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Civic engagement in young adulthood: Social capital and the mediating effects of postsecondary educational attainment

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**Civic engagement in young adulthood: Social capital and the mediating effects of
postsecondary educational attainment**

by

Kevin M. Hemer

A thesis submitted to the graduate faculty
in partial fulfillment of the requirements for the degree of
MASTER OF SCIENCE

Major: Human Development and Family Studies

Program of Study Committee:
Cassandra J. Dorius, Co-Major Professor
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The student author, whose presentation of the scholarship herein was approved by the program of study committee, is solely responsible for the content of this thesis. The Graduate College will ensure this thesis is globally accessible and will not permit alterations after a degree is conferred.

Iowa State University

Ames, Iowa

2018

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ABSTRACT

Civic Engagement has two purposes in American society. The first is to maintain democracy and democratic institutions; the second is to serve as a pathway for maturation into adulthood. Utilizing data from *The National Longitudinal Study of Adolescent to Adult Health (Add Health)*, we investigate how adolescent experiences with schools and families impact young adult's political (voting) and nonpolitical (volunteering) civic engagement and the mediating role postsecondary educational attainment may have in this process. Utilizing measures of adolescent bonding and bridging social capital, as well as human and financial capital, this investigation takes a life course perspective and relies heavily on theories of capital and emerging adulthood. Our study examines relationships between adolescence, emerging adulthood, and young adulthood with a sample of 6,872 respondents drawn from Waves I and IV of Add Health with a structural equation model and 10,000 bootstrap samples to test for mediation.

We investigated these political and nonpolitical civic engagement. Our study used nationally representative, longitudinal data, to account for multiple important developmental pre-collegiate factors, assessed civic engagement in young adulthood, and included individuals who did not attend and/or complete higher education as well as those who did. In short, we found unique relationships exist for political and non-political civic engagement. Behavioral bonding and bridging social capital demonstrated direct and indirect effects to civic engagement in young adulthood. Postsecondary education was the strongest predictor civic engagement in young adulthood, suggesting greater levels of education are a powerful social structure to prepare members of society for civic participation.

CHAPTER 1. INTRODUCTION

Whenever the people are well-informed, they can be trusted with their own government.

(Thomas Jefferson, 1789: para 1)

The maintenance of a well-functioning democracy requires citizens from all walks of life to engage in civic participation, act as stewards of democratic institutions, and form community organizations and associations (De Tocqueville, 1835/2003; Malin, Ballard, & Damon, 2015; Westheimer & Kahne, 2004). To this end, the American education system plays a central role in engendering civic engagement among citizens (Westheimer & Kahne, 2004) and its formal institutions are designed, in part, to develop a well-informed citizenry and support functional democracy (Ehrlich, 2000; Kerr, 1963; Kezar, 2004). The cultivation of knowledge, abilities, and skills that allow individuals to contribute to civic life is core to the democratic purpose of education, and has been championed by the Association of American Colleges and Universities (National Task Force on Civic Learning and Democratic Engagement [National Task Force], 2012), state systems of higher education (Hoeveler, 1976), and the U.S. Department of Education (2012). Even though education and civic participation are fundamental to maintaining a vibrant democracy, and younger cohorts of adults have greater levels of educational attainment than previous generations (Ryan & Bauman, 2016), there is a puzzling problem noted by Putnam (2000) – today’s young adults are less civically engaged than previous cohorts. This has resulted in what Putnam (2000) described as a degradation of our social fabric. In response, Putnam called to “rekindle civic engagement among the generation that will come of age in the early years of the twenty-first century” (p. 403). While this is a worthy goal, it is not well understood how Americans might best rekindle civic engagement among young adults nor when one should intervene.

Drawing on theories of capital, and utilizing data from *The National Longitudinal Study of Adolescent to Adult Health (Add Health)*, the present study investigates how adolescent experiences with schools and families impact young adult's political (voting) and nonpolitical (volunteering) civic engagement and the mediating role postsecondary educational attainment may have in this process. In doing so, we build on existing literature in three important ways. First, by considering multiple dimensions of civic engagement, we acknowledge that people can meaningfully contribute to their communities in different ways, and these multiple ways may have unique and independent relationships with higher education. Second, by modeling theoretically relevant experiences across distinct developmental periods, including adolescence and emerging adulthood, we provide new insights into how and when interventions might be most effective. This developmental, life course perspective is especially valuable given that most studies examining higher education and civic engagement do not include precollege predictors (Finley, 2012) and therefore provide few insights into the role of early development in the democratization process. And finally, we test whether the presumed association between postsecondary education and civic engagement has fundamentally changed or if postsecondary education continues to prepare young adults for active participation in American democracy.

CHAPTER 2. THEORETICAL FRAMEWORK

Understanding how humans change and develop across time requires a theoretically driven explanation of how or why these changes occur. This investigation utilizes a life course perspective that situates people within their own developmental and historical time (Elder, Johnson, & Crosnoe, 2003), and relies heavily on theories of capital (Coleman, 1988; Putnam, 2000) and emerging adulthood (Arnett, 2000).

Theories of Capital

Coleman (1988) outlines multiple forms of capital. Financial capital is a measure of resources that can aid achievement or development. Human capital is embodied in the skills and knowledge available to an individual. Social capital is focused on the power of relationships and combines the sociological idea of human action driven by social norms with the idea of human action being driven by self-interest (Coleman, 1988). Just as financial and human capital are leveraged for productive activity, social capital may be as well. Social capital, central to our study, is conceptualized as a resource for both individuals and communities (Coleman, 1988; Portes, 1998; Portes, 2000; Putnam, 2000). Theories of social capital have been used regularly to frame investigations of civic engagement (Brehm & Rahn, 1997; Duke, Skay, Pettingell, & Borowsky, 2009; Putnam 2000).

Social capital is embedded in social relationships and structures, facilitates certain actions within these realms, and provides a theoretical accounting for different outcomes at the individual level (Amna & Zetterberg, 2010; Coleman, 1988; Mahatmya & Lohman, 2012; Putnam, 2000). A key function of social capital is to support the internalization and observance of social norms through the relationships one maintains via a process referred to as closure (Coleman, 1988; Portes, 1998). For example, Coleman (1988) suggested a high degree of

closure among peers at school, who interact regularly, leads to the development of norms. Family and education are two common social structures associated with social capital and are included in our study as structures presumed to support closure and the development of norms regarding civic engagement as an important norm in a crucial feature of democracy (Brehm & Rahn, 1997; Coleman, 1988; Mahatmya, & Lohman, 2012; Putnam, 2000).

Expanding on the theory of social capital, Putnam (2000) describes two distinct forms of social capital: bonding and bridging. Bonding social capital is inward looking, reinforcing identities and relationships among homogenous groups by strengthening norms of reciprocity and solidarity, and is often used to describe less-common, but powerful relationships like those found among family members. Conversely, bridging social capital is outward looking, creating linkages to external groups that may be used for the diffusion of information or norms, and is often used to describe more-common, but weaker relationships, such as those found between individuals connected through social groups. Although bridging social capital often consists of weaker ties, these ties may be more valuable to understanding civic engagement because bridging relationships generate broader identities, more generalized norms of reciprocity, and build social trust which may drive pro-social actions such as voting and volunteering (Brehm & Rahn, 1997; Putnam, 2000).

Both forms of social capital serve important, and unique, functions for individuals and communities in democratic societies, however, there is no universal way to distinctly parse the exact point where bonding ends and bridging social capital begins (Putnam, 2000). We rely on prior work to help us differentiate the measures of social capital in this study as either family related (bonding) or secondary school related (bridging). Further, because bonding capital has been conceptualized as having both affective and behavioral components (Amna & Zetterberg,

2010; Mahatmya & Lohman, 2012), we operationalize our measure of bonding in terms of the affective-based parent child bond and the behavioral-focused assessment of shared activities (see Figure 1).

Emerging Adulthood

Emerging adulthood is an age-specific period of development that refers to individuals from their late teens through late twenties, highlighting ages 18-25 (Arnett, 2000). It is often characterized as a point in the life course in which few directions for the future have been decided and the possibilities are greatest. The developmental focus of emerging adults is characterized as a time of self-focus and identity exploration, new possibilities, instability, and a sense of being caught between two worlds (Arnett, 2000). This key developmental period for American youth is neither universal nor immutable (Arnett, 2000). One hundred years ago, an American of this age would be considered an adult. Fifty years ago, the same person would be viewed as transitioning between adolescence and young adulthood. The need for a new and distinct developmental period to describe modern youth was, in large part, a response to demographic and cultural shifts that favor higher education, delayed marriage, and increases in cohabitation, premarital sex, and nonmarital childbearing, all of which have significantly impacted the expectations and behaviors of young people in America. These shifts constitute a cohort effect (Elder et al., 2003).

As emerging adults have become more distinct from their historical counterparts, there has been a growing need to explore the unique and novel motivations of this cohort in order to better understand and predict their behaviors, including the declining civic engagement. Changes in civic engagement participation represent changes in social pathways - understood as the trajectories followed by individuals and groups through society (Elder et al., 2003). Flanagan and

Levine (2010) found evidence that changes in civic engagement social pathways among young people may represent delays in engagement, consistent with the developmental focus of emerging adulthood, rather than permanent departures, as suggested by Putnam. Understanding societal level changes associated with the development of emerging adulthood, increased exposure to higher education, and declining civic engagement requires nationally representative samples aided by longitudinal designs (see Hill, Pasquesi, Bowman, & Brandenburg, 2017). Analyses in this study employs a longitudinal design that reflects the distinct developmental periods of adolescence (13-17), emerging adulthood (18-late twenties), and young adulthood (late twenties to 39).

CHAPTER 3. LITERATURE REVIEW

The literature review begins with a brief discussion of the role of civic engagement in society – highlighting the purpose(s) of education in training citizens to be informed and active members of a democracy. Second, an overview of what is known about the developmental trajectories of civic engagement are discussed. Third, the role of postsecondary education and civic engagement is examined; followed by the role of family in shaping civic engagement. Finally, the relationship between adolescent schooling and civic engagement is examined. The review concludes with hypotheses that guide this study.

Civic Engagement in a Democratic Society

Civic engagement has two key purposes in American society: to maintain the vitality of the democracy and serve as a pathway for maturation from youth into adulthood (Flanagan & Levine, 2010). Our definition of civic engagement was chosen for three reasons. First, it highlights the importance of both political and nonpolitical processes, which can be applied broadly to different contexts across the life course. Second, it is consistent with Westheimer and Kahne's (2004) widely used conceptualization of participatory citizens, which values those who engage in civic affairs, emphasizing collective, community-based efforts. Finally, it is a definition commonly cited in other scholarly work related to civic engagement (Hemer & Reason, 2017; National Task Force, 2012). Civic engagement is

working to make a difference in the civic life of our communities and developing the combination of knowledge, skills, values, and motivations to make that difference. It means promoting the quality of life in a community through both political and non-political processes (Ehrlich, 2000, p. vi)

Developmental trajectories of civic engagement

This study investigates the distinct developmental periods of adolescence (13 to 17), emerging adulthood (18 to late twenties) – when participation in postsecondary education is most common, and young adulthood (late twenties to 39). Civic mindedness (or identity) is an acquired sense which may appear in adolescence and, if acquired in early life, persists into adulthood (Johnson, 2017; Malin et al., 2015; Obradovic & Masten, 2007; Youniss, McLellen, & Yates, 1997; Wray-Lake & Syvertsen, 2011). Conversely, when early life socialization does not promote civic engagement, it may explain why recent cohorts of young people are withdrawing from their community and engaging less than previous generations (Flanagan & Levine, 2010; Putnam, 2000; Syvertsen, Wray-Lake, Flanagan, Osgood, & Briddell, 2011). Flanagan and Levine (2010) found that young adults were less likely than earlier generations to engage in nine of ten citizenship behaviors (e.g. reading newspapers a least once weekly, being contacted by a political party, voting, working on a community project, and believing people are trustworthy), with volunteering as the only behavior that has increased. However, Flanagan and Levine also found that as a generation ages, the gap narrows and voter participation seem to more closely reflect previous generations. This finding is highlights the usefulness of emerging adulthood as a theoretical framework, suggesting that the perceived departure of young people from civic engagement may reflect a delay in individuals' civic development and not a permanent move away from civic mindedness.

Postsecondary education and civic engagement

There is a significant body of work linking postsecondary education with civic outcomes (Brand, 2010; Doyle & Skinner, 2017; Ehrlich, 2000; Johnson, 2017; Kingston, Hubbard, Lapp, Schroeder, & Wilson, 2003; Mayhew, Rockenbach, Bowman, Seifert, Wolniak, 2016). Flanagan

and Levine (2010) suggested college has become a central institution for civic incorporation, noting there is a lack of alternative institutions for non-college going youth in emerging adulthood. Attending college has been positively linked to a variety of civic outcomes (Hemer & Reason, 2017; Mayhew et al., 2016; Myers, Myers, & Peters, 2018), including civic knowledge (Colby et al., 2005), civic skills (Barnhardt, Sheets, & Pasquesi, 2015; Bowman, 2011), civic attitudes and values (Campbell & Horowitz, 2016; Kingston et al., 2003; Pascarella & Terenzini, 2005), and behaviors – such as voting (CIRCLE, 2012; Doyle & Skinner, 2017; Niemi & Hanmer, 2010; Syvertsen et al., 2011; Thomas et al., 2017; Wray-Lake & Hart, 2012) and volunteering (Brand, 2010; Doyle & Skinner, 2017; Oesterle, Johnson, & Mortimer, 2004). College attendance even seems to mitigate some of the demographic factors which often predict civic engagement. For example, attending college has a stronger effect on beliefs about egalitarian gender roles than a person's gender or race (Campbell & Horowitz, 2016), and after accounting for a college education, many of the demographic characteristics which typically predict voting behavior are no longer statistically significant (Niemi & Hemmer, 2010). In other words, postsecondary education is an important institution which may be leveraged for shaping individuals' civic development.

The exact role of the relationship between college-going and civic engagement is not settled (Kingston, 2016; Mayhew et al., 2016). On the one hand, there is evidence students who are the least likely to attend and complete college yield the largest marginal returns in volunteering rates after college (Brand, 2010). Horowitz (2015) found the effect of higher education attainment on civic participation changes as more people obtain college degrees. On the other hand, Oesterle and colleagues (2004) found that education beyond a bachelor's degree does not have any effect on volunteering in adulthood.

Despite the majority of literature linking postsecondary education and civic engagement; some scholars question the causal nature of this relationship. Kingston (2016) notes that college is an important civic institution but suggests, “We can no longer presume that good citizenry is the automatic byproduct of going to college” (p 23). Kam and Palmer (2008) found selection effects explain much of the college/engagement relationship; that is, the same predictors that lead to postsecondary education attendance and attainment, also lead to civic participation. Mayhew and colleagues (2016) concluded that the claims of colleges promoting greater civic engagement are often reliant on how the construct is operationalized, research design, and the analytical approaches employed. Thomas and colleagues (2017) suggested that disparities in voting driven by gaps in education attainment need greater attention.

In our study, we hope to improve scholars understanding of postsecondary education’s influence on civic engagement in young adulthood. Much of the work linking higher education and civic engagement is cross-sectional, does not account for pre-collegiate contexts, does not measure outcomes in adulthood to assess long-terms effects of college going, and often does not include a non-college going comparison group (Finley, 2012; Hill et al., 2017; Reason & Hemer, 2015). Our study addresses each of these limitations, by using nationally representative, longitudinal data, to account for multiple important developmental pre-collegiate factors, assess civic engagement in young adulthood, and includes individuals who did not attend and/or complete higher education as well as those who did.

Family and civic engagement

The family is often conceptualized as a locus for social capital (Coleman, 1988), specifically the bonding social capital that leads to civic involvement (Putnam, 2000; Mahatmya & Lohman, 2012; Oesterle et al., 2004; Wray-Lake & Syvertsen, 2011). Family is a key factor

in the early development of a civic identity (Johnson, 2017; Malin et al., 2015). And while literature suggests a connection between postsecondary education and civic engagement, family background and upbringing may often have a confounding effect with education when it comes to social outcomes (Lenzi et al, 2012; Kam & Palmer, 2008; Schnittker & Behrman, 2012). This is not surprising. Family is one of the most omnipresent and enduring social structures in the lives of young people and it can reinforce or negate other norm promoting experiences. Therefore, it is important to understand how familial relationships shape the development of individual's civic engagement in adolescence, emerging adulthood (Wray-Lake & Syvertsen, 2011) and adulthood.

The socioeconomic context of family life is one important way children experience norm closure related to civic life. For example, family affluence predicts greater youth participation in community organizations (Lenzi et al., 2012), post-collegiate civic engagement (Ishtani & McKittrick, 2013) and higher levels of voting (Wray-Lake & Hart, 2012). Parents' educational attainment similarly predicts the civic engagement of their children (Flanagan & Levin, 2010; Schinittker & Behrman, 2012). Some scholars have even argued family background is more important than schooling in predicting some social outcomes, and that when controlling for family earnings, the influence of schooling diminishes greatly (Kam & Palmer, 2008; Schnittker & Behrman, 2012). While most scholars point to family background as a strong developmental influence on young people, the relationship between familial influence, education, and civic engagement varies based on the outcomes assessed. For example, political values and political orientation are more strongly related to family background than education (Campbell & Horowitz, 2016). Other research suggested parental socioeconomic status has no effect on volunteering in adulthood (Oesterle, Johnson, & Mortimer, 2004) and that, when controlling for

family background, a college education still shapes sociopolitical values (Campbell & Horowitz, 2016).

Beyond economic and educational resources, families provide important relationships and experiences that promote bonding social capital and predict greater levels of civic engagement in adolescence and emerging adulthood (Duke et al., 2009; Mahatmya & Lohman, 2012; Wray-Lake, Syvertsen, & Flanagan, 2015). This is true of both affective (ratings of parent-child bond) and behavioral (frequency of parent child shared activities) indicators of bonding social capital (Duke et al., 2009; Mahatmya & Lohman, 2012). As a result, families are an important developmental force in individuals' lives and should be one of the social structures accounted for when identifying the developmental pathways to higher levels of civic engagement in young adulthood.

Secondary education and civic engagement

Secondary schooling is a primary context for adolescent development and social capital creation (Wray-Lake & Syvertsen, 2011). Schooling also shapes individuals' propensity for civic engagement (Kahne & Sporte, 2008; Wray-Lake & Syvertsen, 2011). Adolescents, as they age, often feel less connected to others (Wray-Lake, Syvertsen, & Flanagan, 2015). The decline in these connections, which are conceptually similar to social capital, also predicted declines in values related to social responsibility (Wray-Lake et al., 2015), highlighting the importance of understanding social capital prior to opportunities for postsecondary education. Research into the relationship between school social capital in adolescence and civic engagement later in life generally shows a positive relationship. Generally, greater levels of bridging social capital and stronger social connections in adolescence predicted higher levels of civic engagement (Duke et al., 2009; Kahne & Sporte, 2008; Mahatmya & Lohman, 2012; Obradovic & Masten, 2007).

These studies highlight the importance of investigating individuals' schooling contexts and experiences prior to post-secondary education to best understand the development of civic engagement in adulthood.

Demographic and background characteristics

Certain demographic and background characteristics have also been linked to civic engagement. For example, biological sex has been linked to civic engagement, with most research suggesting women participate in some forms of civic life more than men, especially volunteering (Mahatmya & Lohman, 2012; Obradovic & Masten, 2007; Oesterle et al., 2004). However, other research suggested that sex is a relatively small or non-significant predictor of generalized citizenship (Obradovic & Masten, 2007) and civic commitment (Barnhardt et al., 2015; Kahne & Sporte, 2008). Women were found to be less likely to vote in presidential elections according to one study (Wray-Lake & Hart, 2012), but another study found women enrolled in postsecondary education were more likely to vote than their male peers enrolled at the same institutions (Thomas et al., 2017).

Previous research suggested race is related to civic engagement, however the patterns are not clear. Individuals identifying as White were found to have lower levels of civic commitment relative to their non-white peers (Barnhardt et al., 2015). Mahatmya and Lohman (2012), investigating civic engagement in emerging adulthood found individuals identifying as Black were not significantly different than those identifying as White in terms of their civic involvement, but Hispanic individuals were less civically involved. Alternately, Ishtani and McKittrick (2013) found, relative to White college graduates, Black college graduates were more civically engaged, Asian college graduates were less civically engaged, and Hispanic college graduates were not significantly different. When examining political engagement, racially

minoritized individuals, and specifically those identifying as Black, are less likely to vote (Thomas et al., 2017; Wray-Lake & Hart, 2012). This trend is not static, the 2008 election of President Barak Obama saw higher Black voter participation than previous elections (McKee, Hood, & Hill, 2012). The 2016 presidential election saw increases in turnout for Asian and Hispanic turnout, relative to the 2012 election (Thomas et al., 2017).

Other background characteristics may be understood at the family level through the lens of capital. A family's financial capital is measured by wealth or income; while human capital is measured by parents' education level (Coleman, 1988). Parents' income and educational achievement are both positively related to civic engagement (Israel, Beaulieu, & Hartless, 2001; Kahne & Sporte, 2008). Notably the civic returns of attending college are greater for those from lower-socioeconomic backgrounds (Brand, 2010). While the relationships between individuals' demographic and background characteristics may not be settled, it is important to include them in any study of civic engagement as potentially influential variables.

Present Study

The central aim of this study is to better understand pathways to civic engagement in young adulthood, focusing on the role of social capital in adolescence and postsecondary educational attainment in shaping young adults' civic engagement. The present study uses structural equation modeling to examine the pathways between individuals' experiences during adolescence and emerging adulthood with their civic engagement in young adulthood (Hill et al., 2017; Kline, 2016). Dependent outcomes are voting and volunteering. Key independent constructs are affective and behavioral measures of bonding or family social capital, bridging or secondary school social capital, and postsecondary educational attainment. Postsecondary educational attainment is conceptualized as a mediator variable. Mediator variables intervene and

alter the relationship between and predictor and outcome variables and are differentiated from variables in multiple regression because there is a direction (or temporal) relationship between a predictor variable and the mediating variable (Baron & Kenny, 1986; Hill et al., 2017; Kline, 2016). Our use of longitudinal data provide temporal precedence which, though not causal, allows for a stronger understanding of the associational relationships, including mediation, between various constructs (Hill et al., 2017; Kline, 2016).

As noted previously, scholarly research suggests multiple forms of adolescent social capital are positively associated with adult civic engagement. Prior work also suggests postsecondary education is positively associated with the civic engagement of adults. Given this background, we hypothesize that (1) higher levels of social capital in adolescence will be associated with higher levels of civic engagement in young adulthood, (2) postsecondary educational attainment in emerging adulthood will be associated with higher levels of civic engagement in young adulthood, and (3) postsecondary education will have a positive mediating effect on the relationship(s) between social capital and civic engagement in young adulthood.

Our analyses proceed in five steps. The first step requires the development of an *a priori* model theoretically depicting hypothesized relationships between constructs of interest (Kline, 2016). This conceptual model is represented by Figure 1. In the second step, weighted, non-imputed descriptive statistics identify key distinctions among variables and constructs of interest (see Tables 1 and 2). The third step involves analyses of civic engagement mean scores utilizing covariates of interest. The fourth step alters the final model specifications, as necessary, based on empirical results from the means-difference tests employed in step three. The final step utilizes structural equation modeling (SEM) to examine the relationship(s) between social capital, postsecondary educational attainment, and civic engagement, through a test of the hypothesized

structural model identified in step one and refined in step four (see Kline, 2016). Because demographics of race and sex, along with human capital (parental education) and financial capital (parental income) are theoretical drivers of civic engagement, we include these variables in the structural model. All analyses were conducted in Stata 14 (see Acock, 2013).

CHAPTER 4. METHODS

Data Source and Participants

Data were drawn from the first and fourth wave (1994-1995 and 2008 respectively) of the in-home sample of *The National Longitudinal Study of Adolescent to Adult Health* (Add Health). Adolescents were first interviewed when they were in high school (grades 7 through 12) and were re-interviewed in young adulthood (27 to 32 years old), making this an ideal sample for studying the long-term impact of social capital on civic engagement.

Initial data collection utilized school-based clustered sampling design to best identify respondents of interest and access the majority of respondent's peers (Add Health, n.d.). The school-based sample consists of over 90,000 students from 80 high schools selected based on criteria of size, school type, census region, level of urbanization, and percent white and 65 middle and junior high schools that fed into the high schools. From this pool of school-participants, 20,745 adolescents in grades 7 to 12, and their parents, completed an in-home questionnaire at Wave 1. These students were reassessed in Wave IV, resulting in a sample size of 15,701 (Add Health, n.d.). The analytic sample for this study includes 6,872 young adults who participated in the first and fourth wave of data collection, were enrolled in high school during Wave 1, had appropriate analytic weights in the dataset, and provided valid responses to both civic engagement outcomes (e.g., volunteering and voting) at Wave IV (See Tables 1 and 2). Additionally, items in the survey refer specifically to the respondents mother or father, because of concerns about handling missing data when only one parent was present, in the respondents life and because the effect of family structure was not a focal question in this study, all respondents were from two-parent families.

Measures

Measures in this study may be grouped into four categories: dependent measures, the mediating measure, independent measures, and covariates (Tables 1 and 2). Dependent variables represent distinct constructs of political and nonpolitical civic engagement in adulthood. The mediating variable is post-secondary educational attainment in emerging adulthood, and the key independent variables of bonding and bridging social capital in adolescence. Covariates are variables with a well-documented relationship to either the dependent or mediating variables, including human and financial capital, race, and sex. Prior to analyses all continuous measures were examined for normality.

Dependent variables - civic engagement

Civic engagement is assessed with two related, but distinct, measures, both of which were collected in 2008 and reflect Ehrlich's (2000) definition of political and nonpolitical engagement. Consistent with this definition we include measures related to voting and volunteering.

Voting. Voting is a measure of political engagement assessed in young adulthood by a single item: "*How often do you usually vote in local or statewide elections?*" Response options included never (0), sometimes (1), often (2), or always (3). Voting behavior is a common measure of political engagement with relatively few barriers to participation, and is one of the more common metrics cited when lamenting the loss of civic engagement by younger generations (Putnam, 2000; Syvertsen et al., 2011).

Volunteering. Volunteering is a measure of nonpolitical engagement assessed in young adulthood by a single item: "*In the past 12 months, about how many hours did you spend on volunteer or community service?*" Response options were coded 0 hours (0), 1 to 19 hours (1),

20 to 39 hours (2), 40 to 79 hours (3), 80 hours or more (4). Volunteerism represents a low-cost form of civic engagement that can occur with high frequency, is most often nonpolitical, and has been increasing among recent cohorts of young people (Syvertsen et al., 2011).

Mediating variable - postsecondary educational attainment

The mediating variable for this study is post-secondary educational attainment during emerging adulthood, assessed after Wave I and prior to Wave IV (1996 to 2007). This measure represents respondents' level of education in 2007, the year prior to the collection of voting and volunteering in Wave IV and was based on two items, the first indicating level of certification, and the second reflecting the time of certification. Educational attainment was coded to reflect: no high school equivalency (-1), high school equivalent degree but not college (0), some college including a certificate but no degree (1), associate's degree (2), bachelor's degree (3), some graduate school but no degree (4), or graduate and/or professional degree (5). In order to ensure that postsecondary educational attainment was temporally distinct from our outcomes of interest, 2% of respondents (n=214) who received their terminal certification in 2008 were recoded to one level below their current education to reflect their 2007 levels [i.e. if a participant had completed some graduate school but no degree (coded as 4) in 2008 they were recoded to a bachelor's degree (3)].

Independent variables – social capital

Three independent variables assessed at Wave 1 capture the latent constructs of bridging and bonding social capital hypothesized to be relevant developmental influences across the life course (Figure 1, Table 1). Bonding social capital was operationalized through affective (parent-child bond) and behavioral dimensions (shared activities) of family social capital. Similar measures have been used in previous studies (Duke et al., 2009; Mahatmya & Lohman, 2012).

Bridging social capital was based on secondary school descriptors, as operationalized by Mahatmya and Lohman (2012) in their investigation of civic involvement using data from waves I through III.

Parent-child bond. Parent-child bond is the first measure of bonding social capital and assesses affective social capital. A latent construct of seven items was created using adolescents reports of closeness to and communication with their resident mother and father ($M=4.32$, $sd = 0.58$, $\alpha = 0.81$). Adolescents responded on a five-point scale ranging from “not at all” to “very much”. Sample items include: *How close do you feel to your mother/father, how much do you think she/he cares about you, and how much do you feel that your family pays attention to you.* This measure has been used in previous studies related to civic involvement using Add Health data and was found to be positively associated with emerging adults’ civic involvement (Mahatmya & Lohman, 2012).

Shared Activities. The second measure of bonding social capital is behavioral and is represented by activities shared between child and their parent(s). Operationalized as a latent construct consisting of 20 items, adolescents were asked to report on their participation in 10 activities with both their resident mother and father in wave I, with either a yes (coded as 1) or a no (coded as 0). Items were then summed ($M = 6.54$, $sd = 3.43$, $\alpha = 0.70$). Sample activities include *shopping, playing a sport, going to religions service, talking about personal problems, and talking about school work or grades.* Shared activities were positively associated with emerging adults’ civic involvement at wave III (Mahatmya & Lohman, 2012).

Secondary school capital. Bridging social capital is the third latent construct operationalized to examine social capital. Adolescents were asked about their feelings about their secondary schooling context. The measure consists of the means for six items drawn from data

collected in wave I ($M = 3.67$, $sd = 0.71$, $\alpha = 0.76$). Sample items include: “*How much do you feel that your teachers care about you, you feel close to people at your school, you feel like you are a part of your school, and the teachers at your school treat students fairly.*” School (or bridging) social capital was found to be positively associated with civic engagement in emerging adulthood (Mahatmya & Lohman, 2012).

Demographics and background. Key demographics and background variables which often predict civic engagement are also included. Biological sex was assessed as a dummy variable (male = 0; female = 1). Race/ethnicity was measured as a set of indicators: White (reference), Asian, Black, and Latino/a groups were used. Human capital is measured as the highest level of education achieved by a parent of the participant as of Wave 1, coded as: 8th grade or less (-2), greater than 8th grade, less than high school (-1), high school equivalency (0), education beyond high school, no college degree (1), college degree (2), education beyond college degree (3). Financial capital was measured with parental household income at Wave 1 (reported in thousands of non-inflation adjusted dollars) and was assessed as a continuous variable from 0 to 250, with incomes greater than \$250,000 top-coded as 250+.

Analytic Approach

The final analytic step of this study is to estimate a structural model with multiple outcome measures (Kline, 2016). Predictors were estimated with a direct path, as well as an indirect path that was mediated by postsecondary education (Figure 1). Because of our interest in the indirect effects associated with the mediating role of post-secondary educational attainment, bootstrapping was employed (Shrout & Bolger, 2002). Considerations were also made regarding weighting and missing data.

Bootstrapping

Studies which examine mediation focus on indirect paths that are the product of the path between the predictor and the mediator, as well as the path between the mediator and the outcome (Baron & Kenny, 1986; Shrout & Bolger, 2002). These tests are assessed with a p value that is interpreted relative to a normal distribution. However, the distribution of indirect effects is rarely normal and is more susceptible to Type II error or nonsignificant findings (Shrout & Bolger, 2002). Bootstrapping also follows Preacher and Kelley's (2011) recommendations, suggesting that estimators of effect sizes in mediation should be unbiased, consistent, and efficient, as well as reported with confidence intervals. In order to correct for this inflated risk of Type II errors we employ bootstrapping with 10,000 repetitions and report confidence intervals for indirect effects (Cheung, 2009; Shrout & Bolger, 2002).

Weighting

Cross-sectional and longitudinal survey weights were designed to make the sample of Add Health respondents represent the entire population of U.S. adolescents (Chen & Chantala, 2014). As noted by Chen and Chantala, longitudinal weights should be used when the outcome variable is measured multiple times, and cross-sectional weights should be used "if the covariates are from multiple waves but the outcome variable is from just one wave of data" (p. 13, 2014). The latter is true of our study and therefore the Wave IV cross-sectional weights are employed for descriptive analyses. However, we do not follow weighting recommendation in our SEM model due to limitations of the analytic software that do not allow researchers to simultaneously bootstrap and weight the results.

We justify this stance by noting that the central question of this study is whether postsecondary educational attainment mediates the development of civic engagement. If we

conduct the SEM without bootstrapping there is a high likelihood that we would have underestimated the indirect effects associated with the mediator which may lead to an incorrect assessment of the theoretical pathways. Conversely, if we conducted the SEM without weighting we are less likely to reflect the national population. Given that there is not uniform agreement about using weights with complex analyses of national data sets (National Longitudinal Survey of Youth, 2017), some scholars have recommended against the use of weights in complex analytic models, especially when using a sub-sample of the data and/or estimating models that include covariates included in the weights themselves (Dorius, 2018). After weighing our study goals, the items included in our models, and concerns associated with omitting either of these approaches, we choose to proceed with an unweighted structural model. After analyses, a weighted non-bootstrapped model was estimated as a sensitivity check on key findings. No notable differences appeared, further supporting our approach.

Missing Data

As is true with survey research in general and educational research specifically, a number of participants had missing data within and across waves. Additionally, some of the participants' parents had missing data from the parental questionnaire at Wave I. Missing data presents concerns relate to parameter estimates (bias of unknown direction and magnitude) and standard errors (increasing the likelihood of making a Type-I error); (Cox, McIntosh, Reason, & Terenzini, 2014). Despite the norm of missing data in survey research, much of the higher education research has been reluctant to address or been unclear about how to handle the issue of missing data (Cox et al., 2014). Cox and colleagues recommend one of two options for addressing missing data: maximum likelihood or multiple imputation. 75.17 percent of cases contained complete data. 99.77 percent of cases were missing two items or fewer. Items ranged

from 0 percent missing (both outcome measures and biological sex) to 24.32 percent missing (parental income). To address concerns related to missing data in our study, full information maximum likelihood (FIML) estimation was employed (Acock, 2013; Cox et al., 2014).

Structural Equation Modeling

SEM examines how well a theorized model fits the observed data (Kline, 2016). The final analyses employs a mediated observed-variable SEM path model with a single mediator and two dependent variables. Figure 1 illustrates our hypothesized structure which guided model specification. Consistent with the literature, our path model tests the direct and indirect relationships between social capital, postsecondary educational attainment, and civic engagement. Additionally, because our model contains related but distinct dependent measures of civic engagement; we included correlations between the endogenous variable error terms to account for this hypothesized relationship. Direct and indirect relationships between covariates were specified unless descriptive analyses found no between-group differences on dependent variables – which was true for biological sex and voting.

Kline (2016) provides some reminders when assessing model fit in SEM: model fit statistics indicate average model fit and not the explanatory power of the model (e.g. fit is not the same as R^2); and model fit statistics do not indicate whether the results are theoretically meaningful. In SEM it is helpful to report multiple measures when assessing model fit (Hu & Bentler, 1999; Kline, 2016). The chi-square model test statistic describes whether there is a significant difference between the predicted model and observed data (Kline, 2016). However, chi-square tests are sensitive to sample size such that larger sample sizes are associated with a higher likelihood of significant results. To avoid concerns with large sample size, absolute and comparative fit indices are also reported. Absolute indices like the Root Mean Square Error of

Approximation (RMSEA) assess how well an a priori model explains the observed data, with lower scores representing better fit (Acceptable fit < 0.08 ; Good fit < 0.05). Comparative Fit Indices (CFI) assess model fit to a baseline model which assumes no relationship between variables, with higher scores indicating better fit (Acceptable fit > 0.90 ; Good fit > 0.95). Consistent with recommendations, we report chi-square, RMSEA, and CFI (Kline, 2016).

Limitations

Although this investigation addresses many important gaps from prior research, we recognize three primary limitations to our study. First, our model tests effects of college-going and degree attainment on civic engagement, but it does not elucidate what specific practices or levers in post-secondary education lead to increased civic engagement. As such, we can describe significant associations of civic engagement, but we do not have enough information to identify which experiences matter most for interventions aimed at non-college bound students. Second, we indirectly measure civic engagement. Though this is common in research between education and civic outcomes, direct measures are important and potentially more powerful (Finley, 2012; Reason & Hemer, 2015). Finally, based on our decision to include bootstrapping for testing direct effects, we were unable to simultaneously run our structural model with weights as recommended by Chen and Chantala (2014). Ultimately we are assured in the decision based on the centrality of mediation to our research question and other literature (Dorius, 2018; National Longitudinal Survey of Youth, 2017), but we recognize this modeling approach is limited by the statistical software. Despite these limitations, this study makes a meaningful contribution to the literature investigating social capital, educational attainment, and associated civic outcomes.

CHAPTER 5. RESULTS

Descriptive Analysis

Descriptive analyses identified significant differences among the demographic and background characteristics and the outcomes of interest - voting and volunteering. For example, between males and females there was no difference in the likelihood of voting ($F(1, 6870) = 3.41, p > .05$), but females were more likely to volunteer than males ($F(1, 6870) = 4.16, p < .05$). There was a significant difference on the basis of race in voting ($F(3, 6854) = 45.97, p < .001$). Using Bonferroni's correction and a p-value of 0.001, post hoc analyses showed that young adults who are Black were significantly more likely to vote than all other racial groups; young adults who were Asian are significantly less likely to vote than Black and White young adults, and that young adults who are Latino/a are significantly less likely than White young adults to vote. When thinking about these results we remind the reader that data were collected in 2008. Data collection occurred during the initial presidential candidacy of Barack Obama, a time during which the political participation among Black people in the United States peaked (McKee et al., 2012). There were also a significant differences in volunteering on the basis of race ($F(3, 6854) = 8.70, p < .001$). Only one comparison showed significant differences at a critical value of 0.001; young adults who are White are significantly more likely to volunteer than Latino/a young adults.

There were significant differences on the basis of parental education level in voting; $F(5, 5884) = 52.03, p < .001$ and volunteering; $F(5, 5884) = 21.83, p < 0.001$. Post hoc analyses demonstrates a pattern of individuals from families with greater levels of parental education are significantly more likely to vote and volunteer. There were no differences in volunteering between individuals whose parents had achieved a high school equivalent or less. In both voting

and volunteering, parental education levels beyond a bachelor's degree were not significantly different from each other. Based on the descriptive results suggesting a lack of mean difference for the sexes in terms of political engagement, we removed the direct path for biological sex on voting. This decision was supported by literature that found weak and nonsignificant patterns on civic engagement by sex (Barnhardt et al., 2015; Kahne & Sporte, 2008; Obradovic & Masten, 2007).

Testing the Hypothesized Structural Model

Our theorized SEM model indicated a good fit of the data ($\chi^2 = 12.313$; $df = 1$; $p < 0.001$; $CFI = 0.99$; $RMSEA = 0.04$) and explained 22 percent of overall variance in voting and volunteering ($R^2 = 0.22$). In reporting the results of our SEM, we have separated the results by voting and volunteering. Yet when reviewing our results, we believe it is important to remember that both voting and volunteering were included in a single model - accounting for relationships between these behaviors and multiple forms of civic engagement. Our suggestion is supported by the significant correlation between voting and volunteering ($r = 0.12$, $p < 0.001$). Additionally, when interpreting our results, we report standardized parameter estimates (β) for ease of comparison and interpretation, except for dichotomous indicators. Mayhew and colleagues (2016) suggest guidelines for interpreting the practical significance of standardized coefficients in research on the effects of higher education: 0.06 is a small effect, 0.12 is a medium effect, and 0.20 is a large effect – emphasizing these are suggested guidelines and should not be treated as cutoff points. We examine each outcome - voting and volunteering- separately. Total effects are discussed first. Then, total effects are decomposed into direct and indirect effects.

Voting

Multiple forms of capital (e.g. social, financial, and human) from adolescence, as well as postsecondary educational attainment, were related to voting in young adulthood. After accounting for the multiple forms of capital, postsecondary educational attainment had the strongest total effect on voting ($\beta = 0.20, p < 0.001$). In terms of social capital, shared activities ($\beta = 0.08, p < 0.001$) and school social capital ($\beta = 0.06, p < 0.001$) were both significantly related to voting; parent-child bond was not. Other independent variables demonstrated a total effect on voting. Adolescents from families with higher incomes ($\beta = 0.04, p < 0.01$) and greater levels of education ($\beta = 0.13, p < 0.001$) voted more. Females were more likely to vote in young adulthood than males ($b = 0.06, p < 0.001$). Asian young adults were less likely to vote than White young adults ($b = -0.33, p < 0.001$); Black young adults were more likely to vote than their White peers ($b = 0.36; p < 0.001$); Latino young adults were not different from White young adults in their voting patterns. In order to better understand the specific effects associated with postsecondary educational attainment, we decompose the total effects into direct and indirect effects. Direct effects are discussed first, followed by indirect effects.

Mediation parses the relationship between independent and dependent variable conditioned on a third mediating variable. After accounting for the mediating effect(s) of postsecondary educational attainment, participating in shared activities ($\beta = 0.06, p < 0.001$) and school social capital ($\beta = 0.04, p < 0.001$) in adolescence still predicted voting in young adulthood. Notably, the relationship between adolescents' parental income and voting was no longer significant, suggesting the political civic engagement benefits of parental income in adolescence are fully explained by postsecondary educational attainment. Parental education was still directly related to voting. Direct relationships also remained for Asian ($b = -0.38, p < 0.001$)

and Black ($b = 0.35, p < 0.001$) young adults; Latino young adults were still voted no differently from White young adults.

The indirect effects may be interpreted as the way postsecondary educational attainment attenuates the relationship between independent variables and civic engagement. Shared activities ($\beta = 0.02, p < 0.001$) and school social capital ($\beta = 0.02, p < 0.001$) both have indirect effects associated with educational attainment. The effects of parental income ($\beta = 0.03, p < 0.001$) and parental education ($\beta = 0.05, p < 0.001$) on voting are also increased with higher levels of educational attainment. Women ($b = 0.05, p < 0.001$) increased their patterns of voting via postsecondary educational attainment. Relative to White young adults, postsecondary education did not change voting for Black young adults, but Asian ($b = 0.05, p < 0.001$) and Latino ($b = 0.02, p < 0.05$) young adults slightly increased their voting from postsecondary educational attainment.

Volunteering

Multiple forms of capital (e.g. social, financial, and human) from adolescence, as well as postsecondary educational attainment, were related to volunteering in young adulthood. After accounting for direct relationships of all other variables, postsecondary educational attainment had the strongest total effect on volunteering ($\beta = 0.14, p < 0.001$). In terms of social capital, shared activities ($\beta = 0.12, p < 0.001$) and school social capital ($\beta = 0.06, p < 0.001$) were both significantly related to volunteering; parent-child bond had a very small negative effect ($\beta = -0.02, p < 0.01$). Other independent variables demonstrated a total effect on volunteering. Adolescents from families with greater levels of education ($\beta = 0.11, p < 0.001$) spent more time volunteering. Females were more likely to volunteer in young adulthood than males ($b = 0.07, p < 0.01$). Latino young adults are less likely to volunteer than White young adults ($b = -0.12, p <$

0.01). We decomposed the total effects into direct and indirect effects in order to understand the specific effects associated with postsecondary educational attainment. Direct effects are discussed first, indirect effects second.

After accounting for the mediating effect(s) of postsecondary educational attainment, participating in shared activities ($\beta = 0.10, p < 0.001$), school social capital ($\beta = 0.05, p < 0.001$), and parent-child bond ($\beta = -0.01, p < 0.01$) in adolescence still predicted volunteering. Parental education was still directly related to volunteering ($\beta = 0.07, p < 0.01$). Females were not different from males – suggesting higher education totally mediates the relationship between biological sex and volunteering. Asian ($b = -0.11, p < 0.05$) and Latino ($b = -0.13, p < 0.001$) young adults also had a direct path to volunteering relative to White young adults.

Examining the indirect effects associated with postsecondary education, shared activities ($\beta = 0.01, p < 0.001$) and school social capital ($\beta = 0.01, p < 0.001$) both have indirect effects on volunteering, though the practical significance is questionable. Parental income ($\beta = 0.02, p < 0.001$) and parental education ($\beta = 0.04, p < 0.001$) on volunteering are also increased with higher levels of educational attainment. Women ($b = 0.04, p < 0.001$) increased their patterns of volunteering via postsecondary education. Postsecondary education did not affect volunteering for Black or Latino young adults, but Asian ($b = 0.03, p < 0.001$) young adults slightly increased their volunteering through higher levels of postsecondary educational attainment.

CHAPTER 6. DISCUSSION

Recognizing that a well-functioning democracy requires participation from its citizens, this study utilizes a life course perspective to test pathways for civic engagement in young adulthood, focusing on the role of social capital in adolescence and postsecondary educational attainment in emerging adulthood in shaping young adults' civic engagement. We hypothesized: 1) higher levels of social capital in adolescence are associated with higher levels of civic engagement in young adulthood; (2) that postsecondary educational attainment in emerging adulthood is associated with higher levels of civic engagement in young adulthood; and (3) postsecondary education has a positive mediating effect on the relationship(s) between social capital and civic engagement in young adulthood. We next discuss each hypothesis, examine other notable results, and discuss how this study relates to human development and family studies. Throughout this discussion, we highlight important implications for practice and potential avenues for future research.

Social Capital in Adolescence and Civic Engagement in Young Adulthood

We examined social capital and civic engagement, theorizing that higher levels of social capital in adolescence leads to higher levels of civic engagement in young adulthood. Our findings support this hypothesis. This was true for both bonding social capital, which reinforces relationships among homogenous groups, and bridging social capital, which establishes and strengthens relationships to external groups (Putnam, 2000). Bonding social capital was operationalized with affective and behavioral measures; in previous studies similar measures were found to be related to civic involvement during emerging adulthood (Duke et al., 2009; Mahatmya & Lohman, 2012). Bridging social capital was operationalized using a measure of bridging social capital; in a previous study, using the first three waves of Add Health, this

measure was found to be related to civic involvement (Mahatmya & Lohman, 2012). Greater levels of social capital in adolescence lead to greater levels of civic engagement in young adulthood. These relationships exist as direct paths and as indirect paths through higher education, reflecting other research which suggests civic development begins in adolescence and is shaped throughout emerging adulthood (Johnson, 2017; Youniss et al., 1997; Wray-Lake & Syvertsen, 2011). Therefore, when possible, research on civic engagement and higher education should be designed with pre-collegiate factors in mind.

Both bonding and bridging social capital consistently exhibit a positive relationship to civic engagement. During civic development, the experience of forming connections outside the family (e.g., in school) leads to greater propensity for political and nonpolitical civic engagement. Bridging social capital shows the second strongest total effect on nonpolitical civic engagement and third strongest effect on political civic engagement. Additionally, behavioral bonding capital within the family is the second strongest predictor of political civic engagement and an important developmental factor for nonpolitical civic engagement. When parents spend more time with their children, introduce them to community institutions (e.g. religious institutions, museums, concerts, sporting events), and have conversations around personal issues (e.g. school, romantic relationships, personal difficulties), the children are more inclined toward civic participation later in life. Previous scholarly research has suggested synchronization between family and school capital can be combined to put students on a path towards civic engagement (Mahatmya, Lohman, Matjasko, & Farb, 2012). That research is reaffirmed by our study.

These findings are important for two reasons. The first is practical. If high schools develop environments in which students feel connected, safe, and treated fairly by their teachers

and families role model civic participation for their children, young people are more likely to embark on social pathways that support democracy. The second implication is theoretical. Coleman (1988) suggested closure, the existence of an interconnected network of relationships, was the mechanism by which social capital encouraged individuals towards the observance of norms. This theorized relationship appears to be present in our research. Higher levels of social capital, representing stronger relational networks, led to increases in civic engagement, supporting the idea that social capital, and specifically closure, is an important force in the development of young people.

Higher Education, Emerging Adulthood, and Civic Engagement

One role of higher education in the American democracy is to prepare students for civic participation (Ehrlich, 2000; Kezar, 2004). We hypothesized that postsecondary educational participation and attainment in emerging adulthood leads to higher levels of civic engagement in young adulthood. Our study reveals that after accounting for various types of capital (social, human, and financial) in adolescence, postsecondary education has the strongest relationship with civic engagement in young adulthood. Greater levels of higher education have a large effect on political civic engagement and a medium-to-large effect on nonpolitical civic engagement. Experiences in emerging adulthood lead to greater levels of civic engagement in young adulthood, reinforcing Flanagan and Levine's (2010) assertion that trends in civic participation are delays rather than departures from civically engaged social pathways. This leads us to the theoretical implication that emerging adulthood is a useful theoretical lens in the study of civic development – especially when examining development across the life course.

Recognizing higher education's prominent role in preparing students to participate in democracy has implications for public policy makers. The cost of college is one of the most

common barriers to higher education, with higher prices leading to lower enrollment (Allen & Wolniak, 2018). This idea is especially important in the current context of education funding. State educational appropriations per student for 2017 were \$1,000 below 2008 and almost \$2,000 below 2001 levels (State Higher Education Executive Officers Association [SHEEO], 2018). And, 2018 marked the first time more than half of states relied more heavily on tuition than publicly-funded educational appropriations to cover basic costs (SHEEO, 2018). This has shifted the cost-burden from the government onto students, suggesting young adults have to bear the costs of higher education even though there are clear public benefits for democracy. One way for elected officials and policy makers to encourage more civic participation and insure a thriving democracy is to limit the barriers for entry to, and success in, college by publicly funding higher education.

Overall, it does seem as if higher education is fulfilling part of its civic mission by preparing student for democratic participation. Yet our study looks at the aggregate, overall, effects of higher education on civic engagement in young adulthood. It is unlikely these results are uniform across students and their experiences. For example, students who participate in high-impact practices during their time in college exhibit greater civic engagement in young adulthood even relative to their college-going peers (Myers et al., 2018). Therefore, research within higher education should build from our findings, examining if these results hold across groups (e.g. first-generation college students, low SES students, part-time v. full-time enrollees), determining if opening pathways to college results in higher functioning democratic communities, and investigate the specific practices within higher education that lead to greater levels of civic engagement.

Postsecondary Education's Mediating Role in Civic Engagement

We predicted postsecondary education would have a positive mediating effect on civic engagement in young adulthood. Our study supports this hypothesis. The indirect effects of college can be interpreted as the ways the different types of bonding lead to college-going and how postsecondary education in emerging adulthood alters the relationships adolescence and civic engagement in young adulthood. Overall, the indirect effects of higher education are much greater for political civic engagement than nonpolitical civic engagement, suggesting higher education is more influential in shaping adults' political participation than nonpolitical participation. Across multiple background characteristics and types of social capital, there is either a positive or nonsignificant indirect effect associated with postsecondary educational attainment. For the significant, there is a positive effect associated with going to college, meaning that continuing education into emerging adulthood not only affects civic engagement but positively alters the relationships between important developmental forces in adolescence and civic engagement in adulthood.

While greater social capital leads to greater levels of civic engagement, higher education builds on these relationships. Decomposing the total effects into indirect effects, 23 percent of the relationship between behavioral bonding social capital and political civic engagement is explained by the mediated pathway through higher education, and 36 percent of the relationship between bridging social capital and political engagement is mediated through higher education. This suggests that while these factors may lead to college-going directly, attending and further, graduating from postsecondary education has an additive effect on political participation. Social capital also has indirect pathways to nonpolitical engagement. 23 percent of the relationship between bridging social capital and nonpolitical civic engagement is mediated by higher

education, and 11 percent of the effect of behavioral bonding capital on nonpolitical engagement is indirect.

Postsecondary education mediates demographic and family characteristics too. Females who go to college have higher levels of civic engagement than their college-going male peers. This supports Thomas and colleagues (2017) finding that, examining political participation, females benefit more from college than males, and extends this finding to nonpolitical civic engagement as well. Further, examination of political participation also found the benefits of growing up in a family with greater levels of financial capital are fully mediated by the pathway through postsecondary education. This suggests that a family's financial capital does not influence voting in young adulthood, but rather children from families with higher incomes are more likely to go to college, and for those children that do they are more likely to vote.

Finally, across both volunteering and voting, when there is an indirect pathway for racial identity, the mediating effect of college is positive. This suggests that young people with minoritized identities who attend college are more inclined towards civic participation in adulthood. This pattern is encouraging; however, the recent research suggests the positive indirect effect of college related to race is at-risk because states are decreasing public funding for higher education (SHEEO, 2018). Allen and Wolniak (2018) looked at the effects of increasing tuition at public 4-year and community colleges on institution's racial/ethnic composition. They found that higher tuition increases have negatively and significantly affected the racial and ethnic diversity of open-access and non-selective public and 4-year and 2-year colleges. In other words, higher tuition leads to lower ethnic and racial diversity, which, in turn, may result in fewer opportunities for civic development for racially-minoritized young people.

Discussion of Human Development and Family Studies

This study contributes to the extant knowledge in the area of human development and family studies in multiple ways. It reifies the idea that civic participation is a developmental process occurring across the lifespan. In that developmental process, our study highlights the role of family as a powerful and enduring socializing structure. Our study also recognizes that family is not a monolith, adolescents are shaped by their experience in other social structures, especially schools. Even though young people may legally enter adulthood at 18 in the United States, development does not stop when young people exit adolescence. Emerging adulthood is an important developmental period in the life course and participation in postsecondary education mediates the developmental paths young people are on as they enter young adulthood. To continue promoting positive civic development, it is important to consider, investigate, and intentionally shape the experiences of young people in productive and meaningful ways.

CHAPTER 7. CONCLUSION

Education has a central and fundamental role to supporting the American democracy (Bok, 2013; Ehrlich, 2000; Kezar, 2004; National Task Force, 2012). Recently, the links between going to college and civic engagement have been questioned (Flanagan & Levine, 2010; Kam & Palmer, 2008; Kingston, 2016). Other research has found that levels of civic engagement among young people have decreased for younger generations (Flanagan & Levine, 2010; Putnam, 2000; Syvertsen et al., 2011). In 2000, Putnam said America needed to “rekindle civic engagement” (p. 403) for the generation of young people that will come of age in the early years of the 21st century.

Our study suggests higher education does just that, leading to higher levels of political and nonpolitical civic engagement among young adults in America. Additionally, and in response to those who have found decreases in civic engagement, our study echoes Flanagan and Levine (2010) that these decreases might be delays, not departures – highlighting the value of emerging adulthood as a theoretically valuable frame for investigating the civic development of young people across the life course. We investigated these trends considering multiple dimensions of civic engagement, modeling theoretically relevant experiences across distinct developmental periods. Our study used nationally representative, longitudinal data, to account for multiple important developmental pre-collegiate factors, assess civic engagement in young adulthood, and includes individuals who did not attend and/or complete higher education as well as those who did. Ultimately, we believe higher education has and continues to be an important, formative experience in the civic development of young people.

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TABLES AND FIGURES

Table 1 Construct Description and Descriptive Statistics

<i>Outcomes: Voting and Volunteering</i>		
Political Civic Engagement	How often do you usually vote in local or statewide elections?	M = 1.34 SD = 1.16
Nonpolitical Civic Engagement	In the past 12 months, about how many hours did you spend on volunteer or community service?	M = 0.66 SD = 1.07
<i>Mediator</i>		
Postsecondary Educational Attainment	What is the highest level of education that you have achieved to date? (0 = high school equivalency)	M = 1.95 SD = 1.74
<i>Primary Predictors</i>		
Affective Family Social Capital (i.e. Parent-Child Bond)	How close to you feel to your mother?; How much do you think she cares about you?; Overall, you are satisfied with your relationship with your mother?; How close to you feel to your father?; How much do you think he cares about you?; Overall, you are satisfied with your relationship with your father?; How much do you feel that your family pays attention to you?	M = 4.32 SD = 0.58 $\alpha = 0.81$
Behavioral Family Social Capital (i.e. Shared Activities)	Which of the following things have you done with your [mother and father] in the past four weeks: Gone Shopping; Played a Sport; Gone to a religious service or church-related event; Talked about someone you're dating or a party you went to; Gone to a movie, play, museum, concert, or sports event; Had a talk about a personal problem you were having; Had a serious argument about your behavior; Talked about your school work or grades; Worked on a project for school; Talked about other things you're doing in school	M = 6.54 SD = 3.43 $\alpha = 0.70$
Bridging Social Capital (i.e. School Social Capital)	How much do you agree or disagree with the following statements: You feel close to people at your school; You feel like you are part of your school; You are happy to be at your school; The teachers at your school treat students fairly; You feel safe in your school How much do you feel that your teachers care about you?	M = 3.67 SD = 0.71 $\alpha = 0.76$
<i>Covariates</i>		
Parental Education	How far did you go in school? (0 = high school equivalency)	M = 0.70 SD = 1.25
Parental Income (In Thousands)	About how much total income, before taxes did your family receive in 1994? Include your own income, the income of everyone else in your household, and income from welfare benefits, dividends, and all other sources.	M = 53.86 SD = 36.30

Table 2 Sample Characteristics and Dependent Variable Means

	Percent of Sample	Voting at Wave IV	Volunteering at Wave IV
<i>Race at Wave I</i>			
Asian/Asian-American	4.66	1.00 (1.10)	0.69 (1.12)
Black/African American	9.11	1.68 (1.20)	0.57 (0.99)
Hispanic/Latino	12.10	1.07 (1.15)	0.51 (0.98)
Non-Hispanic White	74.14	1.40 (1.14)	0.69 (1.06)
<i>Biological Sex at Wave I</i>			
Male	51.26	1.35 (1.17)	0.63 (1.06)
Female	48.74	1.40 (1.15)	0.68 (1.04)
<i>Grade at Wave I</i>			
9th grade	26.00	1.23 (1.16)	0.67 (1.05)
10th grade	25.29	1.35 (1.15)	0.67 (1.10)
11th grade	23.83	1.47 (1.15)	0.61 (0.99)
12 th grade	24.88	1.49 (1.14)	0.69 (1.07)
<i>Parental Education</i>			
8 th grade or less	4.95	1.01 (1.15)	0.42 (0.90)
Less than high school	8.66	0.99 (1.15)	0.47 (0.89)
High school	32.73	1.23 (1.15)	0.56 (0.98)
More than high school, no college degree	28.70	1.46 (1.15)	0.72 (1.09)
College degree	15.26	1.63 (1.09)	0.78 (1.16)
Education beyond college	9.71	1.81 (1.07)	0.94 (1.18)
<i>Parental Income</i>			
\$0 to \$30,000	25.40	1.13 (1.16)	0.55 (1.02)
\$31,000 to \$50,000	23.90	1.40 (1.20)	0.60 (1.04)
\$51,000 to \$68,000	25.72	1.48 (1.12)	0.77 (1.11)
\$69,000 to \$250,000	24.98	1.59 (1.09)	0.75 (1.06)
<i>Mediating Variable - Postsecondary Educational Attainment</i>			
Less than high school	5.19	0.51 (0.89)	0.17 (0.55)
High school equivalent	16.40	0.93 (1.12)	0.35 (0.79)
Some college	33.41	1.32 (1.14)	0.61 (1.06)
Associate's degree	0.37	1.89 (0.98)	0.83 (1.16)
Bachelor's degree	22.00	1.68 (1.10)	0.85 (1.13)
Some graduate school	13.70	1.51 (1.15)	0.83 (1.14)
Graduate Degree	8.93	1.84 (1.00)	0.91 (1.07)

Table 3 Correlations Between Primary Constructs

	1	2	3	4	5	6
1. Volunteering	1.00					
2. Voting	0.19***	1.00				
3. Postsecondary Education Attainment	0.19***	0.25***	1.00			
4. Bridging Social Capital	0.08***	0.08***	0.13***	1.00		
5. Parent-Child Bond	0.03	0.06***	0.06***	0.34***	1.00	
6. Shared Activities	0.14***	0.12***	0.19***	0.17***	0.31***	1.00

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

Table 4 Structural Equation Results for Voting

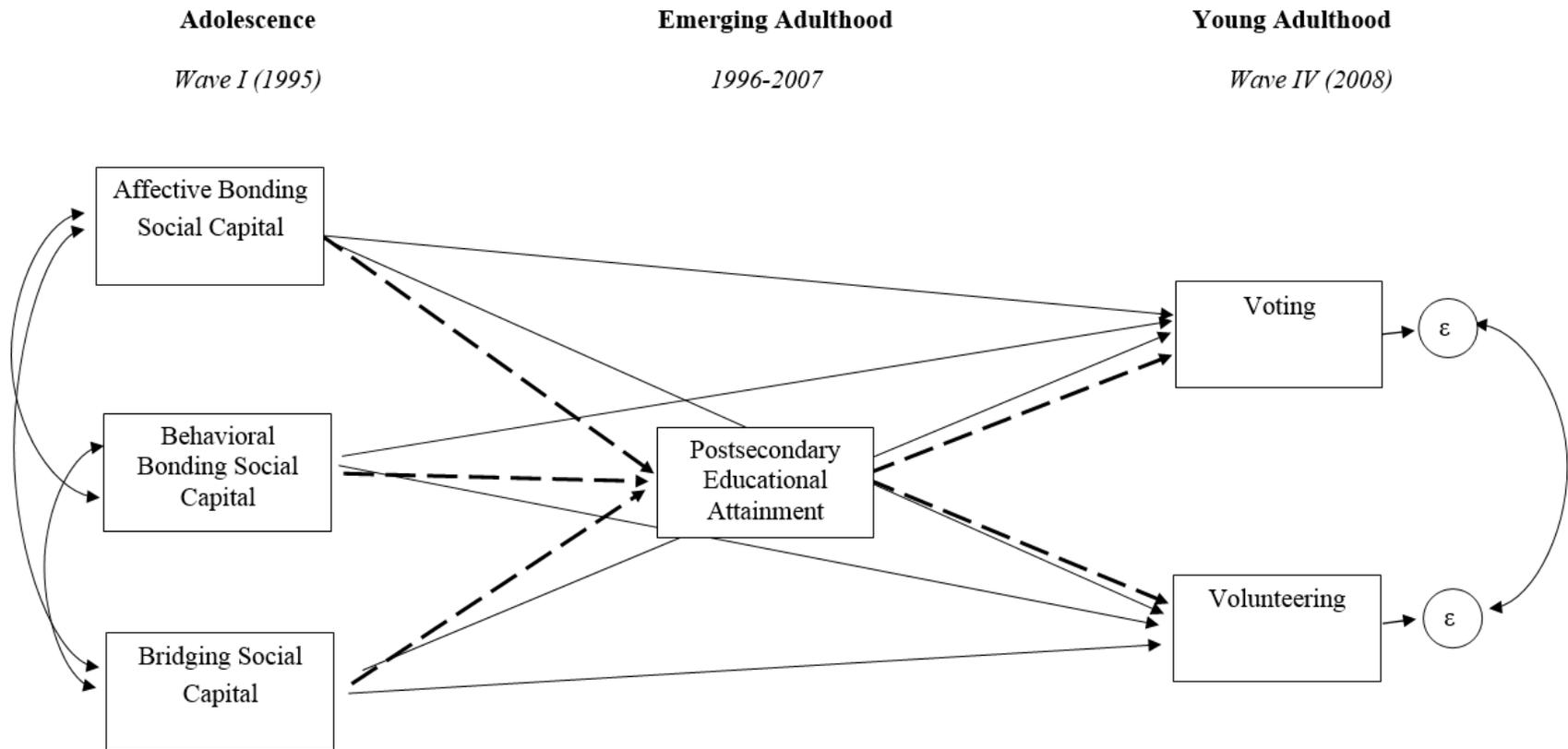
	Parameter Estimate	95% CI	SE	Standardized Estimate	Percent of Total Effects
Constant				0.52	
<i>Total Effects</i>					
Postsecondary Education	0.13	[0.12, 0.15]	0.01	0.20 ***	
Affective Bonding Capital	0.02	[-.03, 0.07]	0.03	0.01	
Behavioral Bonding Capital	0.03	[0.02, 0.04]	0.00	0.08 ***	
Bridging Social Capital	0.25	[0.19, 0.31]	0.03	0.06 ***	
Female	0.06	[0.05, 0.07]	0.01	0.03 ***	
Asian	-0.33	[-0.43, -0.23]	0.05	-0.08 ***	
Black	0.36	[0.28, 0.45]	0.04	0.11 ***	
Latino	0.03	[-0.11, 0.05]	0.04	-0.01	
Parental Income	0.00	[0.00, 0.00]	0.00	0.04 **	
Parental Education	0.12	[0.09, 0.15]	0.01	0.13 ***	
<i>Direct Effects</i>					
Affective Bonding Capital	0.02	[-0.03, 0.07]	0.03	0.01	-
Behavioral Bonding Capital	0.02	[0.01, 0.03]	0.00	0.06 ***	76.51
Bridging Social Capital	0.06	[0.02, 0.10]	0.02	0.04 ***	64.34
Postsecondary Education	0.13	[0.12, 0.15]	0.01	0.20 ***	-
Asian	-0.38	[-0.47, -0.29]	0.05	-0.09 ***	84.81
Black	0.35	[0.27, 0.43]	0.04	0.10 ***	96.11
Latino	-0.41	[-0.13, 0.03]	0.04	-0.02	-
Parental Income	0.000	[-0.00, 0.00]	0.00	0.01	-
Parental Education	0.07	[0.04, 0.10]	0.01	0.08 ***	61.02
<i>Indirect Effects</i>					
Affective Bonding Capital	0.01	[-0.00, 0.02]	0.01	0.00	-
Behavioral Bonding Capital	0.01	[0.00, 0.01]	0.00	0.02 ***	23.37
Bridging Social Capital	0.03	[0.03, 0.04]	0.00	0.02 ***	35.68
Female	0.06	[0.05, 0.07]	0.01	0.03 ***	-
Asian	0.05	[0.03, 0.07]	0.01	0.01 ***	15.19
Black	0.01	[-0.00, 0.03]	0.01	0.00	-
Latino	0.02	[0.00, 0.03]	0.01	0.01 *	-
Parental Income	0.00	[0.00, 0.00]	0.00	0.03 ***	65.18
Parental Education	0.05	[0.04, 0.05]	0.00	0.05 ***	38.48
<i>Dependent Variable Correlation</i>					
e.voting*e.volunteering				0.12 ***	

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

Table 5 Structural Equation Results for Volunteering

	Parameter Estimate	95% CI	SE	Standardized Estimate	Percent of Total Effects
Constant				0.32	
<i>Total Effects</i>					
Postsecondary Education	0.08	[0.07, 0.10]	0.03	0.14 ***	
Affective Bonding Capital	-0.07	[-0.12, -0.02]	0.02	-0.02 **	
Behavioral Bonding Capital	0.04	[0.03, 0.04]	0.00	0.12 ***	
Bridging Social Capital	0.09	[0.05, 0.13]	0.02	0.06 ***	
Female	0.07	[0.03, 0.11]	0.02	0.03 **	
Asian	-0.08	[-0.17, 0.01]	0.05	-0.02	
Black	-0.04	[-0.11, 0.03]	0.04	-0.01	
Latino	-0.12	[-0.19, -0.05]	0.04	-0.04 **	
Parental Income	0.00	[-0.00, 0.00]	0.00	0.01	
Parental Education	0.08	[0.06, 0.11]	0.01	0.11 ***	
<i>Direct Effects</i>					
Affective Bonding Capital	-0.07	[-0.12, -0.03]	0.02	-0.04 **	-
Behavioral Bonding Capital	0.03	[0.02, 0.04]	0.00	0.10 ***	88.67
Bridging Social Capital	0.07	[0.03, 0.11]	0.02	0.05 ***	77.05
Postsecondary Education	0.08	[0.07, 0.10]	0.01	0.14 ***	-
Female	0.03	[-0.02, 0.08]	0.03	0.014	-
Asian	-0.11	[-0.20, .03]	0.04	-0.03 *	-
Black	-0.05	[-0.12, 0.02]	0.04	-0.02	-
Latino	-0.13	[-0.20, -0.06]	0.04	-0.05 ***	92.49
Parental Income	-0.000	[-0.00, 0.00]	0.00	-0.01	-
Parental Education	0.06	[0.03, 0.08]	0.01	0.07 ***	65.53
<i>Indirect Effects</i>					
Affective Bonding Capital	0.00	[-0.00, 0.01]	0.00	0.00	-
Behavioral Bonding Capital	0.00	[0.00, 0.01]	0.00	0.01 ***	11.33
Bridging Social Capital	0.02	[0.01, 0.03]	0.00	0.01 ***	22.95
Female	0.04	[0.03, 0.05]	0.01	0.02 ***	56.25
Asian	0.03	[0.02, 0.04]	0.01	0.01 ***	-
Black	0.01	[-0.00, 0.02]	0.01	0.00	-
Latino	0.01	[0.00, 0.02]	0.01	0.00 *	7.51
Parental Income	0.00	[0.00, 0.00]	0.00	0.02 ***	-
Parental Education	0.03	[0.02, 0.03]	0.00	0.04 ***	34.16
<i>Dependent Variable Correlation</i>					
e.voting*e.volunteering				0.12 ***	

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



Notes: (1) Direct associations are shown by solid lines while proposed mediational pathways are shown by dashed lines. (2) Wave I Covariate Variables included in the model include race, biological sex, parental education level, and household income.

Figure 1 Theoretical Model

APPENDIX. IRB APPROVAL

IOWA STATE UNIVERSITY
OF SCIENCE AND TECHNOLOGY

Institutional Review Board
Office of Research Assurances
Vice President for Research
1138 Pearson Hall
Ames, Iowa 50011-2207
515 294-4566
FAX 515 294-4267

Date: 1/7/2011

To: Dr. Brenda Lohman
2330 Palmer, Suite 6230

From: Office for Responsible Research

Title: The Ecology of Adolescent Well-Being

IRB Num: 10-587

Submission Type: New

Exemption Date: 1/7/2011

The project referenced above has undergone review by the Institutional Review Board (IRB) and has been declared exempt from the requirements of the human subject protections regulations as described in 45 CFR 46.101(b). The IRB determination of exemption means that:

- **You do not need to submit an application for annual continuing review.**
- **You must carry out the research as proposed in the IRB application**, including obtaining and documenting informed consent if you have stated in your application that you will do so or if required by the IRB.
- **Any modification of this research should be submitted to the IRB on a Continuing Review and/or Modification form, prior to making any changes**, to determine if the project still meets the federal criteria for exemption. If it is determined that exemption is no longer warranted, then an IRB proposal will need to be submitted and approved before proceeding with data collection.

Please be sure to **use only the approved study materials** in your research, including the **recruitment materials and informed consent documents that have the IRB approval stamp**.

Please note that you must submit all research involving human participants for review by the IRB. **Only the IRB may make the determination of exemption**, even if you conduct a study in the future that is exactly like this study.