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Gender and Public Issues Deliberations in Named and Anonymous Online Environments

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Abstract

Online deliberations in social studies classrooms are increasingly feasible as more schools incorporate online learning environments into their programs. The present study investigates student participation in online deliberations with particular attention to (1) the differences between opinion expression and participation in anonymous versus named conditions, (2) whether the magnitude of any such differences varies by gender, (3) whether males and females express a preference for deliberation in named or anonymous online environments, and (4) the impact of named and anonymous environments on developing students' deliberative skills. When opinion expression and participation results are analyzed by gender, we find that differences between females and males that manifest in named conditions disappear when discussing anonymously. We find that female students are significantly more likely to prefer discussing in anonymous environments. Finally, we find that students deliberating anonymously express more opinions in a subsequent deliberation than those in the named condition.

Keywords

> I personally liked the one [discussion] with the code names better because you feel more open to sharing your opinions. So you're not… judged on your opinions. So I felt the code names helped a lot, especially with people who are shy and don't like talking in front of others. I feel that was very good.
>
> - 9th grade Female Student

Social studies classes are excellent sites for students, such as the one quoted above, to learn how to participate in discussions with peers about public issues (Avery, Levy, & Simmons, 2013; Hahn, 1991; Parker, 2010). Such discussions can give students practice in formulating and stating opinions, listening to alternative viewpoints, and collectively weighing evidence in light of multiple policy options, all of which are vital skills in a healthy pluralistic democracy. However, the ninth grade female quoted above felt she would be judged if she shared her opinions in a discussion[1] in which she could be identified. She is not alone; students of color, immigrants, and females tend to participate less in class discussions of controversial issues (Kawashima-Ginsberg & Levine, 2014). This study examines how students participate in online deliberations,[2] a particular type of discussion, as well as their perceptions of the online environment. We focus on differences between males and females, and conclude with suggestions to narrow the gender gap in discussion and directions for future research.

Literature Review

We draw from the theoretical work on democratic discourse as well as research on classroom discussions of public issues, particularly as each pertains to differences between males and females. We then look to gender role theory for explanations of differences, and consider how the online environment may address, in part, gender participation disparity in classroom discussions.

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[1] The term *discussion* encompasses many types of discursive interactions (e.g., conversations, seminars), one of which is deliberation. Although our focus in this study is on deliberations, we occasionally use *discussion* and *deliberation* interchangeably because deliberations are a type of discussion, and because most of the education literature, while applicable to deliberation, focuses on discussion more broadly.

[2] While the discursive interactions described in this study are intended to be deliberative, we acknowledge that they may not reflect all of the dimensions of deliberation identified by theorists (e.g., students participated in the deliberations as part of a required course assignment, thus rendering participation somewhat coercive). When we say the student activity described in this paper is deliberative, we mean that students carefully weighed arguments surrounding a given topic, exchanged reasons for their preferred course of action, and attempted to reach a group consensus in an atmosphere governed by rules of equal access to participation and respect.

Democratic Discourse

Democratic citizenship entails the ability to discuss and defend one's ideas on significant public issues (Gutmann & Thompson, 2004). However, the habits and frames of mind that produce reasoned exchanges of ideas in the public square are not innate (Parker, 2003). For most young people, schools are the primary space for learning how to discuss public issues with people who do not share their experiences or perspectives (Parker, 2010).

Traditional models of democratic discourse emphasize rational participation in the public square through the formulation and defense of arguments in support of one's opinion. Some scholars, however, criticize such purely rational models as reinforcing traditional power structures. Sanders (1997) and Young (2000), among others, have argued that traditional conceptions of democratic discourse (particularly deliberation), privilege the modes of expression characteristic of dominant groups. Karpowitz and Mendelberg (2014) further this assertion by noting that when it comes to participation in political and deliberative groups, women's views are often absent, largely due to the structures and deliberative norms of such environments. According to Karpowitz and Mendleberg, discussion and deliberation about politics and civic issues are construed as a male-dominated space where communication styles and interactions preferred by females are largely discounted. In combination with social norms that discourage females from seeking leadership positions, such structural disadvantages lead to a dearth of female voices when discussing public issues, despite females' greater population, educational achievement, and membership in civic groups in the United States. Discussion of public issues, while central to citizenship and broader political participation, often takes place under circumstances that hinder participation by women.

There is a well-established body of literature examining the importance of young people discussing public issues, both face-to-face and online (e.g., Hess, 2009; Hess & McAvoy, 2015; Parker, 2010). While many larger societal problems may seem overwhelming to average citizens, public issue discussions provide opportunities to build a sense of political self-efficacy at a local, situational level (Morrell, 2005). In the classroom, discussion is associated with leveling the amount of student versus teacher talk, as well as increasing student text comprehension (Murphy, Wilkinson, Soter, Hennessey, & Alexander, 2009). Studies of civic outcomes indicate that frequent issues discussions are associated with students' political knowledge, efficacy, interest, trust, participation, and expected and actual electoral participation (see, for example, Andolina, Jenkins,

Zukin, & Keeter, 2003; Barr et al., 2015; Campbell, 2008; Conover & Searing, 2000; Hahn, 1998; Haste, 2005; Schulz, Ainley, Fraillon, Kerr, & Losito, 2010; Torney-Purta, Lehmann, Oswald, & Schulz, 2001); further, an open classroom climate (OCC) in which students feel free to express their ideas tends to foster greater dialogue among students and teachers (Campbell, 2008). Especially in racially and ethnically diverse school environments where civic engagement tends to be low, opportunities for discussion are useful in compensating for factors that turn students away from politics, such as lack of parental political engagement (Kawashima-Ginsburg & Levine, 2014).

Despite the benefits of public issues discussions, evidence suggests in-depth discussions are not common occurrences in classrooms. For example, Nystrand, Gamoran, and Carbonara (1998) found the average 9th grade discussion was just 31.2 seconds (see also Dull & Murrow, 2008; Gimpel, Lay, & Schuknecht, 2003; Hess, 2009; Kahne, Rodriguez, Smith, & Thiede, 2000; Pace, 2008). Reasons for the lack of more robust discussions are varied. Many teachers eschew them in favor of methods perceived to be safer in terms of classroom control and potential to create trouble with administrators and community members (McAvoy & Hess, 2013). According to McAvoy and Hess, teachers may also give up on discussions because of a lack of student participation and/or lingering resentments among students that occur as a result of opinions expressed during the discussion. Finally, large class sizes and low expectations of students lead teachers to ignore opportunities for students to participate in a more discursive environment (Grant, 2003).

Online Public Issue Discussions

One way of practicing civic discourse in schools is through the use of online discussions. These discussions are receiving increasing attention from social studies educators for both their potential to generate wider participation and to teach students how to civically engage in digital environments.

One of the primary benefits of online discussions is broader student participation. Larson (2003) found that threaded, online discussions present an opportunity for quieter students to join the conversation, particularly when social anxiety is the cause of non-participation. Both Busbin (2013) and Larson (2003) found participation patterns are more balanced in an online environment than in the face-to-face classroom, though talkative students still tend to contribute the most to online discussions. There is evidence indicating that the increased participation found in online settings does not sacrifice quality. Guiller, Durndell, and Ross (2008) found that the quality of online discussions is at least equal to that of face-to-face discussions.

Online Anonymity

Ho and McLeod (2008) contend that the more balanced participation found online comes from removing non-verbal, status-reinforcing cues used by dominant individuals in face-to-face discussions to silence others, intentionally or otherwise. They argue for the potential of online *anonymity* to foster even more equitable participation in democratic discussions by moderating individuals' fear of social isolation (FSI). FSI acts as a social constraint whereby people will not participate in deliberation if they fear socially imposed sanctions (Hayes, Matthes, & Eveland, 2011). Those who fear social isolation often self-censor; Hayes, Glynn, and Shanahan (2005) define willingness to self-censor (WTSC) as "person's general reticence to express an opinion to an audience that is likely to disagree" (p. 319). When people fear their opinions may be criticized, they are willing to self-censor to avoid future criticism. Along with OCC (discussed above), both FSI and WTSC are included in this study as possible moderators of participation in online deliberative settings.

Studies that directly investigate online anonymity and its impact on deliberations are rare. In one of the few studies comparing students' responses to anonymous and named online exchanges, Davies and Chandler (2012) found an increase in university students' sense of decision-making efficacy in the anonymous condition, though the students reported less satisfaction with this environment compared to a named condition.

Given the relative newness of secondary schools' capacities to conduct deliberations in digital environments, research on how students respond to such forums--both anonymous and named--is needed. To that end, we test the following hypotheses:

> *H1: Student opinion expression and word counts will be significantly higher in anonymous online deliberations, as compared to named online deliberations.*
> *H2: OCC, FSI, and WTSC will significantly moderate students' opinion expression and participation in the named condition, but not in the anonymous condition.*

Gender and Deliberation

Of particular interest is how named and anonymous online discussion environments might affect male and female participation. To examine this, we turn to the literature on gender and deliberation.

Gender role theory offers an explanation for why females participate less in discussions and deliberations. Krupnick (1985) posits four factors explaining why women participate less: minority status, unwillingness to compete, vulnerability to interruption, and tendency for males to monopolize speaking time. Further, Karpowitz, Mendelberg, & Shaker (2012) suggest that women's participation and perceived authority and status are lower when they are a numerical minority. Men also tend to be perceived as more competent in discussions, thus awarding them a higher status (Mendelberg, Karpowitz, & Goedert, 2014). Women speak less with fewer women around because gendered norms of interaction (based on masculine or feminine traits) vary depending on the gender composition of the discussion group (Karpowitz & Medelberg, 2014). When women do speak, they have a greater chance of being interrupted by a man (Snyder, 2014). Because of gendered interaction norms, "women are severely disadvantaged relative to men in their group as a minority under majority rule, and they are not disadvantaged as a majority under majority rule or as a minority under unanimous rule" (Mendelberg et al., 2014, p. 301). There are times, however, when women's participation is stronger. The enclave hypothesis finds women flourish in all-women discussions (Karpowitz & Medelberg, 2014).

Online discussions address one of the factors that reduce female participation by essentially eliminating females' vulnerability to interruptions; indeed, some researchers find the online environment levels the playing field between females and males (Althaus, 1997; Busbin, 2013). Busbin (2013) studied face-to-face and online discussions with the same secondary social studies class to assess differences between the two modes of deliberation. In the face-to-face discussions, "not a single female student spoke more than eight times during a deliberation; yet, ten male students spoke more than eight times" (p. 89). In one face-to-face discussion, females spoke "only a meager 6.5 percent of the discussion," showing how males continued to dominate the discussions (p. 90). In the online format, female participation rose to 36 percent.

Other research suggests that females may even outperform their male counterparts in online discussions. Asterhan, Schwarz, and Gil (2012) found middle school female students had higher participation and interaction rates than their male counterparts in online discussions. They posit that males and females learn and communicate differently and that online discussion favors the examination of a larger number of perspectives, something females typically do better than their male counterparts. Shang-Shan, Zhi-Feng Liu, Nian-Shing, Ru-Chu, & Chiung-Sui's (2012) study offers support for this assertion; they examined the types of questions asked during online discussions in a college setting, and found that gender differences explained 24% of the variance in student learning. The major difference was that males asked more lower-level questions (e.g., factual) while

females asked more higher-order questions (e.g., synthesizing information). They suggest that students' cognition, which is affected by gender, impacts how they participate and view a discussion.

Research on the role of gender in online discussions is still limited, especially in comparison to the research on structuring or assessing discussions. Yet online discussions may offer a means for increasing female participation in civic discourse. Anonymous environments tend to negate the power dynamics of face-to-face or named interactions (Ho & McLeod, 2008); they produce high-quality student work (Guiller et al., 2008), and are perceived as safer (Davies & Chandler, 2012). In the present study, we examine the potential for anonymous online forums to create a more equitable deliberation environment among secondary students, particularly for females. The literature on gender and online discussions suggests the following hypothesis:

> *H3: Females students' opinion expression and word counts will be significantly higher than that of male students in the named condition. These differences will become significantly larger in the anonymous condition.*

Because deliberations are complex interactions, students' behavior will no doubt be influenced both by personal factors and social factors stemming from gender. As such, it is appropriate to hypothesize interactions between OCC, FSI, and WTSC (discussed above) and gender.

> *H4: There will be significant interactions between gender and OCC, FSI, and WTSC, respectively.*

Comparisons of Online Environments as Learning Sites

Given that the study took place within an educational context, we wanted to explore how students compared the anonymous and named environments as learning sites. This aspect of the study was exploratory in nature due to the limited research on anonymous learning environments in secondary classrooms.

Previous research has shown gender differences in self-perceptions of abilities (Ehrlinger & Dunning, 2003); thus, we examined whether and how gender impacted students' perception of their ability to develop skills of deliberative participation and to express their opinions. One of the few studies of students' perception of learning indicated females perceived greater learning through online exchanges in comparison to face-to-face interactions (Anderson & Haddad, 2005); we know of no comparisons of perceived learning in named versus anonymous online conditions. Finally, engagement in learning tasks and task

enjoyment tend to be related to student motivation as well as student achievement (Akey, 2006; Frenzel, Goetz, Lüdtke, Pekrun, & Sutton, 2009). As such, in addition to the previously stated hypotheses, the present study explores the following additional questions:

> *RQ1. Are anonymous conditions significantly different than named conditions in their ability to develop skills of deliberative participation?*
> *RQ2. Are there significant differences by gender in student preferences for named versus anonymous conditions in terms of perceived ability to express opinions, amount of learning, engagement, and enjoyment?*

Methodology

Setting and Participants

Three classes of 9th grade Honors Government students were chosen as the population for this study. The students attend a large suburban high school in the Midwest, not far from a major metropolitan area. In total, there were 113 students in the three classes, 94% White and 57% male. The rationale for choosing this setting is twofold. First, the teacher, who is also an investigator on this project, is a well-respected and experienced discussion facilitator. He demonstrates a strong commitment to fostering civic discourse in his classroom and is familiar with much of the social studies literature on productive classroom discussion. Second, as the study requires large amounts of written communication, honors students were chosen for the initial investigation in order to minimize the number of participants potentially hindered by weak writing skills.

Procedures

Students participated in two online deliberations using the website collaborizeclassroom.com. Manosevitch (2014) recommends careful attention to the design of an online deliberative environment to ensure that the space is an interactive public conversation, rather than simply a list of unrelated comments. To that end, this particular platform was chosen because it allowed for threaded posting, as well as easy assignment of screen names to students. The latter design element was crucial for allowing assessment of online anonymity.

After receiving both student and parental consent for the study, students completed the first questionnaire (Q1). This questionnaire included standard demographic items as well as an opportunity to express their opinions on 13 controversial issues. Students viewed 13 issue statements (e.g., "School officials

should be allowed to punish students for off-campus cyberbullying) and responded to each on a 1 (Strongly Disagree) to 4 (Strongly Agree) Likert Scale. In order to help us choose between issues having similar opinion distributions, students also rated each issue in terms of salience and certainty of opinion on a 1 (Not at All) to 5 (Very) scale. Based on student responses to potential discussion topics listed in Q1, we selected the two issues representing the greatest diversity of opinion. The two specific resolutions for student deliberation were:

> Issue A: Individuals convicted of a felony *should* lose their right to vote.

> Issue B: School officials *should* be allowed to punish students for off-campus cyberbullying.

Prior to deliberation of these issues, students researched supporting and opposing views using the SIRS issue databases.[3] The teacher conducted an in-class review of major points for and against each resolution. During one of the class periods allotted for research, students completed a second questionnaire (Q2), measuring student perceptions of OCC, FSI, and WTSC.

The assignment required students to act as a policy advisory committee, and deliberate the issue during the first week of each assignment (e.g., What options are available? Who will be affected?); students produced a joint recommendation on the issue the second week. The teacher gave verbal and written directions (Appendix A) for students to try to reach a consensus recommendation. In each week of the deliberation, students were required to post twice, for a minimum of four posts. The assignment was aligned with the classroom teacher's typical expectations for face-to-face discussions. Because few teachers would require students to participate in an online deliberation *without* a corresponding assignment, the student work product requirement enhances the ecological validity of the study.

For the first deliberation, students were randomly assigned to sixteen groups of seven students (with one group of eight). For Issue A, groups 1-8 participated in the named condition, posting online under their real names (named condition). Groups 9-16 formed the anonymous condition, posting under a screen name. In order to avoid potential complications with students choosing their own screen names, researchers assigned students in each anonymous group the same set of screen names (colors), differentiated by their group number. For example, an anonymous individual's posting for group number 9 appeared to the other students in the group as "9 Red", "9 Blue", 9 Green", etc. When discussing Issue B, conditions were reversed, with groups 1-8 deliberating anonymously and

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[3] http://www.proquestk12.com/productinfo/sirs_researcher.shtml

groups 9-16 deliberating in named conditions. Students were randomly assigned new groups when switching conditions. Table 1 shows the compositions of the randomly assigned groups, as well as a chi-square test indicating the group distributions are not significantly different from a true random distribution. As a further randomization check, we ran t-tests on the distributions of gender, perceptions of open classroom climate, fear of social isolation, and willingness to self-censor between the starting named and anonymous groups. The results of these tests indicate a relatively even distribution of all these variables across both conditions.

Table 1.

Distribution of Males and Females Across Groups

	Discussion 1			Discussion 2	
Group	Males	Females	Group	Males	Females
Named			*Anonymous*		
1	7	1	1	1	7
2	5	2	2	6	1
3	3	4	3	3	4
4	2	5	4	5	2
5	5	2	5	6	1
6	3	4	6	5	2
7	2	5	7	2	5
8	3	4	8	2	5
Anonymous			*Named*		
9	3	4	9	5	2
10	2	5	10	5	2
11	6	1	11	5	2
12	4	3	12	3	4
13	6	1	13	4	3
14	5	2	14	4	3
15	3	4	15	4	3
16	4	3	16	3	4
χ^2	19.11	$p = .21$	χ^2	20.27	$p = .16$

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

Each deliberation occurred asynchronously over the course of two weeks. Although most of the postings took place outside of class (as all students reported they had easy access to the internet outside of school), class time was provided for initial student engagement with the online forum to address any questions about the technology and logistics. Upon conclusion of both deliberations, all students filled out a third questionnaire (Q3). Additionally, 12 students were selected for follow-up interviews so as to provide a more in-depth understanding of their discussion experience.

Measures

Questionnaires

On the second questionnaire (Q2), we measured students' perception of open classroom climate (Torney-Purta et al., 2001), fear of social isolation (Hayes et al., 2011; Ho & McLeod, 2008), and willingness to self-censor (Hayes et al., 2005), all of which have been significant in relation to discursive participation. The open classroom climate scale (Appendix B consists of six questions ($\alpha = .82$) assessing how frequently students are encouraged to evaluate multiple perspectives, disagree with one another and the teacher, and generally express their opinions. Responses were measured on a 1 (Never) to 4 (Frequently) scale. The fear of social isolation scale (Appendix C) typically consists of five, five-point Likert Scale questions, though one question was dropped for this study in order to make the scale better suited to high school students ($\alpha = .83$). This scale asks students to gauge their reaction to hypothetically being disagreed with, left out, or otherwise isolated. The willingness to self-censor scale (Appendix D) includes eight questions ($\alpha = .83$) designed to assess individuals' comfort with expressing opinions and handling disagreement using a five-point Likert Scale.

A third questionnaire (Q3), administered at the conclusion of the deliberations, elicited students' preference for type of online discussion environment in terms of their: (1) comfort in expressing opinions, (2) engagement in the discussion, (3) perceived learning, and (4) enjoyment. Each of the elements was measured by a single questions asking if students preferred the named condition, the anonymous condition, or had no preference. Additionally, open-ended items provided students with an opportunity to share their thoughts on the online discussion process.

Forum Posts

Following student completion of both online discussions, the archived contents of these discussions were analyzed in terms of number of opinions expressed and word count. Procedures for identifying opinion statements for this study were purposefully conservative given that the assignment and its grading rubric

(included within Appendix A) required brainstorming and testing ideas, offering compromises, and citing evidence. Similar to previous scholarly work (see Stromer-Galley, 2007 and Manosevitch, Steinfeld, & Lev-On, 2014), in order to be classified as an opinion, our coding scheme required a clear indication that a statement reflects a student's belief about the discussion topic. In the following excerpt, for example, the student is giving a series of reasons to support felons' right to vote, but we did not count this as an opinion statement. The guidelines for the deliberations stipulated that students should give consideration to both sides. In this example, it is not clear whether the student supports this position or is simply fulfilling the requirements of the assignment.

> Ex-convicts are still able to marry, reproduce rights to own property, etc. They don't lose freedom of religion nor do they lose their rights against self-incrimination. Still, many people still believe they can't be trusted to help choose our leader, but why let them out of prison for the first place if they are not able to do this or is more limited to rights?

A second reason we did not code this as an opinion statement is because it is not clear that the student is taking ownership of a position. In contrast, in the following excerpt the student is clearly expressing her opinion: "I disagree, I don't want them voting at all. A felony is already a big crime, it's not like there are bad felonies and good felonies."

Similarly, if there was no evidence of the student taking ownership of a suggested compromise position, it was not counted as an opinion. For example, during the Felons Voting deliberation, many students suggested that felons might be restricted from voting but only for a certain number of years. We did not count this as an opinion because the statement could either be seen as brainstorming or as a procedural move intended to reach a compromise position (e.g., "What if we only took away the right to vote for five years?"). However, if a student expressed a belief as the foundation for the position proposed, then it was counted as an opinion because there was enough evidence for researchers to connect the proposal to the student's opinion (e.g., "*I think* that it is wrong to completely take away their voting rights, but they still deserve some punishment. What if we only took away the right to vote for five years?"). Students noting their agreement or disagreement with a given proposal were also counted as having expressed an opinion. All statements were viewed in context; we examined all statements within each post to better understand the student's intent. Analysis was divided among three researchers, with six of the 32 deliberations coded by all three to establish inter-rater reliability. For the deliberations coded by all three raters, we established a Krippendorff's alpha of .83.

Interviews

Twelve students were invited, via random selection stratified by gender, to participate in interviews. Six males and six females participated in 30- to 45-minute interviews, during which they were asked to describe in some depth their experience during each of the deliberations (e.g., How would you compare the two deliberations—the one with names and the one that was anonymous? Was there any point in the deliberations when you didn't feel comfortable expressing your opinion?). Interview data helped to explain some of the results from the quantitative analysis.

Data Analysis

When analyzing student contributions to and participations in the deliberation, the outcome variables of interest were (1) number of opinions expressed, and (2) total word count per student. Both of these outcomes were compared across named and anonymous conditions for both males and females via t-tests. Additionally, a regression analysis was conducted for each outcome in both the named and anonymous conditions using gender as a predictor, along with other significant controls suggested by prior research (i.e., perception of open classroom climate, fear of social isolation, willingness to self-censor). For the discussion preference data we converted responses to the preference questions to a dichotomous variable, coding individuals who preferred discussing anonymously as 1 and those who preferred named discussions or expressed no preference as 0. We then conducted a logistic regression analysis on the preference outcomes for comfort expressing opinions, perceived learning, engagement, and enjoyment of the discussion.

Prior to quantitative data analysis, one student (male) was dropped from the data set because he did not post to any of the forums. Additionally, density plots of the outcome variables indicated there was substantial skewness in each that could have potentially violated the normality assumptions of the data analysis. Logarithmic transformations were used to correct for this issue, though the correction did not impact the significance of the results for the t-tests. For ease of interpretation, the untransformed results are reported below for the t-test analyses.

Interviews were transcribed and coded using the whole-part-whole method. Vagle (2014) explains that this method of analysis

> stems from the idea that we must always think about focal meanings (e.g., moments) in relation to the whole (e.g., broader context) from which they are situated—and once we begin to remove parts from one context and put

them in dialogue with other parts, we end up creating new analytic wholes that have particular meaning. (p. 97)

Each interview was read and summarized. Using interview summaries and quantitative data results from this study, a coding scheme was developed to classify student opinions on major themes of the study: online versus face-to-face deliberation, anonymity versus named conditions, student comfort level in various deliberative settings, and perceptions of OCC, FSI, and WTSC.

Due to student attrition (absences, field trips, etc.), only 75 (43 males and 32 females) complete cases were available to conduct analyses on the variables of OCC, FSI, WTSC, and students' expressed preference for discussion environment. For all analyses of OCC, FSI, and WTSC, logarithmic transformations were used on both outcome variables to better meet the assumptions of the regression analysis.

Results

To analyze whether anonymity impacts opinion expression and participation (word count) in online deliberation forums, paired t-tests were conducted comparing the two outcome variables across named and anonymous conditions for each student (H1). As shown in Table 2, aggregate differences across named and anonymous conditions failed to achieve statistical significance, providing no support for H1. An ANOVA on the interaction between gender and the anonymous conditions was conducted in order to determine the difference in differences (DID). The DID test found that the changes in males and females across named and anonymous conditions were not significantly different in terms of opinions ($\beta = .87$, $p = .52$) and word counts ($\beta = -67.01$, $p = .71$).

Table 2.

Paired T-test Comparisons across Named and Anonymous Conditions

Outcome	Mean(SD) - Named	Mean (SD) - Anonymous	*t*	*p*
Opinions - Total	4.35(2.28)	4.09(2.24)	1.00	.32
Male	4.37(2.2)	3.95(2.21)	1.26	.21
Female	4.32(2.4)	4.26(2.28)	.15	.88
Word Count - Total	403.47(251)	408.35(276)	-.23	.81
Male	365.06(221)	358.55(252)	.25	.80
Female	451.1(280)	470.1(294)	-.57	.57

Note. n=112. *p<.05. **p<.01. ***p<.001

A notable difference appears between males and females in the aggregate word count in both the named and anonymous conditions. Though not statistically significant due to high variability, female participation was greater than that of their male colleagues during both discussions. This result is similar to that of Asterhan et al. (2012) and Shang-Shan et al. (2012), who found greater female participation in computer-mediated environments. Though we are not able to support H3 with this particular data due to lack of statistically significant differences, our results do not substantially contradict previous research.

In order to assess whether experiencing anonymous or named conditions made a difference in future performance (RQ1), we conducted a t-test on opinion expression and word counts from Discussion 2 based on condition in Discussion 1. The results are shown in Table 3. There is no significant difference between word counts between the first and second discussion based on whether the subject experienced a named or anonymous condition first. There is, however, a significant aggregate difference between students who discussed in the named condition and the anonymous condition in terms of opinion expression. Students discussing in the anonymous condition for the first discussion contributed more opinions on average than those who discussed in the named condition. Breaking down the difference by gender illustrates the change in both groups is shy of statistical significance, though the increase in opinion expression for females would be significant using a less strict alpha of .1.

Table 3

Opinion Expression and Participation in Discussion 2 Based on Condition in Discussion 1

Outcome	Mean (SD) - Named	Mean (SD) - Anon.	*t*	*p*
Opinions - Total	4.09 (2.12)	5.09 (2.62)	2.22	.03*
Males	4.03 (2.27)	4.88 (2.50)	1.39	.17
Females	4.14 (1.99)	5.93 (2.81)	1.78	.08†
Word Count - Total	398.39 (208.47)	420.11 (270.60)	.47	.64
Males	331.40 (178.04)	387.28 (239.98)	1.04	.30
Females	472.81 (217.53)	465.78 (307.94)	.09	.92

Note. n = 112. † *p*<.1. **p*<.05. ** *p*<.01. *** *p*<.001.

While anonymous discussants in the first condition seemed to express more opinions in the second condition regardless of gender, females demonstrated the larger gain. A DID test of the differences between the two genders, however, was non-significant ($t = .71$, $p = .48$). The lack of significant differences between the genders indicates that both males and females in this sample benefited from practicing their opinion expression skills in anonymous environments. The change in opinion expression from Discussion 1 to Discussion 2 represents a small-moderate effect ($d = .42$).

To rule out the possibility that there was a general difference in the two groups in terms of their propensity to express opinions, t-tests were conducted to examine differences in the groups during the first discussion. If neither group produced significantly more opinions or contributions, then there is further evidence that the increase in opinion expression noted in Discussion 2 was due to experience gained in the anonymous condition, rather than just simply increased experience with discussion in general. These analyses failed to produce significant differences in opinion and word count between the two conditions as a whole ($t = .31$, $p = .76$) or when separated into male (($t = .04$, $p = .97$) and female ($t = .50$, $p = .62$) groups. For thoroughness, a similar analysis was run on word counts to check for differences between the groups in Discussion 1 in the aggregate and for

males and females ($t = .67$, $p = .51$; $t = .76$, $p = .44$; $t = .35$, $p = .73$, respectively). The results of these tests were also non-significant.

To address H2-H4, whether anonymity impacts males and females differently when accounting for OCC, FSI, and WTSC, two analyses were conducted. First, paired t-tests were conducted to determine whether either gender experienced significant changes in the outcome variables between the named and anonymous conditions (see Table 2). Second, in order to determine whether there were differences by gender, regression analyses were conducted on each outcome variable in named and anonymous conditions, using gender as a categorical predictor, along with OCC, FSI, and WTSC measures. Given that students are nested in groups, a mixed-effects model was initially explored for the analysis. However, an examination of the intraclass correlation coefficients showed a negligible amount of variance occurring at the group level. It is likely that the small number of groups provides insufficient statistical power to conduct multi-level analysis. It is also likely, given that all students shared the same teacher and were interacting digitally rather than face-to-face, that individual level factors were far more powerful than group dynamics in determining participation and contributions. The results of these regression analyses are shown in Tables 4 and 5.

The comparison of Model A (named) and Model B (anonymous) in Table 4 illustrates differences in opinion expression over the named and anonymous conditions. Neither model is statistically significant, though Model A exhibits an interaction between open classroom climate and gender which is not present in Model B. The positive interaction coefficient indicates that female opinion contributions tend to be greater the higher the perception of open classroom climate. Males, on the other hand, tend to express opinions far more than females when the classroom is perceived as low on the openness scale. At the higher ends of the openness scale there is relative parity between males and females. A test of a reduced Models A and B (removing non-significant predictors and leaving only terms for gender, open classroom climate, and an interaction between the two), produced similar results, with a significant interaction term for gender and open classroom climate in the named condition ($\beta = .10$, $p = .01$) that disappeared in the anonymous condition ($\beta = .02$, $p = .52$). While still not significant at traditional levels ($\alpha = .05$), the reduced Model A comes much closer ($p = .06$) than the full model. A larger sample size would likely provide the additional statistical power needed to further explore this relationship.

Table 4

Regression Predicting Expression of Opinion in Named and Anonymous Online Discussions

	Model A (Named)		Model B (Anon.)	
	β	SE	β	SE
Intercept	2.70**	.81	1.51*	.68
Gender	-3.15**	1.02	-.99	.86
Open Classroom Climate (OCC)	-.05	.03	.001	.03
Fear of Social Isolation (FSI)	<-.001	.02	.02	.02
Willingness to Self-Censor (WTSC)	-.01	.01	-.01	.01
Gender X OCC	.09*	.04	.01	.04
Gender X FSI	.03	.04	.01	.03
Gender X WTSC	.03	.02	.04	.02
R^2	.15		.13	
p	.12		.20	

Note. *n*=75 (43 males, 32 females)

Natural log of outcome variable used.

Males are dummy coded as the reference category for gender.

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

Table 5

Regression Predicting Total Word Count in Named and Anonymous Online Discussions

	Model C (Named)		Model D (Anon.)	
	β	SE	β	SE
Intercept	7.77***	.84	7.57***	1.22
Gender	-4.49***	1.06	-2.43	1.54
Open Classroom Climate (OCC)	-.08*	.03	-.05	.04
Fear of Social Isolation (FSI)	-.007	.02	-.01	.03
Willingness to Self-Censor (WTSC)	-.02	.02	-.05*	.02
Gender X OCC	.15***	.04	.05	.06
Gender X FSI	.06	.04	.03	.05
Gender X WTSC	.03	.02	.06	.03
R^2	.29		.15	
p	<.001***		.12	

Note. n=75 (43 males, 32 females)
Natural log of outcome variable used.
Males are dummy coded as the reference category for gender.
p<.05. **p*<.01. ***p*<.001.

Models C and D, summarized in Table 5, compare regressions on the word count outcome for both named and anonymous conditions, respectively. Model C contains a significant interaction between gender and open classroom climate in the named condition. The interaction term has a positive coefficient, indicating a differing impact of open classroom climate for females than for males when names were visible. In other words, the more open a female student perceives the class, the more words she contributes to the online discussion. The opposite is true for males, with their contributions decreasing as the perception of openness

increases. As males contribute much more than females at the low end of the openness scale, the interaction effect indicates contributions by gender become relatively equal at the upper end of the scale, with female participation slightly exceeding that of males at the highest scores. Interactions between gender and fear of social isolation and willingness to self-censor both failed to meet the threshold of significance in this case. Additionally, neither fear of social isolation nor willingness to self-censor was significant as an individual predictor. When the same predictors were analyzed in the anonymous condition (see Model D), only willingness to self-censor meets the threshold of significance, though the model as a whole does not. The statistically significant differences in word counts that were present in the named condition are not present in the anonymous condition. Furthermore, Model C explains nearly twice the variance as Model D, indicating that variables like gender and open classroom climate are substantially more impactful when names are visible.

Despite formal multi-level analysis not being appropriate for this data set, we examined the ratio of opinion expression and word count by groups across named and anonymous conditions in order to determine if the change significantly altered relative contributions by gender within groups. Conducting a t-test on the average difference in male/female opinion and word count ratios between named and anonymous conditions found no significant differences (Opinions: $t = 1.08$, $p = .29$; Word Count: $t = 1.32$, $p = .20$). This indicates that there were no significant changes in the balance of opinion expression or word count among males and females in named and anonymous conditions. These results further support the notion that individual-level analysis is more appropriate for this particular sample.

Overall, the results in Tables 4 and 5 provide partial support for H2 and H4, and no support for H3. Though FSI and WTSC were not significant predictors of opinion expression or participation as expected, OCC interacted with gender to impact both outcomes in the named condition only. The significant interaction disappeared when students discussed anonymously. H3 was not supported by these results from the complete cases, though the data in these tables contradicts the results from the earlier analysis using the full class sample. An exploration of this contradiction is included in the Limitations section below.

Data to address RQ2, regarding preferences for discussion environment, were gathered from Q3 and student interviews (see below). Students were asked to indicate whether they had a preference for completing the assignment in the named or anonymous condition. Results of the logistic regression on the student preference results are included in Table 6. The coefficients for all four preference questions are positive and significant. These indicate that females were

significantly more likely to prefer discussing anonymously than their male counterparts. Anonymity increased the comfort, perceived learning, engagement, and enjoyment of discussion of the females in our sample. Despite having more participation in the aggregate (see Table 2), females largely preferred discussing in the anonymous condition.

Analysis of the interview data supports the above results. In expressing preference for either online or face-to-face deliberations, five students (four female) favored online settings. In online deliberation students liked the having more time to research, think about, and write and revise arguments. One of the four females who favored online discussions said it was because the online environment allowed her to feel comfortable in voicing her opinions. Lacey (all names are pseudonyms) explains, "So I guess I'm just not really 100% comfortable voicing my opinion and being like super strong about it in front of everyone. While online, everyone was doing it, do you know what I mean? It was kind of just different in that way." Despite their preference for face-to-face deliberations, the males who were interviewed acknowledged that the online environment offered more opportunities for classmates to feel comfortable. Cody explained that "because a lot of students- at least what I can see, aren't very comfortable- or they wouldn't say what they would have said online in person. Just because maybe they're afraid of what people might say back."

The interview data suggest that these freshmen worried about how classmates would interpret and think about their participation, opinions, and expressions. The three measures examined, OCC, FSI, and WTSC, were all evident in student responses.

Students reported that the anonymous condition provided some refuge from the worry of how a classmate would respond. Kevin said: "I noticed how I caught myself in the non-coded [named condition] one more thinking, 'oh I wonder how blah and blah will react to this', whereas in the coded one [anonymous condition] I didn't." It is worth noting that in face-to-face deliberations, the classroom teacher would rate Kevin as one of the most outspoken students in the entire sample and rarely did he abstain from participating in face-to-face settings. Yet online he expressed a willingness to self-sensor (WTSC) in the named condition.

Table 6.

Logistic Regression Predicting Preference for Anonymous Discussion Environment

	Comfort sharing opinions		Perceived learning		Engagement in discussion		Enjoyment of discussion	
	β (SE)	Exp(β)	β (SE)	Exp(β)	β (SE)	Exp(β)	β (SE)	Exp(β)
Gender	1.98 (.53)***	7.21	2.07 (.70)**	8.00	1.45 (.52) **	4.28	1.08 (.49) *	2.97
Constant	-1.33 (.37) ***	.26	-2.59 (.60) ***	.08	-1.33 (.37)***	.265	-.84 (.33)*	.433
χ^2	15.65***		10.96***		8.45**		5.14*	
Pseudo R^2	.26		.22		.14		.09	
AIC	89.30		68.10		92.36		100.56	

Note. *p<.05. ** p<.01. *** p<.001.
Males are coded as the reference category

Kevin was not alone in thinking about how others would react to the opinions expressed. Claire feared that some classmates could become angry: "I feel like more people expressed how they were feeling more [anonymously], because nobody knew who they were so they couldn't judge them on it. And on the person one [named] more people would like, know other people's sides and maybe like get angry at them or something about it." Steven also acknowledged concerns: "Because you're anonymous you can share what you think and not fear other students harassing you because of what you think, or spreading rumors or something. So yeah, I think others could have." The comments from Claire and Steven support Ho and McLeod's (2008) findings that fear of social isolation (FSI) can be mitigated with anonymity. Overall, five students (three female) expressed liking the anonymous condition better and seven students stated no preference for either condition.

Finally, students explained how online deliberations made an overall impact and increased their comfort and skills in deliberation. Steven explained that over the course of the class, he perceived an increase in the openness of the classroom (OCC). He had

> grown more comfortable with my opinions and the people that I'm around, and you're always gonna have someone who thinks the opposite that you do. At some point, you just realize, 'I don't care. This is what I think, this is what you think, and that's fine. And I don't care what you think, and I don't care what you think about what I think.'

Thus, findings from the interviews yield evidence to support H2. Despite finding statistical support for only OCC, student comments in the interviews suggest they understand their participation in deliberation in terms of OCC, FSI, and WTSC.

Discussion

Implications for Deliberative Research

Research on gender and political deliberation suggests that women are much less likely than men to express political opinions in face-to-face mixed-gender groups (e.g., Karpowitz & Mendelberg, 2014). In general, these results hold for secondary classrooms (Busbin, 2013; Larson, 2003). In the online format used in this study, however, these differences were not present. Our results indicate females' participation online exceeded that of males in the whole-class sample, thus supporting earlier studies that suggest females prefer opportunities to deliberate in writing, rather than face-to-face (Asterhan et al., 2012; Shang-Shan

et al., 2012). At the same time, females expressed a preference for anonymous discussion environments. More research is needed to explore these somewhat discordant results. It seems that in the named condition female students' perceptions of gender inequality persist, despite participation and opinion expression being relatively equal in both the named and anonymous environments. One possible explanation is that viewing other participants' names (or being able to infer gender from a name) activates gendered recollections of previous discussion dynamics. Based on these recollections, females may assume the dynamics of face-to-face deliberation persist in named online conditions, even if the aggregate numbers show otherwise.

The relative parity of opinion expression between males and females in the online environment is an encouraging result. If, in addition to equalizing opportunities for participation, online forums provide a space for both genders to express their opinions equally, such a result is in keeping with the ideals of deliberative democracy (Gutmann & Thompson, 2004). In the near future, it may be just as important for citizens to be able to express their opinions in online environments as it is to do so in face-to-face community meetings. A Pew Research Center survey found a substantial increase between 2008 and 2012 in the number of U.S. adult citizens using social networking sites to learn about political issues, post their views, and take political action (Smith, 2013). And in a TED Talk, former U.S. Deputy Chief Technology Officer Beth Noveck described ways that technology is allowing for greater participatory decision making among citizens, noting, for example, that "Russia is using wikis to get citizens writing law together, as is Lithuania" (Noveck, 2012,14:36).

Furthermore, the introduction of anonymity in our experiment leveled out differences in participation by gender, eliminating significant differences in the number of words contributed to the forum. Even when controlling for situational and dispositional factors, such as perception of open classroom climate, fear of social isolation, and willingness to self-censor, no significant differences in participation by gender were found in the anonymous condition. These results indicate the potential of anonymity in online spaces to equalize participation by gender. This is particularly true in the case of perception of open classroom climate. In the named condition, perception of a more open climate increased females' contributions to the forums, with males and females being roughly equal only at the highest ends of the scale. In the anonymous condition, however, these differing impacts disappeared. Such a result indicates that anonymous conditions create a more equal space for both genders to participate, regardless of how open they perceive the classroom climate.

Additionally, anonymity does not exclusively benefit females. In our sample, both male and female students showed greater increases in the amount of opinion expression between the first and second discussions when they first discussed anonymously. This result indicates the potential of anonymous environments to serve as a safe space to hone deliberative skills without fear of social repercussions. Indeed, students who deliberated anonymously contributed, on average, one more opinion to the following deliberation than those deliberating in the named condition. While one opinion per student may not seem like much, that increase spread across a group of eight students or a class of 35 can result in much richer deliberations. Such a finding is especially important because it is not always possible or advisable to deliberate anonymously. The confidence and skill gained from an environment with less social influence may enable students to contribute more to future deliberations where those influences are present.

Implications for Classrooms and Deliberative Practitioners

If the online format offers a forum in which females are more comfortable expressing their opinions, then teachers should make greater efforts to allow students to practice political opinion expression in online environments. In face-to-face deliberations, female students usually take on the role of classroom observers, rather than active participants. When given the opportunity to type their thoughts instead of speak them, the literature points to females participating at greater levels (Asterhan et al., 2012; Busbin 2013). Our results support these earlier studies in that females expressed their opinions on par with the males in the online forums. Additionally, anonymous conditions provided a more level playing field for females to express their ideas, eliminating gender differences in forum contributions. That females tended to prefer the anonymous online deliberation environment speaks to the importance of removing the social constraints that females operate under in both face-to-face deliberations and named online spaces. These results highlight the importance of computer-mediated communication in removing traditional barriers to female communication. In addition, our results suggest the potential for online anonymity to bring a formerly marginalized or muted voice into deliberative spaces.

School settings are a valuable space for students to deliberate and engage with their peers. The classroom, however, can also replicate the societal inequalities that lead women to be silent in deliberations. If schools are to be the training ground for deliberative democracy, it is important to ensure that all students have equal access to participation in deliberations. By using online deliberation in addition to face-to-face deliberation, a teacher is providing an opportunity for more equitable participation. Further, when online deliberations are used, all

students have the opportunity to practice a form of civic participation that is likely to become increasingly relevant in the near future.

Limitations and Further Research

Several features of the research design limit the interpretation of the results. First, while the setting of the research study provided many advantages, namely a student population (a) familiar with classroom discourse, (b) with strong written communication skills, and (c) having easy access to computers both at school and at home, it also involves disadvantages that narrow its application. The lack of socioeconomic and ethnic diversity in the school setting means that further research should examine whether differences in gender hold in schools with a more diverse population. The particular academic strengths of our participants further limit the generalizability of our results. The high levels of motivation and ability shown by the females in these classes may mean they are more confident of their academic prowess, thus prompting them to participate and express themselves at levels equal to their male peers. Further research is needed to rule out such alternative explanations based on participant selection.

Second, there are notable differences between the two samples used for analysis. Namely, the whole class data shows that female participation exceeded that of males but this was reversed in the smaller sample of complete cases used for the regression analyses. While some of the attrition from the study is explained by random factors, such as absences due to illness or other circumstances, some of the attrition is also attributable to students choosing not to complete all of the surveys. This indicates the possibility of opt-in bias impacting the generalizability of the results. In this case, however, it can also be argued that opt-in bias provided an additional control for student motivation. When students of comparable motivation are compared against one another, male opinion expression and participation exceeded that of females in the named condition. The differences between these more comparable groups disappear in anonymous conditions. Future studies should include a measurement of student motivation in order to further isolate the impact of gender as a factor in participation.

Third, high school students, who are still developing physically, mentally, and civically, may differ substantially from the general population when it comes to their participation in deliberations. Whereas anonymity may impact opinion expression and length of contributions in online forums among high school students, differences in development and maturity may mean that adults would behave differently in a similar setting. Additionally, a key variable, open classroom climate, while likely similar to a general perception of openness in a deliberative environment, may not directly translate from high school classrooms

to a broader population. As such, while the insights gained in this study inform education for deliberation, similar studies on adult populations are needed to determine the applicability of these results to all online discussion environments.

Fourth, the study design lacks direct comparisons of online deliberation with face-to-face deliberation. The higher female participation in online discussion could be attributed to these females having greater confidence in their abilities (recall they were in an Honors class); if so, then we would expect to see no differences by gender in participation in face-to-face deliberation. While anecdotal notes from the classroom teacher indicate that males routinely did most of the talking in face-to-face settings, we did not systematically test that proposition. As such, this alternative explanation cannot be ruled out. Experimental designs that involve face-to-face deliberation are necessary in order to determine more precisely the degree to which anonymity provides benefits for female participants in deliberations above and beyond those conferred by the computer-mediated environment.

Lastly, further research is required to examine the duration of any benefits anonymity confers. The deliberations in this study took place over the course of two weeks and were spaced over the course of a single semester. Though students who discussed anonymously in the first discussion expressed more opinions than those who discussed in the named condition, it is not clear whether this result represents a temporary or enduring effect. It is possible that anonymous conditions are simply better skill-building environments and translate into increased contributions over the long–term. However, it is also possible that anonymity provides a temporary boost in comfort and confidence that will dissipate over time.

While this study highlights the potential of online, anonymous environments, it is important not to discount face-to-face deliberation. Though political communication is increasingly occurring online, there will always be a place in a deliberative democratic system for in-person deliberation, particularly in education where engaging one's peers face-to-face builds valuable skills for participation in civic life.

Our research suggests two lines of investigation regarding both online and face-to-face discussion. First, in-depth comparisons of students participating in deliberations across the three environments (face-to-face, online named, online anonymous) over time are needed. Such research would help delineate the changes that occur in participation and opinion expression when the same students participate in different environments. Second, and more important, research is needed to document whether skills learned in online realms can

improve student performance in face-to-face deliberation. Would females, or other historically silenced groups, perform better in face-to-face deliberations after building their skills in online forums? Are there specific pedagogies that can facilitate such skill transference? Both the digital and offline realms are important parts of political discourse. Educators, therefore, must prepare students to engage in deliberations and discussions in both.

Conclusion

Online deliberations have the potential to reduce and even eliminate barriers that prevent female students from feeling comfortable participating in face-to-face deliberations. Our research provides support for this potential by showing that female students contribute and express themselves at levels comparable to and even exceeding their male counterparts in online environments. Further, our finding that females tend to prefer anonymous conditions when deliberating online suggests a promising avenue of investigation toward the goal of creating safe spaces for students to deliberate controversial issues. Increased female participation helps all involved: Females are able to practice expressing their ideas and males benefit by exposure to a broader range of perspectives. With online deliberations, students are able to practice in a controlled, teacher-supported environment. While face-to-face deliberations will not, nor should they, disappear from the classroom, incorporating anonymous online forums may provide opportunities for less participatory students to contribute and develop valuable democratic skills. Democracy needs citizens willing and capable of expressing their ideas and opinions. By constructing deliberative experiences in ways that all students can benefit, teachers can thus strengthen democratic education.

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Appendix A

Instructions to students and grading rubric

Discussion 1: As a group, make a recommendation to the state legislature about whether or not convicted felons should be allowed to vote.
Week 1- Discuss the various arguments for the topic
Week 2- Work towards a consensus and explain three points why you are recommending the policy that your group chooses
The group is free to set any due dates on its members. Each member should post 2 times per week. The discussion needs to be done by 5:00 PM on April 17.

Discussion 2: Should schools be allowed to punish students for off-campus cyberbullying?

- Group's goal: Come up with a policy to recommend to the state legislature about whether or not schools be allowed to punish students for off-campus cyberbullying
- Minimum postings: 2- per week; Discussion is open from Monday, April 28- Friday, May 9
  You will either be posting with your name OR with under a "Color Code" name. If you have a Color Code: DO NOT SHARE YOUR REAL IDENTITY!

General Grading Chart (online and face-to-face)

The goals of our discussion are to understand the public policy problem, its background, its possible solutions, and its impact on our society. Many of our discussions will go even a step further for you to evaluate the possible solutions and come up with a policy recommendation. This grading is structured for us to attempt to achieve this goal.

> Your discussion as a whole will be graded both by you and me. You will receive **up to five points** for your overall contributions based on this list:
>
> UNSATISFACTORY (1): The student has failed to express any relevant foundational knowledge and has neither stated nor elaborated on any issues.
>
> MINIMAL (2): The student has stated a relevant factual, ethical, or definitional issue as a question or has accurately expressed relevant foundational knowledge pertaining to an issue raised.

ADEQUATE (3): The student has accurately expressed relevant foundational knowledge pertaining to an issue raised during the deliberation and has pursued an issue by making a statement with an explanation, reasons, or evidence.

EFFECTIVE (4) : The student has accurately expressed relevant foundational knowledge pertaining to an issue raised during the deliberation, pursued an issue with AT LEAST one elaborated statement and, in a civil manner, has built upon a statement made by someone else or thoughtfully challenged its accuracy, clarity, relevance, or logic.

EXEMPLARY (5): The student has accurately expressed relevant foundational knowledge pertaining to an issue raised during the deliberation, pursued an issue with an elaborated statement, and has used stipulation, valuing, or analogy to advance the deliberation. In addition, the student has engaged others in the deliberation by inviting their comments or acknowledging their contributions. Further, the student has built upon a statement made by someone else or thoughtfully challenged its accuracy, clarity, relevance, or logic.

From "Classroom Assessment of Civic Discourse," by D.E. Harris, 2002, In W. C. Parker (Ed.), Education for Democracy: Contexts, Curricula, Assessments, pp. 211-232.

You will also receive a score of **up to five points** for the specific content you've brought to the discussion:

 Positive Behaviors
1-pt. Citing a source (e.g., "According to an article from *Time* on March 7…)
2-pt. Linking to class material (e.g., This shows the conflict that exists within the Second Amendment)
2-pt. Recognizing contractions (e.g., "you said previously that X is not important, but the article you mention indicates it is important")
2- pt. Take a position (e.g., "I believe that X is important because of reasons 1, 2, 3)
1- pt. Summarizing the statements made in the discussion

Negative Behaviors (loss of points if this occurs):
Irrelevant or distracting statements
Obstructive interruption
Monopolizing

Personal attack
Sharing your anonymous code
Asking others for their anonymous codes

Appendix B

Open Classroom Climate Scale
(Torney-Purta, Lehmann, Oswald, & Schulz, 2001)

Think about your experiences in _this class_ as you respond to the following statements.

1. Students feel free to disagree openly with the teacher about political and social issues during class.
2. Students are encouraged to make up their own minds about issues.
3. The teacher respects our opinions and encourages us to express them during class.
4. Students feel free to express opinions in class even when their opinions are different than most of the other students.
5. The teacher encourages us to discuss political and social issues about which people have different opinions.
6. The teacher presents several sides of an issue when explaining it in class.

Appendix C

Fear of Social Isolation Scale
(adapted from Hayes, Matthes, & Eveland, 2011)

In this section, please tell us how you feel about social situations.

1. It is scary to think about not being invited to social gatherings by people I know.
2. One of the worst things that could happen to me is to be excluded by people I know.
3. I dislike feeling left out of social functions, parties, or other social gatherings.
4. It is important to me to fit into the group I am with.

Appendix D

Willingness to Self-Censor Scale
(Hayes, Glynn, & Shanahan, 2005)

In this section, we want to know more about how you express your opinion.
1. It is difficult for me to express my opinion if I think that others won't agree with what I say.
2. There have been many times when I have thought others around me were wrong but I didn't let them know.
3. When I disagree with others, I'd rather go along with them than argue about it.
4. It is easy for me to express my opinion around others who I think will disagree with me.
5. I'd feel uncomfortable if someone asked my opinion and I knew that he or she would disagree with me.
6. I tend to speak my opinion only around friends or other people I trust.
7. It is safer to keep quiet than to publicly speak an opinion that you know most others don't share.
8. If I disagree with others, I have no problem letting them know it.