dummy variable for year	-0.33	0.07	-0.16	-4.59	**0.00**	-0.16	-0.16	-0.16	0.94	1.07
Participation										
(Constant)	-0.46	0.31		-1.46	0.14					

(table continues)

Model	Unstandardized coefficients		Standardized coefficients	*t*	Sig.	Correlations			Collinearity statistics	
	B	*SE*	*β*			*ZO*	Partial	Part	Tolerance	*VIF*
CI for ICTs	0.00	0.00	0.06	1.20	0.23	0.05	0.04	0.04	0.47	2.13
ICTs * Year	0.00	0.00	0.00	0.08	0.94	0.03	0.00	0.00	0.48	2.08
Age of respondent	0.01	0.00	0.17	4.59	**0.00**	0.16	0.16	0.16	0.90	1.12
Rs highest degree	0.09	0.03	0.11	3.25	**0.00**	0.15	0.11	0.11	0.95	1.05
Total family income	0.00	0.02	0.01	0.20	0.84	0.07	0.01	0.01	0.89	1.13
Marital status	-0.06	0.07	-0.03	-0.89	0.38	-0.06	-0.03	-0.03	0.88	1.14
Political party affiliation	0.00	0.02	-0.01	-0.13	0.89	0.00	-0.01	-0.01	0.89	1.12
Respondent's race	0.10	0.09	0.04	1.11	0.27	0.01	0.04	0.04	0.91	1.10
Respondent's sex	-0.10	0.07	-0.05	-1.48	0.14	-0.07	-0.05	-0.05	0.97	1.03
Dummy variable for year	-0.17	0.07	-0.09	-2.53	**0.01**	-0.07	-0.09	-0.09	0.94	1.07
Social order										
(Constant)	-0.55	0.32		-1.74	0.08					
CI for ICTs	0.00	0.00	0.06	1.27	0.20	-0.03	0.05	0.04	0.47	2.13
ICTs * Year	0.00	0.00	-0.10	-2.03	**0.04**	-0.07	-0.07	-0.07	0.48	2.08
Age of respondent	0.00	0.00	0.05	1.31	0.19	0.08	0.05	0.05	0.90	1.12
Rs highest degree	-0.07	0.03	-0.09	-2.45	**0.02**	-0.07	-0.09	-0.08	0.95	1.05
Total family income	0.04	0.02	0.08	2.28	**0.02**	0.10	0.08	0.08	0.89	1.13
Marital status	-0.17	0.07	-0.09	-2.41	**0.02**	-0.12	-0.09	-0.08	0.88	1.14
Political party affiliation	0.04	0.02	0.10	2.64	**0.01**	0.12	0.09	0.09	0.89	1.12
Respondent's race	-0.11	0.09	-0.04	-1.23	0.22	-0.08	-0.04	-0.04	0.91	1.10
Respondent's sex	0.22	0.07	0.12	3.32	**0.00**	0.10	0.12	0.11	0.97	1.03
Dummy variable for year	0.10	0.07	0.05	1.40	0.16	0.04	0.05	0.05	0.94	1.07
Engaged										
(Constant)	-0.41	0.32		-1.30	0.20					
CI for ICTs	0.00	0.00	0.08	1.52	0.13	0.07	0.05	0.05	0.47	2.13
ICTs * Year	0.00	0.00	0.00	0.00	1.00	0.04	0.00	0.00	0.48	2.08
Age of respondent	0.01	0.00	0.10	2.79	**0.01**	0.06	0.10	0.10	0.90	1.12
Rs highest degree	0.10	0.03	0.13	3.64	**0.00**	0.14	0.13	0.12	0.95	1.05
Total family income	-0.02	0.02	-0.04	-0.99	0.32	-0.02	-0.04	-0.03	0.89	1.13
Marital status	0.09	0.07	0.05	1.34	0.18	0.06	0.05	0.05	0.88	1.14

(table continues)

Model	Unstandardized coefficients		Standardized coefficients	*t*	Sig.	Correlations			Collinearity statistics	
	B	*SE*	*ß*			*ZO*	Partial	Part	Tolerance	*VIF*
Political party affiliation	-0.06	0.02	-0.13	-3.61	**0.00**	-0.16	-0.13	-0.12	0.89	1.12
Respondent's race	0.19	0.09	0.08	2.15	**0.03**	0.09	0.08	0.07	0.91	1.10
Respondent's sex	0.01	0.07	0.01	0.14	0.89	0.01	0.01	0.01	0.97	1.03
Dummy variable for year	-0.25	0.07	-0.13	-3.61	**0.00**	-0.10	-0.13	-0.12	0.94	1.07
Dutiful										
(Constant)	-0.66	0.31		-2.08	**0.04**					
CI for ICTs	0.00	0.00	0.08	1.52	0.13	-0.02	0.05	0.05	0.47	2.13
ICTs * Year	0.00	0.00	-0.09	-1.88	0.06	-0.06	-0.07	-0.06	0.48	2.08
Age of respondent	0.01	0.00	0.10	2.72	**0.01**	0.13	0.10	0.09	0.90	1.12
Rs highest degree	-0.04	0.03	-0.05	-1.39	0.17	-0.03	-0.05	-0.05	0.95	1.05
Total family income	0.04	0.02	0.08	2.31	**0.02**	0.12	0.08	0.08	0.89	1.13
Marital status	-0.19	0.07	-0.10	-2.71	**0.01**	-0.14	-0.10	-0.09	0.88	1.14
Political party affiliation	0.04	0.02	0.10	2.73	**0.01**	0.13	0.10	0.09	0.89	1.12
Respondent's race	-0.08	0.09	-0.03	-0.92	0.36	-0.08	-0.03	-0.03	0.91	1.10
Respondent's sex	0.17	0.07	0.09	2.56	**0.01**	0.07	0.09	0.09	0.97	1.03
Dummy variable for year	0.05	0.07	0.02	0.68	0.50	0.02	0.02	0.02	0.94	1.07
Engaged action										
(Constant)	-0.11	0.31		-0.35	0.73					
CI for ICTs	0.00	0.00	0.05	0.98	0.33	-0.03	0.03	0.03	0.46	2.19
ICTs * Year	0.00	0.00	-0.08	-1.67	0.10	-0.06	-0.06	-0.06	0.47	2.14
Age of respondent	0.00	0.00	0.00	-0.10	0.92	-0.02	0.00	0.00	0.90	1.11
Rs highest degree	-0.19	0.03	-0.24	-7.02	**0.00**	-0.24	-0.24	-0.23	0.95	1.05
Total family income	0.01	0.02	0.02	0.41	0.68	0.00	0.01	0.01	0.89	1.12
Marital status	-0.18	0.07	-0.09	-2.64	**0.01**	-0.09	-0.09	-0.09	0.87	1.15
Political party affiliation	0.05	0.02	0.11	2.96	**0.00**	0.10	0.10	0.10	0.89	1.13
Respondent's race	0.28	0.09	0.11	3.14	**0.00**	0.09	0.11	0.11	0.91	1.10
Respondent's sex	0.02	0.07	0.01	0.32	0.75	0.02	0.01	0.01	0.97	1.03
Dummy variable for year	0.02	0.07	0.01	0.31	0.76	0.02	0.01	0.01	0.94	1.07
Dutiful action										
(Constant)	0.97	0.29		3.31	**0.00**					

(table continues)

Model	Unstandardized coefficients		Standardized coefficients	*t*	Sig.	Correlations			Collinearity statistics	
	B	*SE*	*ß*			*ZO*	Partial	Part	Tolerance	*VIF*
CI for ICTs	0.00	0.00	-0.07	-1.45	0.15	-0.03	-0.05	-0.04	0.46	2.19
ICTs * Year	0.00	0.00	-0.04	-0.88	0.38	-0.03	-0.03	-0.03	0.47	2.14
Age of respondent	-0.02	0.00	-0.37	-11.54	**0.00**	-0.36	-0.37	-0.35	0.90	1.11
Rs highest degree	-0.12	0.03	-0.15	-4.85	**0.00**	-0.22	-0.17	-0.15	0.95	1.05
Total family income	-0.01	0.02	-0.02	-0.55	0.58	-0.14	-0.02	-0.02	0.89	1.12
Marital status	0.13	0.06	0.07	2.05	**0.04**	0.15	0.07	0.06	0.87	1.15
Political party affiliation	-0.01	0.02	-0.03	-0.89	0.38	-0.05	-0.03	-0.03	0.89	1.13
Respondent's race	0.05	0.08	0.02	0.59	0.56	0.09	0.02	0.02	0.91	1.10
Respondent's sex	-0.04	0.06	-0.02	-0.60	0.55	0.02	-0.02	-0.02	0.97	1.03
Dummy variable for year	0.48	0.06	0.24	7.40	**0.00**	0.19	0.25	0.23	0.94	1.07

Note. Significance values, $p < .05$, are in boldface.

Appendix B: Figures

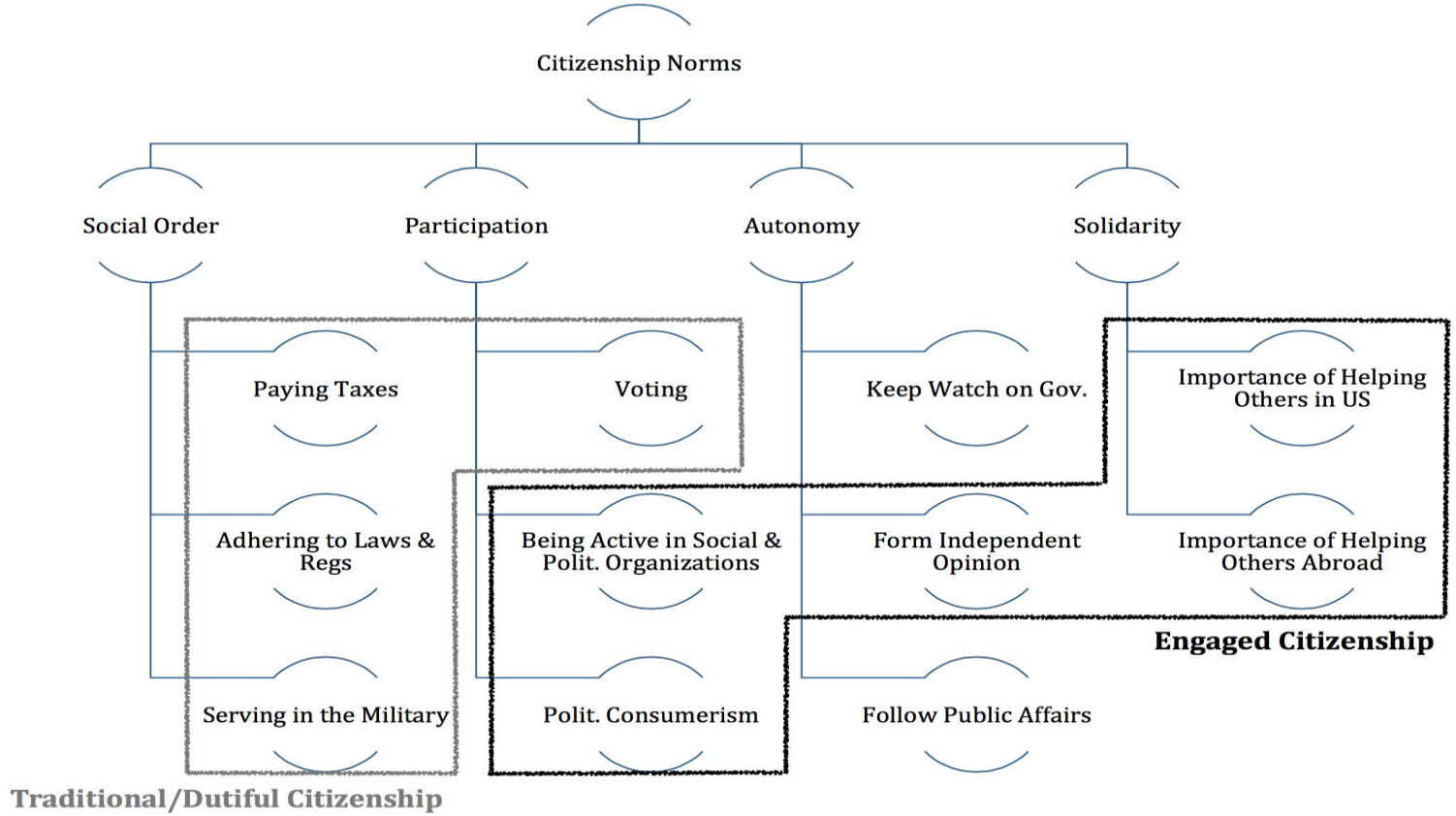

Figure B1. Citizenship norms—Categories and dimensions.

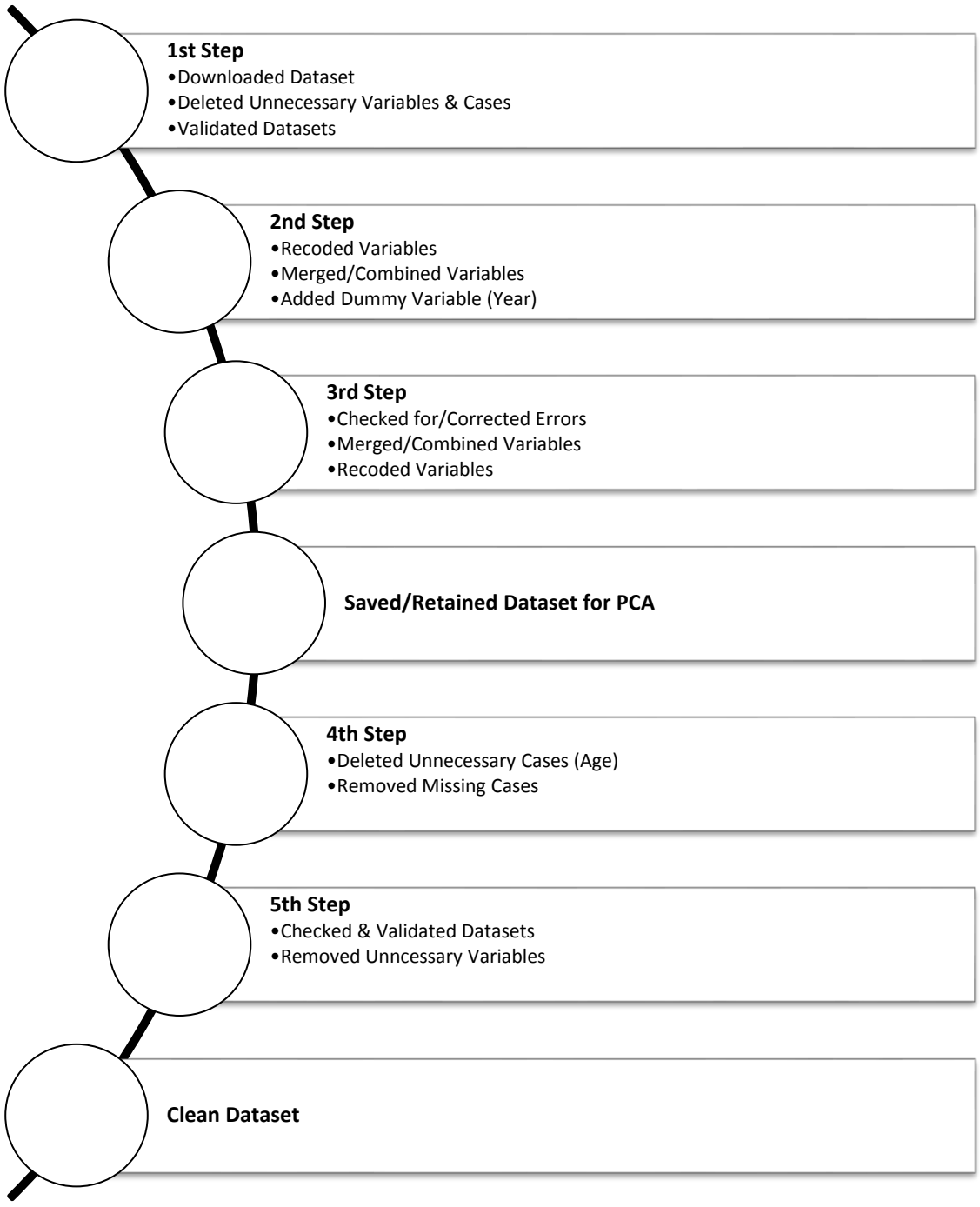

Figure B2. Data screening and cleaning process.

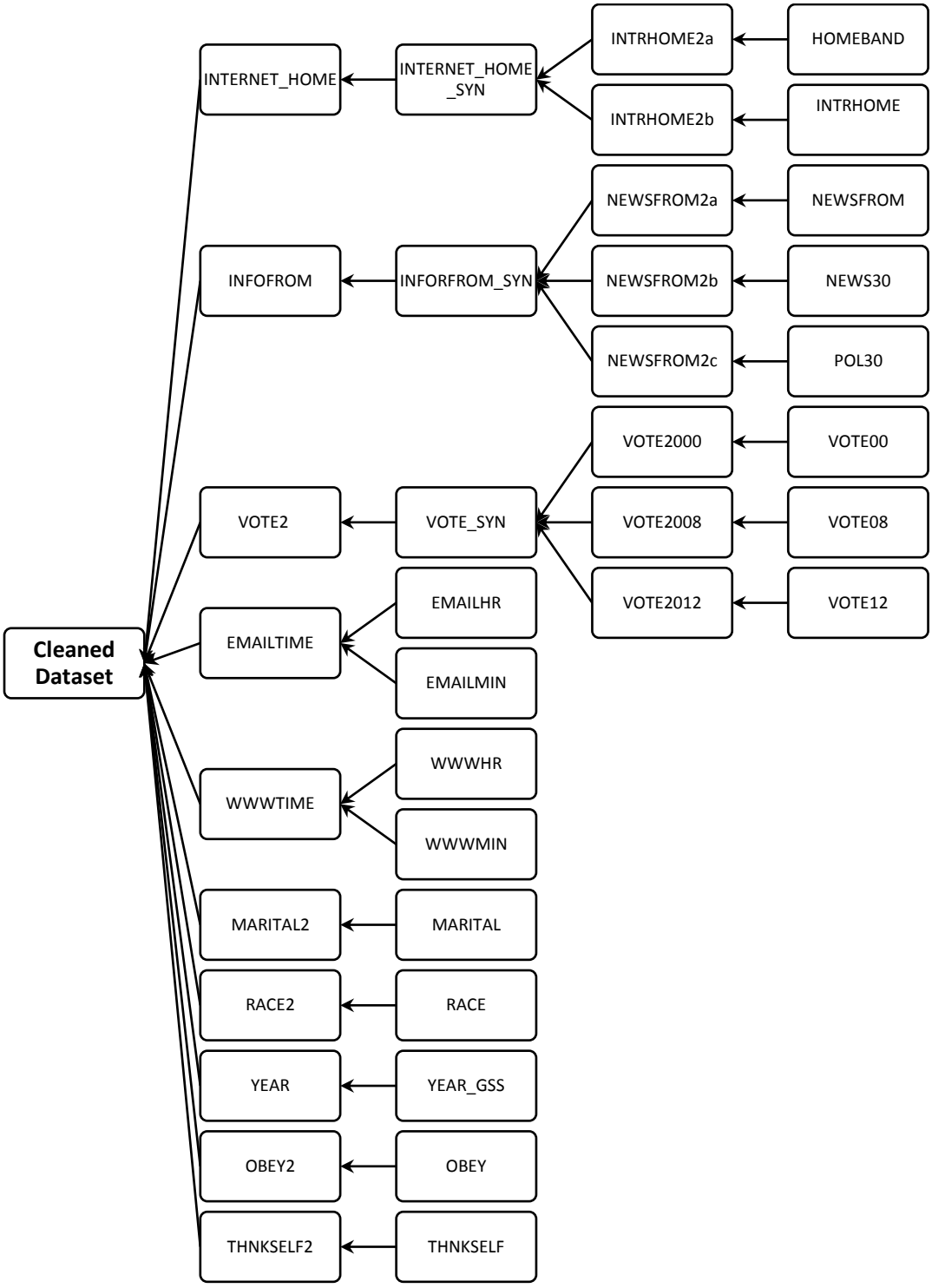

Figure B3. Recoding of variables.