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vMOBilize:

Gamifying Civic Learning and Political Engagement in a Classroom Context

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Introduction

Only a little over half of all eligible voters in the United States turn out to vote. Among the groups least likely to vote, or otherwise participate in the political process, are younger voters (Esser and De Vreese 2007, Wattenberg 2008). Ironically, at the very time when typical individuals are forming their political identity, they are particularly likely to tune out and be turned off. Political habits developed during early adulthood, in turn, can last a lifetime (Plutzer 2002, Gerber, Green & Shachar 2003). A key to raising the political and civic engagement among Americans is thus to reach them before they develop a lifelong habit of non-participation.

Scholars have long sought to understand the factors that lead individuals to engage with politics (Powell, 1986; Blais, 2006). Yet despite all of the scholarly attention heaped upon the topic, a basic problem remains unresolved: we can lead the horse to water (by making information and opportunities to participate available), but we cannot reliably make it drink (that is, take advantage of such information and opportunities and actually participate). This study proposes a new approach to addressing this age-old conundrum, applied particularly to younger voters, the group arguably most amenable to pro-engagement interventions and upon which the longer-term trajectory of political participation in America rests. We do so through a process known as gamification: using a structured game to engage young potential voters in the political process, thereby increasing their political knowledge, interest, and sense of efficacy.

We begin by reviewing the literatures on political participation, with an emphasis on younger voters, and gamification. We then describe our intervention, a web-based platform that we have named vMOBilize. Next, we present the results from a controlled experiment aimed at

assessing the effects of participation in vMOBilize. The final section discusses the implications of our results to date and offers conclusions.

The Challenge of Youth Political Engagement

Over the past half century, scholars have grown increasingly concerned about the lack of political engagement among young people in the United States (Delli Carpini, 2000; Galston, 2004; O'Toole, Lister, Marsh, Jones, & McDonagh, 2003; Raphael, Bachen, Lynn, Baldwin-Philippi, & McKee, 2010; The Institute of Politics at Harvard University [IOP], 2016; Zukin, Keeter, Andolina, Jenkins, & Carpini, 2006). The Center for Information and Research on Civic Learning and Engagement (CIRCLE) reports that the 2014 federal election had the lowest youth turnout rate ever recorded. It also featured the lowest proportion of young people reporting that they were registered to vote in the past forty years (*2014 Youth Turnout*, n.d.). CIRCLE argues that American youths were “under-mobilized” in 2014 in the sense that a number of young people that did register did not actually vote in the election. Unfortunately, it’s not just at the polls that youths are not participating.

According to a 2016 poll conducted by the Institute for Politics at Harvard University (IOP), 91% of the young people surveyed had never participated in a “government, political, or issue-related organization” (p. 13). Additionally, when young people were asked about their participation in other political activities, such as attending a political/demonstration or liking a political candidate/issue on Facebook, the majority of young people had never participated in these activities, either (IOP, 2016). Some contend that young people’s lack of political participation may stem from a lack of political efficacy (Manganelli, Lucidi, & Alivernini, 2014; Moeller, de Vreese, Esser, & Kunz, 2014). Many respondents to the IOP’s (2016) poll reported

feeling that their political efforts did not yield “tangible results” and that they felt that they did not have a say in what the government does (p. 21-22). Respondents also seemed to have little faith in government and government officials (IOP, 2016). 60% felt that government officials are “motivated by selfish reasons” and 48% believe that politics are “no longer able to meet the challenges [the] country is facing” (IOP, 2016, p. 24).

In addition to a lack of political efficacy, young people tend to lack political knowledge—possibly contributing to a sense that they do not know enough to participate in political life. According to the IOP (2016) 41% of the young people polled felt they needed “more practical knowledge about politics before getting involved” (p. 20). CIRCLE reports in its 2013 factsheet on political knowledge among young people that only 24% of twelfth graders had “proficient” scores in civics on the National Assessment of Educational Progress (NAEP). CIRCLE (2013) also found in its own survey of young people’s political knowledge in 2013 that there was an overall need for better informing youth about political topics (p. 4).

Research has shown that political knowledge contributes to a healthy democracy (Delli Carpini & Keeter, 1996). Furthermore, America’s young people do not seem interested or engaged with the nation’s politics; 71% do not consider themselves politically engaged and 52% do not follow national politics closely (IOP, 2016). Clearly, a lack of political knowledge, engagement and political efficacy among America’s young people are significant issues that merit scholarly attention – and intervention.

Political Polarization in the United States

While low rates of political participation, efficacy, and knowledge among young people have been of concern to scholars for many years, an additional troubling trend has alarmed

scholars over the past decade. The rise of political polarization in the United States has potentially devastating consequences on citizens, policy-making and democratic processes, more broadly defined (Abramowitz & Saunders, 2005; McCarty, Poole, & Rosenthal, 2016; Sinclair, 2014). According to Fiorina and Abrams (2008) political polarization is “movement away from the center toward the extremes” (p. 567). In other words, as citizens beliefs become more “left” or “right” their political and policy preferences become more divergent. Stroud (2011) argues that this shift towards more partisan beliefs among citizens is in part caused by selective media exposure. She suggests that when citizens select media that agrees with their pre-existing beliefs they reinforce those beliefs and become increasingly polarized.

As voters become more partisan, they become more likely to vote for the more ideologically extreme members of their party. This phenomenon can lead to animus, and incivility, but also to gridlock and governmental failure. As the recent failure of Senate Republicans to pass a health care bill attests, absent the ability to negotiate, communicate, and compromise, policymaking becomes paralyzed (Abramowitz & Saunders, 2005; Baldassarri & Gelman, 2008; McCarty et al., 2016; Sinclair, 2014). The increasingly partisan nature of America’s voting population is concerning because as the voters become more partisan so do the politicians they put into office. One way to counteract the growing polarization would be to engage the country’s youth in politics (Prior & Stroud, 2015). Prior and Stroud (2015) argue that the most effective way to reduce partisanship would be to “increase civic motivation among younger citizens without encouraging reflexive partisanship” (p. 190). That said, decoupling civic motivation from reflexive partisanship is not a simple task. Doing so requires making something that is inherently partisan less polarizing. *One* possible means of doing so, and

thereby hopefully reengaging younger voters with politics, is to make doing so more enjoyable and fun.

Gamification

The term ‘gamification’ is a contested term within the scholarly community (Brigham, 2015; Deterding, Dixon, Khaled, & Nacke, 2011; Jagoda, 2013; Nicholson, 2015; Seaborn & Fels, 2015; Werbach, 2014). Scholars have offered many different definitions since the term came into vogue in 2010 (Deterding et al., 2011). For example, Jagoda (2013) defines gamification as a kind of “seepage” of game mechanics and objectives into our everyday lives (p. 116). Werbach (2014), on the other hand, defines it as “the process of making activities more game-like” (p. 266). Nicholson (2015) offers yet another definition of what he calls “meaningful gamification” which he describes as “using game design elements to help build intrinsic motivation [...] in non-game settings” (p. 4). Still another definition is provided by Seaborn and Fels (2015) who define gamification as “the intentional use of game elements for a gameful experience of non-game tasks and contexts,” and attempts to combine three of the most popular definitions of gamification (p. 17).

Despite the variety of available definitions, Deterding et al. provide the most widely employed definition (Seaborn & Fels, 2015): “the use of game design elements in non-game contexts” (p. 2). To further complicate matters gamification is often confused with similar yet distinct terms such as serious games. Serious games are fully developed games for non-entertainment purposes (Deterding et al., 2011) For example, a video game that was designed to teach math and required players to solve math problems to progress would be a serious game. Gamification is distinct because it only utilizes game elements in non-game contexts. In other

words, it is only using parts of games and applying them outside of the game. Regardless of the definition, however, the goal of gamification remains the same, to alter people's behavior.

Pro-social gamification

Gamification has been used in a number of socially beneficial ways (Morford, Witts, Killingsworth, & Alavosius, 2014; Seaborn & Fels, 2015). Such diverse fields as online communities, health and wellness, crowdsourcing, sustainability, orientation, research, and marketing (Seaborn & Fels, 2015) have applied this technique. It has also been used to encourage regular exercise, help people cope with concussions, and decrease household energy use (Morford et al., 2014). Education is one of the areas that has most commonly employed gamification (Seaborn & Fels, 2015). In one study, Wiggins (2016) examined the use of game-based learning (GBL) and gamification in college classes and found that the majority of instructors used some form of GBL/gamification in their classes. The use of gamification in education has seen a number of successes. In their meta-analysis of gamification in education, Dicheva, Dichev, Agre, and Angelova (2015) found that a majority of the surveyed articles reported "encouraging results" (p. 83). Additionally, the majority of the authors believed that "gamification has the potential to improve learning" (Dicheva et al., 2015, p. 83).

Gamification of pedagogy

In recent years teachers in higher education have increasingly embraced new technologies and experiential approaches to learning - including GBL. GBL describes the use of actual games (digital or non-digital) to "enhance learning and teaching" (Wiggins, 2016, p. 18). Wiggins (2016) reports that in a survey of instructors in higher education 83% used some form of GBL in their courses. Furthermore, Wiggins (2016) reports that 39% of surveyed instructors

reported that they would likely use GBL in the next academic year. Gamification has also become increasingly popular among educators in higher education (Morford et al., 2014; Seaborn & Fels, 2015; Wiggins, 2016).

Gamification of civics and political engagement

In addition to the educational, pro-social, and health-related applications of gaming, recent research points to fruitful applications of gaming in the context of civics education, civic engagement, and political participation. Long before the advent of computer games and computer simulations, Vogel (1973) found that role-playing a politician as part of a live simulation game increased participants' political efficacy. In the context of a longitudinal study of a political simulation, Bernstein and Meizlish (2003) found long-term effects of game play on participants' civic knowledge, political cynicism, and civic participation. Three years after playing the simulation game, participants displayed greater political efficacy and knowledge, and less political cynicism than the control group (Bernstein & Meizlish, 2003). Gamification has also been applied to increase political knowledge and encourage citizens to stay informed. Sotirakou and Mourlas (2015) report the effectiveness of a gamified news reading application designed to encourage people to read the news. Initial evaluation of the prototype was generally positive with participants interested in the app and what it had to offer (Sotirakou & Mourlas, 2015). The results of these studies suggest that games and gamification can help to increase civic knowledge.

While these studies look at gaming applications and their impact on knowledge and efficacy, gamification has also been applied to civic life in ways that promote concrete aspects of political participation and civic involvement. Several studies have used gamification to increase

citizens' involvement with their neighborhood and local governments (Coenen, 2014; Gordon & Baldwin-Philippi, 2014; Oliveira & Petersen, 2014). Gordon and Baldwin-Philippi (2014) found that a "well-designed game can ... encourage people to reflect on specific policy and planning decisions" (p. 779). Similar studies by Oliviera and Petersen (2014) and Coenen (2014) report equally successful results. In addition to encouraging engagement on the local level, gamification can also facilitate attaining citizens' input on policy matters (Hu & Chen, 2015; Parycek, Sachs, Sedy, & Schossböck, 2014; Santos, Zambalde, Veroneze, Botelho, & De Souza Bermejo, 2015). Hu and Chen (2015) conducted interviews of users of a gamified public forum designed to encourage public input on policy matters. Their initial interviews indicate that gamification had a significant impact on the forum and that it effectively encouraged more info exchange and engagement among users (Hu & Chen, 2015). Parycek et al. (2014) investigated the effectiveness of a gamified social media platform designed to bring politicians and citizens together, and found that the platform was particularly well-received by young people. In a case study of a mobile game designed to increase civic engagement in Brazil, Santos et al. (2015) found significant effects on key outcomes, including on the generation and implementation of projects and policies that had been crowdsourced through the platform. Clearly, gamified online platforms can be effective in increasing citizens' knowledge, efficacy, political engagement and participation.

Putting it together: vMOBilize

The current project employs gamification to help combat low rates of political participation, efficacy and knowledge among young Americans, in a way that avoids the partisan identity-politics that often accompany political engagement. As a supplement to university coursework in communication, political science, and public policy, we created a non-partisan online team-based civics engagement platform, called vMOBilize. The platform incorporates

core concepts of gamification to increase political knowledge, efficacy, and participation among college students in a non-partisan context. Development and implementation of the game in this way: 1) builds upon the demonstrable benefits of gamification on pro-social outcomes, 2) expands upon novel uses of technology and gaming in educational contexts and 3) directly responds to the call by Prior and Stroud for scholars to explore avenues for youth civic engagement outside of partisan politics.

Goal 1: Increase democratically healthy outcomes including political participation, efficacy, political interest/attention, voting, political discussion, political knowledge, and news attention among college students.

Goal 1a: Stimulate political engagement among the least politically knowledgeable.

Goal 2: Increase these outcomes in a way that is enjoyable, rewarding, and socializes students into an appreciation for politics and current events.

vMOBilize

vMOBilize (vMOB) is a social network web-based civic participation game created to engage young people in politics and civic life. The game is designed to be used as a supplement to coursework in a high school or college-level class. Players can join the game as either a team captain and start their own teams or they can join an already existing team. Players work to complete challenges from four different categories and earn points for their teams by doing so. They can also earn virtual rewards, such as badges, for their efforts. For the game evaluation process discussed here, interested students signed up as “captains” and were assigned teams of six to eight students each. Students were incentivized with extra credit that would be added to

their final exam score at the end of the semester based on both their individual *and* team gameplay. Using a scoring algorithm that included both students' individual *and* team scores, at the end of the semester, students were ranked for gameplay across the class. The top fifth received 5 points extra added to their exam, the next fifth received 4 points, the next 3 ...and so on.

Weekly Challenges

The internal workings of the game are driven by the completion of weekly challenges made available to players on a rolling basis. Each week, the game offers three to four new challenges that are uploaded by a team of research assistants working behind the scenes. Challenges can be made available to all players – or to specific players based on what course they are in or what university they are attending. Sometimes this feature is particularly helpful when a challenge is only relevant to – or physically available to – students at a particular university. Challenges made available to players fall into four different categories” 1) article challenges, 2) survey challenges, 3) photo upload challenges, and 4) “check in” location challenges.

Article challenges. For the “article challenges,” players are brought to a website featuring an article, news report, or other content to view. After viewing the content and closing the pop-up window, players are then issued a multiple-choice question on the content of the media they consumed. Once they provide the correct answer, they earn points.

Survey challenges. For the “survey challenges,” players complete an embedded Qualtrics survey that includes both closed- and open-ended questions on varied topics. Topics include opinions on public policy, candidates, and institutions; thoughts on current events and

news headlines, and open-ended questions like “which candidate would you like to dine with and why?” Upon completion of the survey, players earn points.

In a secondary set of challenges, the vMOB assistants analyzed survey responses, and used *those* responses as stimuli for a survey the following week. For example, after surveying students on the most important issues facing the nation, vMOB staff summarized those results, and presented it to players in the form of a bar graph, along with the prompt, “are you surprised by your classmates’ opinions on this issue? Why or why not?” In this way, the game capitalizes on interactivity and feedback as player responses from one week are the subject of a survey the next.

Photo upload challenges. In the photo upload challenge, using a photo function through Twitter, players take a picture (for example, of themselves at a political event) upload the photo for points added to their scores.

“Check in” challenges. Similar to a Facebook or FourSquare “check-in” feature, a check-in challenge identifies a particular location (latitude and longitude) and a time frame during which players can “check in,” within a certain distance radius. Using GPS and location services within a player’s smart phone, the player can then indicate he/she is “present” at the given location at a given time. This is particularly useful as a verifiable way of indicating attendance at a political event occurring on one of the campuses.

Game Interface

Upon registering (either with Facebook/Twitter or with an email address and unique password), the game collects information on what vMOBilize-eligible course the student is enrolled in, and his/her zipcode. The zipcode is collected to facilitate the generation of a visual

map of players, and also to help customize challenges such as information on voter registration deadlines and primary dates. As noted, players either join the game as a team captain starting a new team (for which they are able to provide a team name and logo) or join an existing team. Once in the game, players are brought to their team page (shown in Figure 1) where challenges are visually presented in a table form with colorful icons and graphics that illustrate the number of points each challenge is worth, the percent of team members completing each challenge, and the number of days left to complete each one. As players complete challenges they see their points accrue on their team's page and their team total updated with the new points. The team page also features a "leader board" that shows what teams have the highest point totals, as well as an active "newsfeed" through which team members can "chat" with their teammates. Players can also view individual "player pages" (shown in Figure 2) where they can see any badges they have earned for particular achievements.

[INSERT FIGURE 1 HERE]

[INSERT FIGURE 2 HERE]

METHODS

We conducted a controlled study in spring 2016 to assess the impact of gameplay on key outcomes: knowledge, efficacy, participation (on and offline), and specific behaviors illustrative of participation, including registering to vote¹. Although the study was controlled, it was not a true experiment as participants were not randomized into groups. Instead, the experimental ($n = 147$) and control groups ($n = 160$) were comparably sized communication classes at one Mid-Atlantic university. The control group was unaware of vMOBilize and never saw the game or

¹ This project was approved by the Institutional Review Boards at [REDACTED] University.

completed any challenges. The experimental group was invited to register for vMOBilize and participate in challenges to earn points towards extra credit. We issued a baseline at the beginning of the semester (last week of February) to both groups followed by a post-study survey approximately ten weeks later (first week of May).

MEASURES

Dependent Variables measured at periods T1 and T2

Political Attention. Political attention was assessed by asking participants “Generally speaking, how often do you pay attention to information about politics and public affairs?” Responses were measured using a four-point scale ranging from 1 “never” to 4 “very often.” T1 ($M = 2.95$, $SD = .73$), T2 ($M = 2.96$, $SD = .71$).

Political Interest. Political interest was assessed by asking participants “Generally speaking, how interested are you in what is going on in with politics and public affairs?” Responses were measured using a five point Likert scale ranging from 1 “not at all interested” to 5 “extremely interested.” T1 ($M = 3.43$, $SD = .97$), T2 ($M = 3.42$, $SD = 1.01$).

Following the Campaign. How closely participants were following the 2016 Presidential campaign was assessed by asking participants “Would you say you are following the 2016 campaign for President of the United States...” Responses were measured using a five point scale ranging from 1 “not at all” to 5 “extremely closely.” The item was reverse coded. T1 ($M = 3.12$, $SD = 1.06$), T2 ($M = 3.14$, $SD = 1.03$).

Political Knowledge. Participants’ political knowledge was measured using a five-item index. The index consists of a series of multiple-choice questions such as “How much of a

majority is required for the U.S. Senate and House to override a presidential veto?” and “Do you happen to know what political job or political office is now held by Paul Ryan?” Participants choose their answer from three possible options including a fourth “I don’t know” option. For the posttest a sixth question, “Do you happen to know which of the following political figures endorsed Donald Trump for President?” was included. Incorrect and don’t know responses were coded “0” and correct responses coded “1.” An additive scale was calculated for these items. T1 (Cronbach’s $\alpha = .67$, $M = 2.93$, $SD = 1.57$), T2 (Cronbach’s $\alpha = .69$, $M = 3.65$, $SD = 1.79$).

Political Participation. Participants’ political participation was measured using a 10-item index. The index consists of a list of activities such as “Donated money to a campaign” and “Followed a candidate on Twitter.” Participants are asked to indicate whether they have participated in the activities by selecting “yes” (coded 1) or “no” (coded 0). An additive scale was calculated based on these items. T1 (Cronbach’s $\alpha = .74$, $M = 2.13$, $SD = 1.85$), T2 (Cronbach’s $\alpha = .73$, $M = 2.36$, $SD = 1.97$). A “virtual participation” subscale was created based on mediated and online forms of participation, including “liking” a candidate on Facebook, “following” a candidate on Twitter and watching the debates. T1 (Cronbach’s $\alpha = .62$, $M = 1.27$, $SD = .97$), T2 (Cronbach’s $\alpha = .58$, $M = 1.33$, $SD = .99$)

Political Efficacy. Political efficacy was measured using a 3-item index. The index consists of the following statements 1) “I consider myself to be well-qualified to participate in politics,” 2) “I feel that I have a pretty good understanding of the important political issues facing our country,” 3) “I think that I am better informed about politics than most people.” Each item is rated by participants on a five point scale ranging from 1 “strongly disagree” to 5 “strongly agree.” These items were combined by taking their mean. T1 (Cronbach’s $\alpha = .89$, $M = 3.09$, $SD = 1.13$), T2 (Cronbach’s $\alpha = .89$, $M = 3.05$, $SD = 1.10$).

Media Use. Participants' media use was measured using 7 items. Participants are asked to indicate how often they read/watched/listened to various media sources in the past week on a four-point scale ranging from 1 "not at all" to 4 "every day." The index consists of a list of news media such as "A 24-hour cable news channel (like CNN, MSNBC, or FOX)" and "An online news aggregator site (like Huffington Post or Yahoo news)." These media use items were combined into an additive scale. T1 (Cronbach's $\alpha = .77$, $M = 11.42$, $SD = 3.50$), T2 (Cronbach's $\alpha = .81$, $M = 11.17$, $SD = 3.55$). Additionally, a 4-item radio and online subscale was created, consisting of news aggregator use, newspaper reading (including online), NPR and political talk radio use (Cronbach's $\alpha = .65$, $M = 6.05$, $SD = 2.04$), T2 (Cronbach's $\alpha = .68$, $M = 6.21$, $SD = 2.08$).

Political Opinions. Political opinions were assessed by asking participants "Some people have opinions about many things, while others have opinions on very few things. What about you? Would you say you have an opinion about:" Responses were measured using a four-point scale ranging from 1 "almost everything" to 4 "very few things." The item was reverse coded. T1 ($M = 2.78$, $SD = .75$), T2 ($M = 2.76$, $SD = .77$).

Registered to Vote. Respondents were asked at both T1 and T2 if they were currently registered to vote in the United States "yes" (coded 1), "no" (coded 0), (T1 $M = .72$, $SD = .44$; T2 $M = .73$, $SD = .44$).

Post-test only dependent variables.

Political Discussion. As part of the posttest, participants' political discussion was measured using a 3-item index. Participants were asked to indicate on a four-point scale ranging from 1 "not at all" to 4 "every day" how often they discussed politics or the election with "family

members,” “friends,” and “social media.” These items were combined by taking their mean (Cronbach’s $\alpha = .70$, $M = 1.88$, $SD = .62$).

Voted in Primary. As part of the posttest participants were asked if they had voted in their state’s presidential primary or caucus. Participants could answer “yes” (coded 1), “no” (coded 0), or “My state's primary hasn't happened yet” (coded 0) ($M = .16$, $SD = .36$).

Vote in Presidential Election. As part of the posttest participants were asked how likely they were to vote in the presidential election in November. Responses were measured using a five-point scale ranging from 1 “I will definitely not vote in the election in November” to 5 “I will definitely vote in the election in November.” The item was reverse coded. ($M = 4.06$, $SD = 1.19$).

Game-specific measures.

For respondents in the vMOBilize treatment condition only, the post-test survey included items designed to capture their experience playing the game and their attitude and beliefs about the game.

Pleased to play again. As part of the posttest participants were asked if they would be “pleased or displeased” if they were asked to play vMOBilize in a future class. Responses were measured using a seven point Likert scale ranging from 1 “very pleased” to 7 “very displeased agree” (rev). ($M = 5.59$, $SD = 1.13$).

Game Perceptions. vMOBilize participants’ perceptions of the vMOBilize game were assessed using a six-item index. The index consists of the following statements “vMOBilize challenges were a good test of my knowledge of politics and current events,” “I felt like there was a lot of variety in the kinds of challenges available,” “I felt excited to complete the

challenges each week,” “I felt a sense of accomplishment when earning points,” “vMOBilize challenges made me pay more attention to the presidential campaign,” “vMOBilize challenges caused me to pay more attention to the news and current events,” Each item is rated by participants on a five point scale ranging from 1 “strongly disagree” to 5 “strongly agree.” (Cronbach’s $\alpha = .82$, $M = 3.5$, $SD = .63$).

Game Enjoyment. vMOBilize participants were asked about their overall favorability and enjoyment of the game using a 4-item index. The index consists of the following statements “vMOBilize is a game that I could imagine myself playing just for fun,” “vMOBilize is easy to understand,” “vMOBilize's website is pleasing to the eye,” and “Playing vMOBilize is fun.” Each item is rated by participants on a five point scale ranging from 1 “strongly disagree” to 5 “strongly agree.” (Cronbach’s $\alpha = .74$, $M = 3.26$, $SD = .61$).

Participation in Challenges. In addition to the system-captured data on participants’ completion of challenges, the survey asked respondents to self-report the extent of their participation in the challenges: “Some students had time to complete many of the vMOBilize challenges while others found they did not have time to complete very many. How about you? Would you say you...” Responses were measured using a five-point scale ranging from 1 “none of the challenges” to 5 “all of the challenges.” ($M = 3.59$, $SD = 1.09$).

Game Comments. As part of the posttest participants were asked to provide any additional thoughts they had regarding the vMOBilize game via an open-ended question.

Control Variables

Party. Participants’ political party was assessed by asking participants “Which of the following best describes your political party affiliation?” with possible responses being “Strong

Democrat” (coded 1) to “Strong Republican” (coded 6). (T1 $M = 2.74$, $SD = 1.11$; T2 $M = 2.84$, $SD = 1.05$)

Ideology. Participants’ political ideology was assessed by asking participants “Which of the following best describes your political ideology?” with possible responses being “Extremely Liberal” (coded 1) to “Extremely Conservative” (coded 5) (T1 $M = 2.62$, $SD = .86$; T2 $M = 2.66$, $SD = .85$).

Gender. Gender was assessed by self-report in response to the question “What is your gender?” Men were coded 1 and women were coded 0 (T1 males, 33%, $n = 106$; females, 67%, $n = 215$; T2 males, 33%, $n = 100$; females, 67%, $n = 207$).

RESULTS

Before running analyses to determine if we met our goals (increasing political engagement, particularly among those low in political knowledge, and doing so in an enjoyable and sustainable way), we checked the correlations of baseline measures with the treatment condition to identify factors conflated with that condition. Since this is not a randomized experiment, understanding how individual-level factors correlate with condition is even more important in order to reduce the likelihood that we attribute post-test differences to spurious confounding variables. We used GLM to test differences between the vMOBilize and control groups in t1 measures of efficacy, political knowledge, media use, political participation, virtual participation, interest, attention, following the campaign, being registered to vote, party, ideology, and gender. Of those, the only factors associated with experimental condition ($p < .05$) were political party, ideology, being registered to vote and gender, with the vMOB condition being significantly more Democratic, liberal, female, and less likely to have already registered to

vote at T1 compared to the control group. Based on these findings, we include all four of these constructs as controls in the models (see Appendix B for descriptives of baseline constructs with condition).

[INSERT TABLE 1 HERE]

To assess goal 1 (whether game play affected any of the positive dimensions of engagement or knowledge articulated in the measures section), we tested the effects of the experimental condition on various political outcomes. We first calculated ($t_2 - t_1$) change scores for all proposed dependent variables: political knowledge, efficacy, participation (and virtual participation), media use (both scales), attention, interest, following campaign, registering to vote, and political opinions (with 10 weeks between baseline and final week of gameplay). OLS regressions with robust errors were run, predicting each change score as a function of experimental condition, controlling for baseline party, ideology, gender, and having registered to vote (as those four constructs were correlated with condition at baseline). In addition to the change scores discussed above, T2 political discussion, T2 having voted in the primary, and T2 intention to vote in the general election were run as dependent variables as well. To help visually illustrate changes in individual items as a function of condition, Appendix A includes graphs of T1 and T2 means on individual items within the experimental and control groups.

Regression results indicate significant (or marginally significant) differences in three of our twelve dependent variables in the desired direction: T1 to T2 change in the 4-item media use measure, in virtual political participation, and in registering to vote (See Table 1). In each case, the change in the vMOBilize treatment condition was more positive (literally and figuratively) than the change witnessed in the control group, with participants in the vMOBilize game

reporting greater increases in talk radio, NPR and online news use, as well as greater increases in virtual political participation and voter registration.

[INSERT TABLE 1 HERE]

[INSERT FIGURE 3 HERE]

Next, to understand whether the effects of vMOBilize varied as a function of participants' baseline political knowledge (Goal 1a), we interacted the treatment condition and baseline knowledge and added the interaction as a predictor to the regression analyses described above, along with lower order terms. Results (See Table 2) indicate a significant interaction of baseline knowledge x treatment condition when predicting changes in political participation and in the 4-item media use measure ($p < .05$). Results also show a near-significant interaction of knowledge and treatment when predicting change in having registered to vote ($p < .1$). In each of these cases, the greatest increases in politically healthy outcomes were witnessed among those respondents lowest in political knowledge at baseline – indicating some success in achieving Goal 1a.

[INSERT TABLE 2 HERE]

[INSERT FIGURE 4 HERE]

Figure 4 illustrates these relationships in the context of change in the probability of registering to vote. The lines indicate the difference in the magnitude of the predicted change in whether people report being registered to vote between the treatment versus control condition at various levels of baseline political knowledge (x-axis). As shown here, the least politically

knowledgeable participants experienced the greatest benefits of the vMOBilize treatment, looking dramatically different from their control condition counterparts in their increased reports of voter registration over the 10-week game. Meanwhile, among those highest in baseline political knowledge, participation in the game did not significantly affect reported registration compared to the control. Looking at the relationships between the vMOBilize treatment and political knowledge in the context of political participation and media use (virtual only and including both on- and off-line media), we see strikingly similar patterns (see Figure 5). The least politically knowledgeable participants benefited most from the vMOBilize treatment.

[INSERT FIGURE 5 HERE]

Exploring game enjoyment.

While we do not have the capacity to *compare* enjoyment of the game to participation in some *other* political intervention, we can explore univariate descriptives of vMOBilize participants' self-reported assessments of the game. In response to the question, "Would you be pleased or displeased if you were asked to play vMOBilize in a future class?" 79% of respondents reported they would be somewhat pleased, pleased, or very pleased to play the game again ($M = 5.59$, $SD = 1.13$ on scale from 1 to 7).

Looking at the items designed to assess players' perceptions of the vMOBilize and the weekly challenges, we see consistent agreement that the game was understandable, relatively fun, gave students a sense of accomplishment, and made them feel like they wanted to pay more attention to current events and the campaign (see Table 3). Obviously, the game could be even more fun, as evidenced by the fact that only about a fifth of respondents could imagine playing the game just for fun or outside of the context of a class. But, for a successful classroom-based

intervention that showed significant increases in political engagement, these numbers provide reason for optimism.

Finally, as part of the posttest, participants were asked to provide any additional thoughts they had regarding the vMOBilize game via an open-ended question. Below is a representative sample of player comments:

- *I really enjoyed the different challenges and thought the website ran very smoothly.*
- *I enjoyed thinking about my political orientation from different perspectives and this helped me to pay more attention to the campaign.*
- *It was intriguing to learn about the current news this way*
- *I think VMOBilize did a good job of including many aspects of US politics and really got us thinking about all parts to the government.*
- *It was a great way to keep up with politics and the presidential campaigns.*
- *vMOBilize was an enjoyable game that forced me to discover where I identify politically, and be more aware of current events and the presidential election.*
- *I thought vmobilize kept me in the know with the campaign*
- *It was a great tool to get students more interested in the political world around them*
- *I think using extra credit to motivate kids to play MOBilize is great because when you do play it encourages you to want to learn more about politics.*
- *Videos were nice to watch too. This was a cool way to get us involved overall*
- *This helped me engage myself in politics. It was a positive experience that i did not mind doing outside of class*
- *I really liked it. The game even made me consider doing something with politics after college*

Discussion

This project presents the results of a non-randomized experimental evaluation of an online civic engagement game on political engagement among college students. Given the low rates of political participation and attention among younger Americans, along with the increasing polarization between liberals and conservatives, our goal was to create a fun and interactive platform through which students could engage in political life in a non-partisan way, by incentivizing political attention and participation through challenge-oriented game play. The goals of the game were twofold: 1) to increase healthy democratic behaviors and characteristics among college students, particularly among the least politically interested, and 2) to do so in a way that users considered enjoyable.

The evaluation presented here shows promising results. In terms of increasing healthy democratic behaviors and characteristics, we see significantly greater increases in media use, political participation, and being registered to vote in the vMOBilize condition compared to the control group. These results are especially encouraging when we consider the conditional effects of gameplay on healthy democratic outcomes as a function of baseline political knowledge. Here we see gameplay contributed in a compensatory way to help mitigate the gap in participation between political haves and have nots. Put simply, the students with the least political expertise experienced the greatest benefits of gameplay.

While this finding is positive on its own, it is especially good news given literature on how information and engagement interventions often result in exacerbating gaps between the information haves and have-nots. According to the knowledge gap hypothesis (Tichenor, Donohue, and Olien, 1970) information is more readily acquired among those at the

socioeconomic top than at the bottom. "... as the infusion of mass media information into a social system increases, segments of the population with higher socioeconomic status tend to acquire this information at a faster rate than the lower status segments, so that the gap in knowledge between these segments tends to increase rather than decrease" (p. 159 – 160). Due to various systemic, resource, social and cognitive-related factors, interventions tend to benefit the people who need it the *least*. What vMOBilize demonstrates is the possibility of incorporating gamification in a classroom in a way that changes the incentive structure, and reframes political engagement into something enjoyable. Rather than widening the gap between the information haves and have nots, making political engagement "fun" helped to mobilize those with the most to gain. This finding in many ways parallels research into the differential effects of consuming soft news among individuals with differing levels of political sophistication and engagement. For instance, Baum (2003) finds "strong [positive] attention and attitudinal effects among politically inattentive individuals and those lacking a great deal of formal education, but much weaker, and sometimes even opposing, effects among their more politically engaged or better-educated counterparts" (p. 187).

The final goal of this game-based intervention, of course, was to promote healthy democratic outcomes in a way that was considered enjoyable by the participants. On this latter outcome, vMOBilize was a clear success. Overall, participants considered the game enjoyable, rated the challenges positively, and overwhelmingly reported that they would be pleased to play the game again. The open-ended comments were almost unanimously positive, with several students self-reporting increased campaign attention and interest, even though the direct change-measures did not statistically significantly corroborate that story.

While incentivizing students in a college course to play vMOBilize in exchange for extra credit was a convenient way to run and evaluate the game, the lack of randomization hinders our ability to draw causal claims with confidence. Identifying baseline differences between the vMOBilize and control groups helps mitigate the effects of potential confounds, but the possibility still exists that systematic differences between the two courses, the instructors, and materials covered could have added to the differences we are attributing to “game-play.” The increases we witness could also be a result of the kind of students in the game condition at this particular university. Implementing the game more broadly, across more diverse campuses will allow us to better determine whether or not if the beneficial effects of gameplay are generalizable.

It is important to note that all three of the outcomes that benefited most from gameplay were those most closely tied to actual challenges issued through the game. The type of media use that benefited the most from gameplay was talk radio and internet-based political news (consisting of news aggregator use, newspaper reading (including online), NPR and political talk radio use). Several of the challenges issued through the game instructed players to listen to a story on *NPR* or read an online newspaper story from the *Washington Post* or *USA Today*. Second, virtual political participation (liking a candidate on Facebook, Following a candidate on Twitter, or watching the presidential debates) experienced a significantly greater bump among vMOBilize players than the control. While the game did not instruct players to engage in any of these specific behaviors, it is possible that the political game being played in an online context rendered online and mediated kinds of behaviors most salient. They are also exceptionally “easy” behaviors, with lower barriers to entry than volunteering, acquiring/wearing a t-shirt, or donating money. This is also the most common form of participation among younger citizens

(Moffett and Rice, 2016). Finally, we see an important increase in voter registration in the vMOBilize group compared to the control – a finding that holds when controlling for baseline vote registration (which is crucial given the lower baseline vote registration in the gameplay condition). Early in the semester, students were issued custom reminders through the game that the deadline to register to vote was approaching, and informing them of their own state’s primary date. Hence, this increase can be directly tied to game content.

These findings suggest that gamification of political engagement in tandem with a classroom experience holds promise as a viable way to promote political participation and attention. The benefits experienced among our least politically knowledgeable participants enhance our confidence in the promise of this platform as a mechanism to mobilize our most politically inattentive students. Moreover, by activating dimensions of political life not centered on tribal partisan identities, we hope to create positive associations with thoughtful, even-handed aspects of political engagement. The combination of high ratings from students in terms of their enjoyment of the game, and positive democratic outcomes observed in our quasi-experiment, we tentatively conclude that vMOBilize appears capable of meeting our twin goals as outlined in this study. The next step will be to replicate these findings across a broader range of classroom contexts, as well as political and policy circumstances.

TABLE 1. Main Effects of vMOBilize on Political Participation and News Consumption, and Vote Registration Relative to Control Group (Change from Pre- to Post-Treatment)

VARIABLES	Change in Full Participation	Change in Virtual Participation	Change in Media Consumption	Change in Reporting Registered to Vote	
				(Less Likely)	(More Likely)
	B (SE)	B (SE)	B (SE)	B (SE)	B (SE)
vMOB Treatment	0.24 (0.16)	0.30** (0.10)	0.12* (0.05)	-.42 (0.77)	.92^ (.56)
Ideology (t1)	-0.09 (0.13)	0.02 (0.08)	0.13 (0.04)	-0.18 (0.21)	.15 (0.48)
Reg to Vote (t1)	0.11 (0.16)	0.08 (0.11)	-0.10* (0.05)		
Gender: male (t1)	-0.51* (0.22)	-0.17 (0.11)	-0.06 (0.06)	-1.48* (0.68)	0.18 (0.65)
Party ID (t1)	0.13 (0.10)	0.04 (0.06)	-0.02 (0.03)	-.18 (0.40)	-0.47 (0.30)
Constant	0.75 (0.57)	-0.11 (0.29)	0.28^ (0.16)	0.52 (1.58)	-1.92 (1.81)
Observations	254	254	254	253	
R-squared	0.03	0.04	0.03	Pseudo R ² = .07	

Robust standard errors in parentheses

** p<0.01, * p<0.05, ^ p<0.10

TABLE 2. Effects of vMOBilize on Political Participation and News Consumption, and Vote Registration Relative to Control Group (Change from Pre- to Post-Treatment)

VARIABLES	Change in Full Participation	Change in Virtual Participation	Change in Media Consumption	Change in Reporting Registered to Vote	
				(Less Likely)	(More Likely)
	B (SE)	B (SE)	B (SE)	B (SE)	B (SE)
vMOB Treatment	0.86**	0.61**	0.31**	0.64	2.65*
	(0.31)	(0.21)	(0.10)	(0.99)	(1.29)
Political Knowledge (t1)	0.18*	0.06^	0.00	-0.10	0.19
	(0.08)	(0.04)	(0.02)	(0.25)	(0.33)
vMOB Treatment x Polit Knowledge (t1)	-0.23*	-0.11^	-0.07*	-0.44^	-0.67
	(0.10)	(0.06)	(0.03)	(0.26)	(0.41)
Ideology (t1)	-0.12	0.01	0.01	-0.15	0.11
	(0.13)	(0.08)	(0.04)	(0.59)	(0.50)
Reg to Vote (t1)	0.16	0.10	-0.11*		
	(0.16)	(0.11)	(0.05)		
Gender: male (t1)	-0.46*	-0.15	-0.07	-1.49*	0.21
	(0.22)	(0.11)	(0.06)	(0.69)	(0.67)
Party ID (t1)	0.14	0.05	-0.02	-0.19	-0.50
	(0.10)	(0.06)	(0.03)	(0.42)	(0.32)
Constant	0.16	-0.31	0.30^	0.37	-2.82
	(0.61)	(0.31)	(0.17)	(1.64)	(2.30)
Observations	254	254	254	253	
R-squared	0.06	0.05	0.06	Pseudo R ² = .09	

Robust standard errors in parentheses

** p<0.01, * p<0.05, ^ p<0.10

Table 3. Participants' perceptions of game play and challenges

	% saying Agree or Strongly Agree
Game-related items	
vMOBilize is easy to understand	85.0%
vMOBilize site is pleasing to the eye	59.2%
challenges were a good test of my knowledge of current events	73.5%
I can imagine playing vMOBilize just for fun	17.7%
I would enjoy playing this outside of the context of a class	21.7%
Playing vMOBilize is fun	42.8%
vMOBilize is only enjoyable for people really interested in politics	45.6%
vMOBilize is confusing	4.8%
Challenge-related items	
There was a lot of variety in the kinds of challenges	66.6%
Felt excited to complete the challenges	31.3%
Felt a sense of accomplishment earning points	75.5%
Challenges made me pay more attention to the campaign	57.2%
Challenges made me pay more attention to current events	52.4%
Challenges took too long	4.1%

Figure 1. vMOB game interface: Sample team page


The screenshot displays the vMOB game interface for a team named 'Blue Hens'. At the top, the MOBilize logo is on the left, and navigation links for 'TEAM', 'PROFILE', 'LEADERBOARD', and 'ADMIN' are in the center. A user profile picture and a 'SIGN OUT' button are on the right.

The main content is divided into three sections:

- Team Information:** Shows the team name 'Blue Hens' with a logo, a 'Quick Invitation Link', and details: Team Captain: Dgyoung, Established: Jul 07, 2015, Members: 8, Your Points: 90. The total team points are 295.
- Challenges:** A table of challenges with filters for 'Complete' (checked) and 'Expired'. The table has columns for Type, Challenge, Total Team Points, % Team completing challenge, and Availability.


Type	Challenge	Total Team Points	% Team completing challenge	Availability
Article	Important Dates for New York Voters UCLA COMM 160	15	12%	
Article	Is There Any Chance of a Third Party Candidate Becoming President? UCLA COMM 160	5	12%	
Article	This Election May Be Determined by Something That Hasn't Happened in Over Fifty Years UCLA COMM 160	5	12%	
Article	Jeb Bush's Endorsement UCLA COMM 160	0	0%	
Article	Everything You Need to Know About the Brussels			
- Leaderboard:** A list of teams ranked by points: 1. COMMunists (2950), 2. Comm Kids (2760), 3. Dream Team (2735), 4. Comm Crushers (2725), 5. The Communications Party (2665).
- Members:** A grid of member profile pictures.
- Player Locations:** A map showing player locations with a legend for 'Players' and 'Points'.

Figure 2. Sample individual player page showing badges that players can earn. Badges change from B/W to color once earned.










MOBilize TEAM PROFILE LEADERBOARD ADMIN  SIGN OUT

Profile: Dgyoung [Team](#)

Profile Information [\[Edit\]](#)


Username: Dgyoung
Registration Date: July 7, 2015, 12:28 p.m.
Points: 90
Classes: Har GOV E1362 UCLA COMM 160 UCLA COMM 188D UD COMM 245

Achievements

-  Team Leader
-  Citizen
-  Bookworm
-  The VMOBilizer
-  World Traveler
-  Paparazzi
-  The Thinker
-  No Longer Alone
-  Point Collector

Address Information [\[Edit\]](#)

Figure 3. Change in Means from time 1 to time 2: 4-item media use measure, virtual participation, and registering to vote by condition.

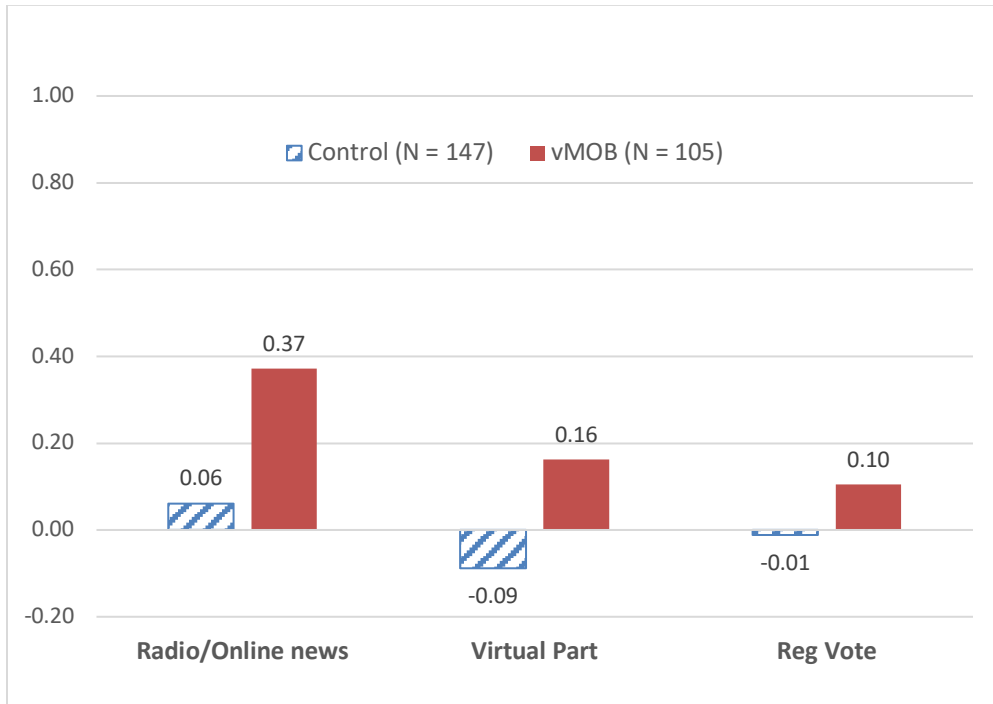


Figure 4. Difference in Probability of Registering to Vote in vMOBilize Treatment versus Control Condition, as a function of Political Knowledge

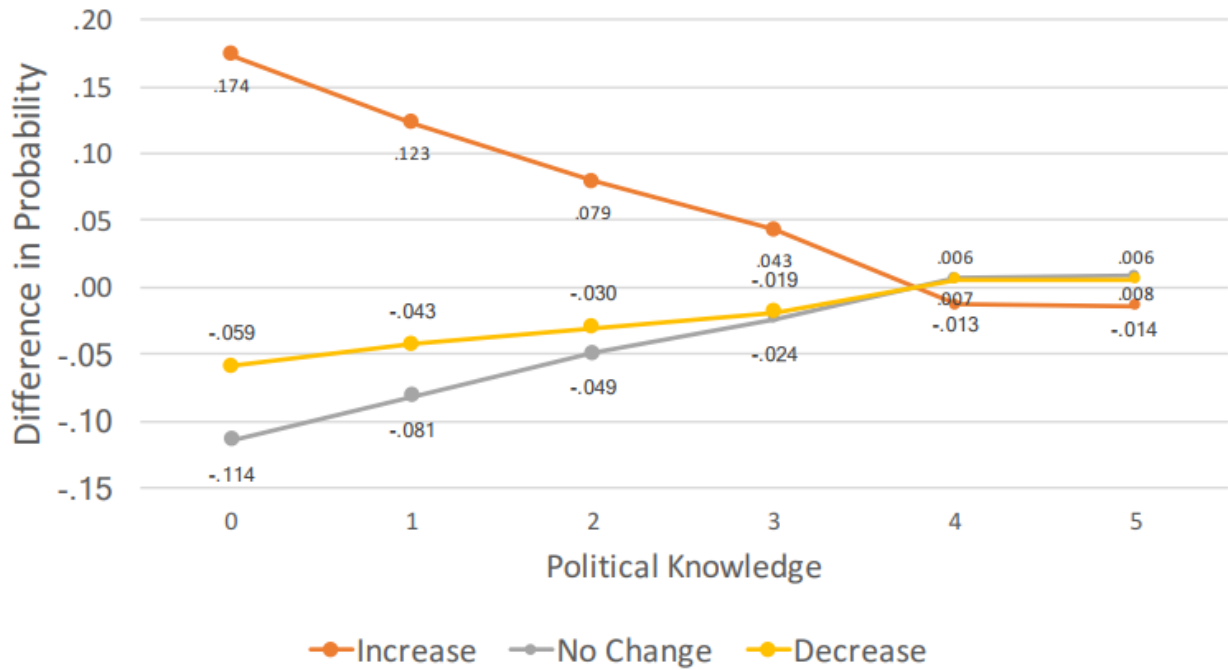
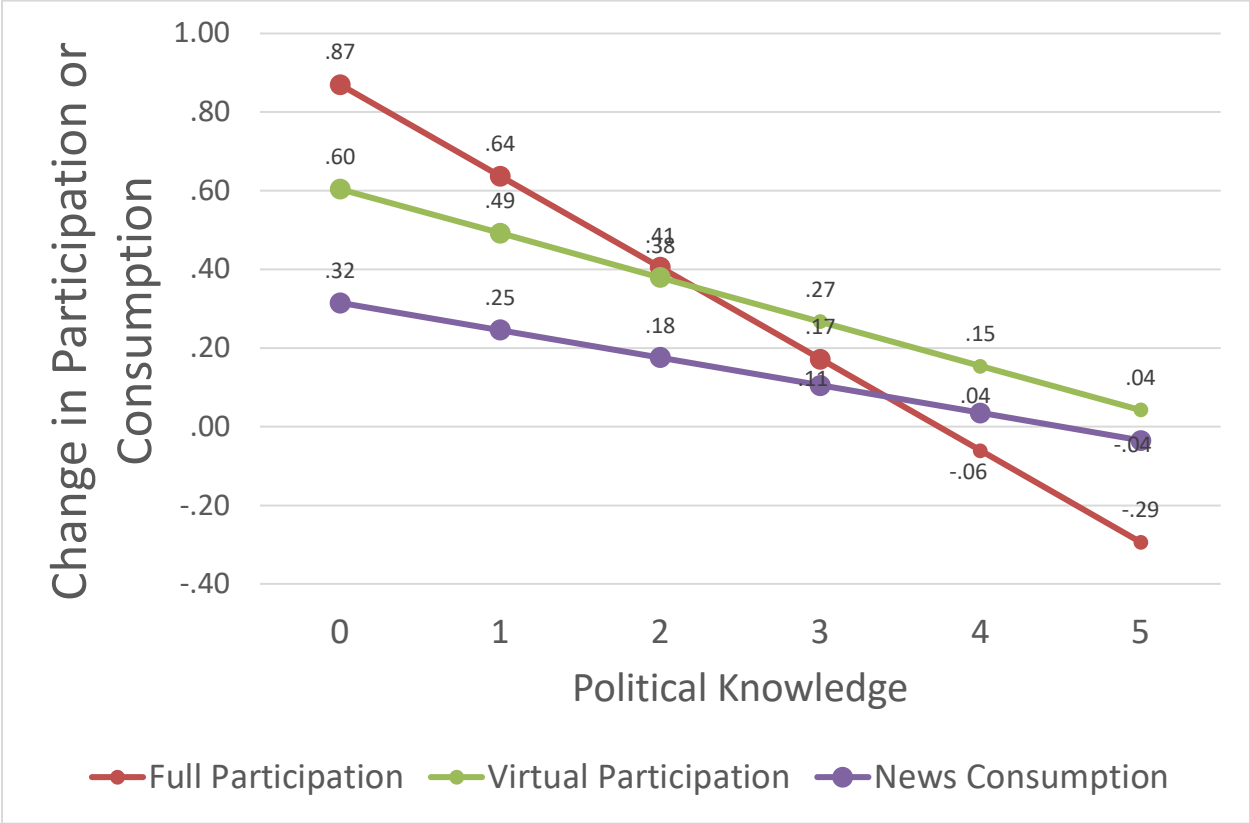


Figure 5. Difference in Probability of Participation or Media Consumption (online or both on- and off-line) in vMOBilize Treatment versus Control Condition, as a function of Political Knowledge



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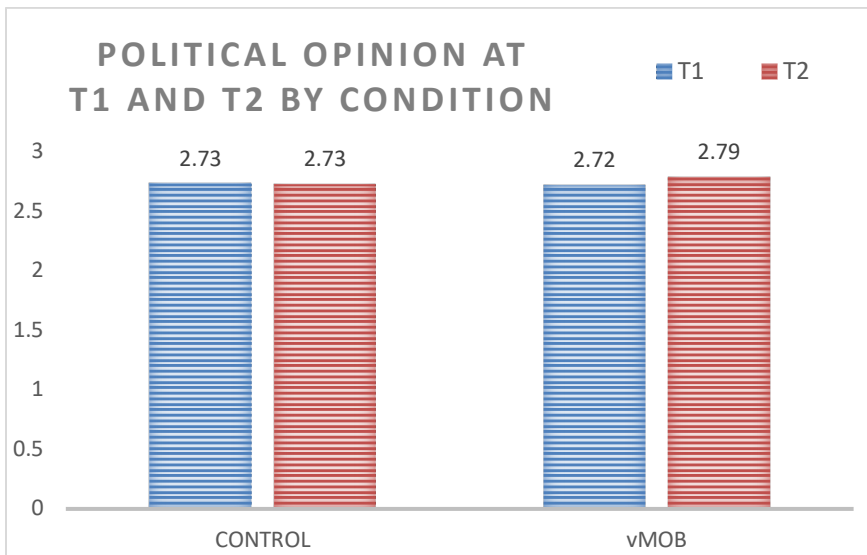
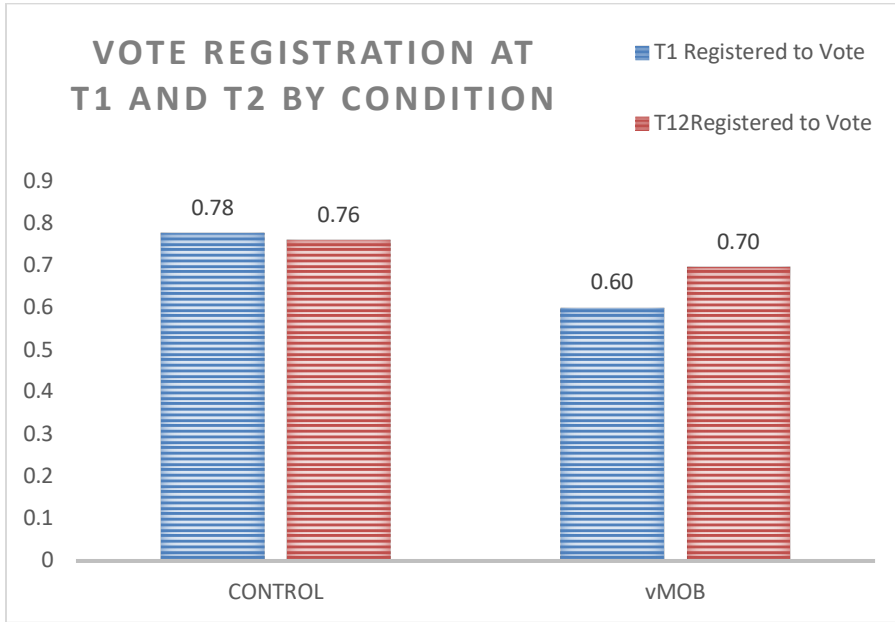
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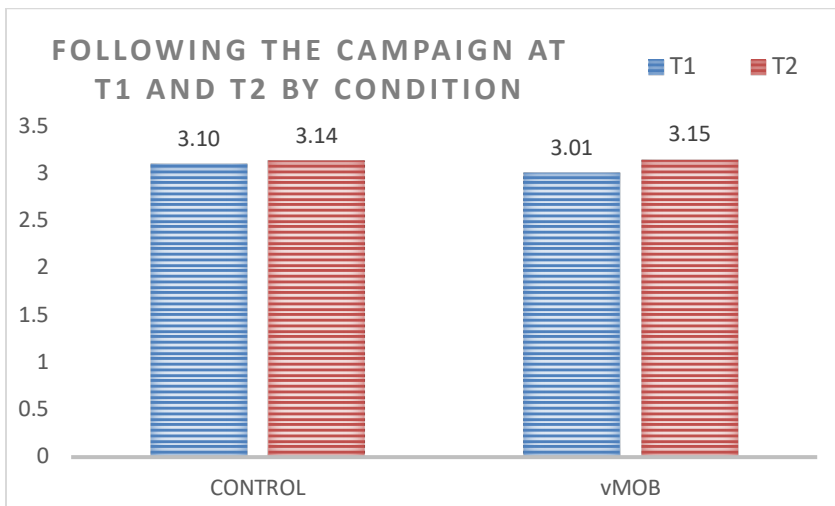
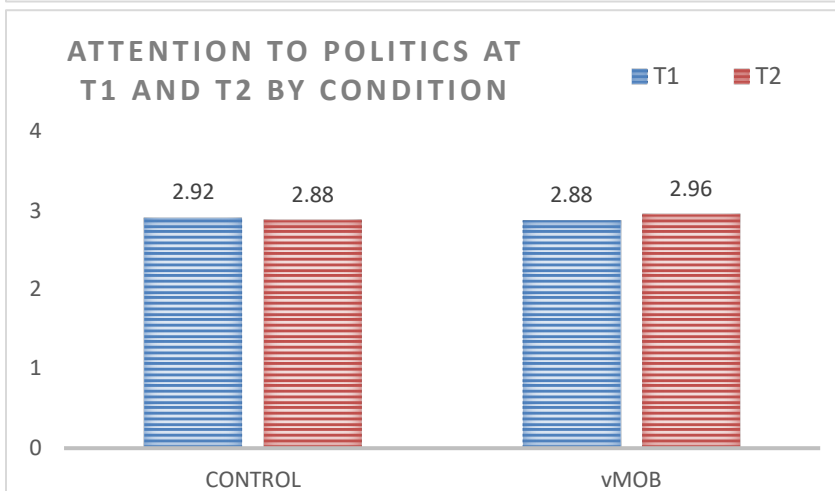
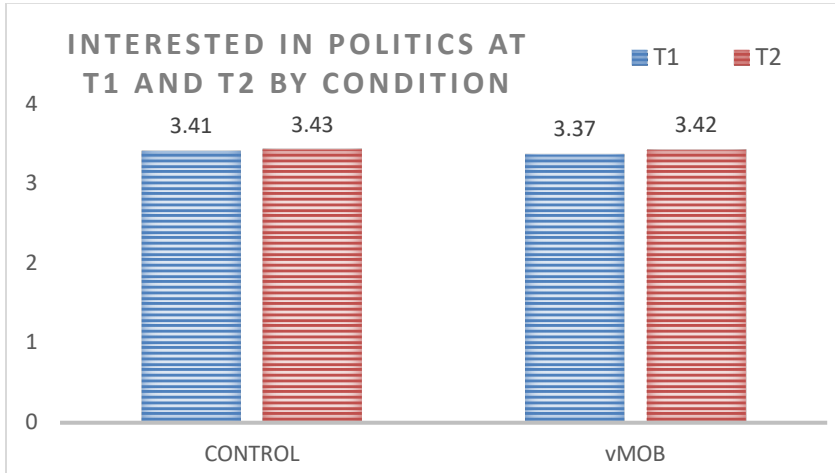
APPENDIX A.

Graphing T1 and T2 measures by Experimental Condition

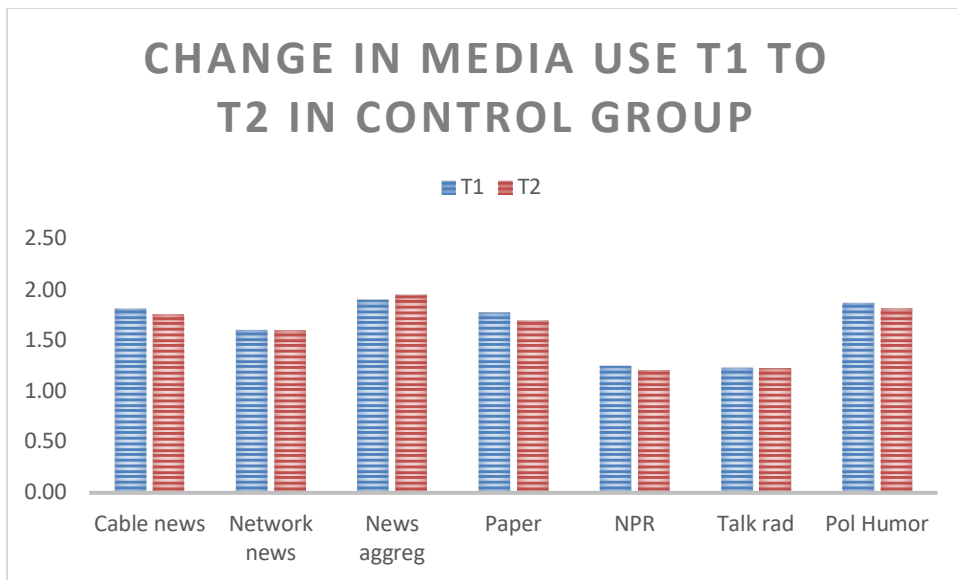
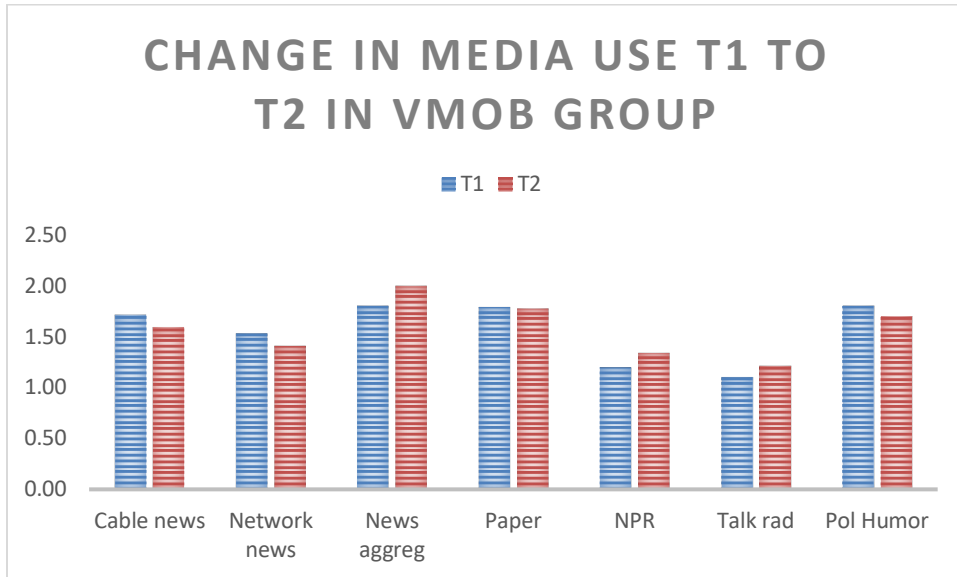
Figures A.1 and 2. Change in vote registration and having political opinions T1 to T2 in vMOB and Control groups



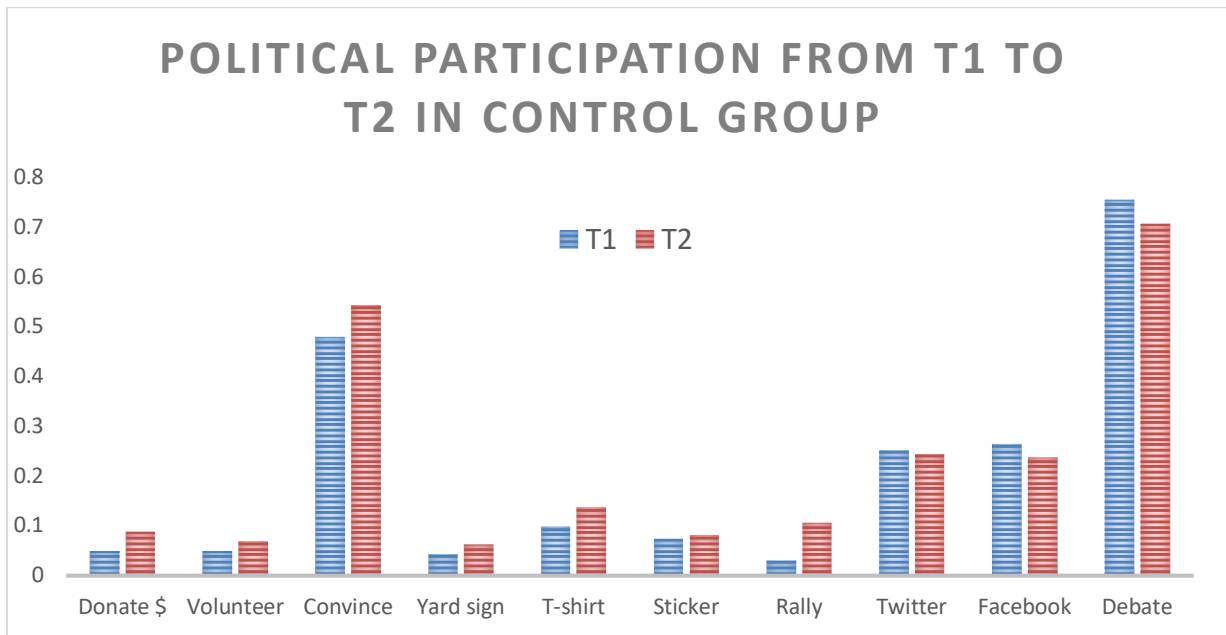
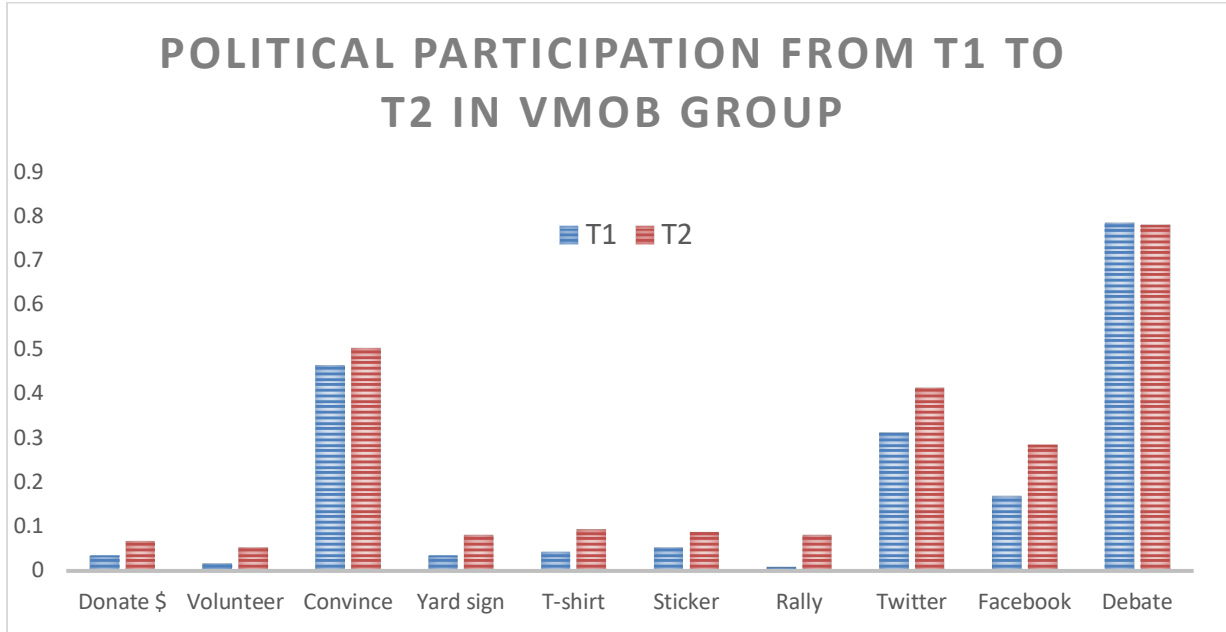
Figures A.3 – 5. Change in political interest, attention, and following campaign T1 to T2 in vMOB and Control groups



Figures A.6 and 7. Change in media use T1 to T2 in vMOB and Control groups



Figures A.8 and 9. Change in political participation T1 to T2 in vMOB and Control groups



APPENDIX B

Appendix B. T1. Descriptive Statistics of Constructs Correlated with Experimental Condition At Baseline

Experimental Condition		Party identification	Male	T1 Registered to vote	Political ideology
vMOBilize	<i>M</i>	2.54	.21	.67	2.48
	<i>(SD)</i>	(.97)	(.41)	(.47)	(.83)
	<i>N</i>	159	158	148	159
CONTROL	<i>M</i>	2.79	.45	.78	2.75
	<i>(SD)</i>	(.99)	(.50)	(.42)	(.88)
	<i>N</i>	163	163	157	163
Total	<i>Mean</i>	2.66	.33	.72	2.62
	<i>(SD)</i>	(.98)	(.47)	(.45)	(.86)
	<i>N</i>	322	321	305	322