

# The Role of Social Group Membership on Classroom Participation

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### ABSTRACT

Active and cooperative learning is integral to many social science classes, as it increases student motivation, improves communication skills, and stimulates creative thinking. Many political science departments break large lectures down into smaller, weekly tutorial groups to foster active learning. But do all students participate equally in active, participatory learning? We use an original dataset measuring self-reported participation and a number of important predictors (student gender, race, and language proficiency) collected from 700 undergraduate students in 91 political science tutorials. We find that participation does vary across social groups, even when controlling for psychological and some contextual factors. Female students participate significantly less than males, racial minorities report speaking less frequently than white students, and students with lower English-proficiency (the language of instruction) also participate less. In light of these findings, we offer suggestions for instructors on how to motivate all students to find their voice in the classroom.

### INTRODUCTION

Active learning—instructional methods that engage students in learning, rather than simply treating students as passive vessels to be filled with knowledge through lectures—can increase motivation (Hensley 1993), foster student learning (Stroessner, Beckerman, and Whittaker 2009), and improve communication skills (Prince 2004). In order to foster active learning, many political science departments break large lectures down into smaller, weekly tutorial groups. But do all students benefit equally from active, participatory learning? Or is there systematic variation in who participates and who falls silent? This article begins by reviewing the benefits of active and cooperative learning. We use an original dataset measuring self-reported participation and a number of important predictor and control variables, collected from 700 undergraduate students in 91 political science tutorials, to determine whether there is variation in participation by students'

social group membership. We find that participation does vary across social groups, even when controlling for psychological and some contextual factors. Female students participate significantly less than males, racial minorities report speaking less frequently than white students, and students with lower English-proficiency (the language of instruction) also participate less. In light of these findings, we offer suggestions for instructors on how to motivate all students to find their voice in the classroom.

### ARE THE BENEFITS FROM ACTIVE AND COOPERATIVE LEARNING BEING SHARED EQUALLY?

Active learning has a number of benefits. Encouraging students to take command of their own learning increases student motivation (Hensley 1993), improves decision making, problem solving, pattern recognition, and creative thinking (Stroessner, Beckerman, and Whittaker 2009). Active learning also carries interpersonal benefits by improving conflict resolution, presentation, and communication skills (Stroessner, Beckerman, and Whittaker 2009; see also King 2016; Prince 2004 for reviews). These interpersonal benefits are most likely to be realized when active learning techniques promote cooperative learning—where students work together in small face-to-face groups—but are assessed individually. Cooperative

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learning can improve the quality of students' interpersonal skills and perceptions of social support and increase feelings of mutual liking among students (Johnson, Johnson, and Smith 1991; Johnson, Johnson, and Smith 1998). Of course, active and cooperative learning techniques have drawbacks—in particular, they are notably harder to implement in lectures with large numbers of students. To harness the benefits of active and cooperative learning, many universities with large, lecture-style classes break lectures down into smaller tutorials that meet for one hour-long session per week. Tutorials aim to have a small number of students, typically no more than 15. In many cases, university tutorials are led by

These findings raise an important question: does active and cooperative learning—the kind of learning that is encouraged in tutorials, where students are graded individually for their participation in tutorial activities and discussions—benefit all students equally, or is there systematic variation in who is benefitting from participatory and small-group learning? To answer this, we draw on an original survey of 700 students in 91 political science tutorials, led by 61 different TAs (most TAs teach more than one tutorial) at the University of British Columbia, a large research-oriented university in Vancouver, British Columbia, Canada.<sup>1</sup> Although a number of studies have considered student

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graduate student teaching assistants (TAs), who prepare activities and discussion topics and moderate discussions. In many classes (including all the courses in our study), tutorial participation is graded, with tutorial participation grades typically counting for 10% of students' final grades.

But do all students enjoy the same benefits from the active, cooperative learning techniques, or do the benefits of small group discussions vary systematically? Normative political theorists in the field of deliberative democracy have long been occupied with the problem of internal exclusion in discourse. Internal exclusion refers to having little voice or influence in conversations—despite the formal presence of disempowered group members—because of their minority status or reduced social standing (Beauvais 2015; Fraser 1990; Young 2000). Recent empirical work in political science adds to these normative concerns. Research shows that in certain contexts in small group discussions, men engage in aggressive conversational behaviors that can silence women's voices (Mendelberg, Karpowitz, and Oliphant 2014). And jury studies find that, in certain contexts, historically disadvantaged groups such as women or African Americans report having less influence over deliberations (see Mendelberg 2002 for a review).

The concern that social status—and, in particular, gender—can undermine discursive influence and participation in small group discussions is not limited to political science. Scholarship in education research also suggests that student participation in the classroom likely varies by gender, although findings are somewhat mixed. Most studies find that female students participate less than their male counterparts (Howard, Short, and Clark 1996; Sternglanz and Lyberger-Ficek 1977; Wade 1994). However, some studies suggest a more ambiguous relationship. For instance, Crawford and MacLeod's (1990) comparison of a small college and a large university found that men participated more at the small college, but gender had no effect at the large university. One of the more recent studies on the topic indeed concluded that gender equality has been realized in the classroom (Weaver and Qi 2005). Almost no studies have looked at the relationship between language proficiency or race and participation in the classroom, but political science research on small groups suggests that, at least in some contexts, racial minorities participate less (Mendelberg 2002).

participation in university lecture halls, our study is the first to focus on participation in tutorials.

#### METHODS AND ANALYSIS

In order to examine whether there is systematic variation in participation by social group membership, we operationalize our dependent variable by using a four-category ordinal measure of self-reported participation—students' responses to the survey question: "How often do you participate in tutorial discussion?" (table 1).<sup>2</sup> With respect to independent variables, we include a measure of student gender, proficiency in English (the language of instruction),<sup>3</sup> and race (a dummy variable indicating if the respondent identifies as a white student) (see table A1 for question wording).

To control for rival plausible explanations and ascertain the individual effects of the variables, we include a host of controls the literature suggests might be important (table 1). We control for social anxiety, since socially anxious or "shy" students may participate less (Aamodt and Keller 1981; Hyde and Ruth 2002), and because social anxiety might correlate with social group membership (Howard, Short, and Clark 1996). Social anxiety is measured using an abbreviated and rescaled version of Social Interaction Anxiety Scale developed by Mattick and Clarke (1998). High values indicate high social anxiety (table A2). We also control for whether or not a student met with the TA outside of office hours, to control for personal rapport between the students and their TA.<sup>4</sup> Greater personal rapport with the TA could independently increase participation, and, since greater personal rapport may also correlate with less social anxiety, it must be controlled for. We also control for the number of acquaintances that a student reports knowing in the tutorial, because that might also correlate with social anxiety. The final student attribute we control for is students' year of study, as first year students might participate less (Fritschner 2000), and again, this might correlate with other variables such as social anxiety and number of known acquaintances. All these measures are self-reported (table A1). Finally, we control for the TA's gender because some studies suggest that TA gender accounts for gendered differences in participation, either because instructors engage in discriminatory behaviors or

**Table 1**  
**Summary Statistics of Variables**

Variable	Mean	Std. Dev.	Min	Max
<b>Subjective Participation</b>				
Never	0.0118	0.1082	0	1
Rarely	0.1229	0.3286	0	1
Sometimes	0.397	0.4896	0	1
Very frequently	0.4681	0.4993	0	1
<b>Female</b>	0.5881	0.4925	0	1
<b>Social anxiety score</b>	0.2866	0.1982	0	1
<b>English proficiency</b>	2.2076	0.1543	0	2.3
<b>First year</b>	0.443	0.4971	0	1
<b>White</b>	0.4414	0.4969	0	1
<b>Meeting the TA</b>				
Never	0.6844	0.465	0	1
Rarely	0.1881	0.3911	0	1
Sometimes	0.1096	0.3126	0	1
Often	0.0177	0.1322	0	1
<b>Number of acquaintances</b>				
None	0.1244	0.3303	0	1
1 to 2	0.3644	0.4816	0	1
3 to 4	0.2325	0.4227	0	1
5 to 6	0.1362	0.3433	0	1
More than 6	0.1422	0.3495	0	1
<b>TA female</b>	0.5125	0.5002	0	1
N=675				

because male and female students respond differently to male and female instructors (Boersma et al. 1981; Constantinople, Cornelius, and Gray 1988).<sup>5</sup> The distribution of these variables is presented in table 1. We used an ordered logistic regression model and clustered the model by TA to account for the variation at the TA level, as one TA is usually assigned to multiple sessions (usually three). There is little variation across courses, because almost all tutorial sections were for more introductory (freshman and sophomore), survey courses (such as “Introduction to Politics”).

### FINDINGS

We find that female students participated significantly less than males (table 2). Being female reduces the predicted probability that a student reported participating “very frequently” by 11 percentage points, and increases the probability a student reported participating “rarely” by 5 percentage points. There is *no* evidence that instructor gender impacted the participation rates of male or female students. Contradicting literature suggests, however, that male instructors promote male participation through discrimination, or rather, suppress female participation by creating a “chilly climate” (Hall and Sandler 1982), and that female instructors promote female participation (Karp and Yoels 1976; Sternglanz and Lyberger-Ficek 1977).<sup>6</sup> Our research confirms the finding in education research of a gender gap in student participation that dates back 40 years (Sternglanz and Lyberger-Ficek 1977; Hall and Sandler 1982; Karp and Yoels 1976).

**Table 2**  
**Model of Student Participation**

Subjective Participation	Coefficients	Std. Errors	Marg. Eff.	Std. Errors
<b>Female</b>	-0.512**	[0.159]	-0.111**	[0.033]
English proficiency	0.867*	[0.442]	0.186*	[0.049]
European	0.417*	[0.165]	0.091*	[0.036]
<b>Social anxiety</b>	-2.252***	[0.383]	-0.496***	[0.089]
<b>Meeting the TA</b>				
base=Never				
Rarely	0.419*	[0.212]	0.091*	[0.002]
Sometimes	0.883**	[0.271]	0.190**	[0.055]
Often	0.348	[0.605]	0.075	[0.132]
<b>No. of acquaintances</b>				
base=None				
1 to 2	0.918***	[0.231]	0.186***	[0.042]
3 to 4	1.076***	[0.301]	0.221***	[0.059]
5 to 6	1.431***	[0.299]	0.301***	[0.060]
More than 6	1.399***	[0.339]	0.293***	[0.067]
<b>First year</b>	-0.214	[0.116]	-0.046	[0.025]
<b>TA female</b>	0.0844	[0.224]	0.018	[0.048]

N=675 No. of Clusters (TA): 61

Standard errors in brackets

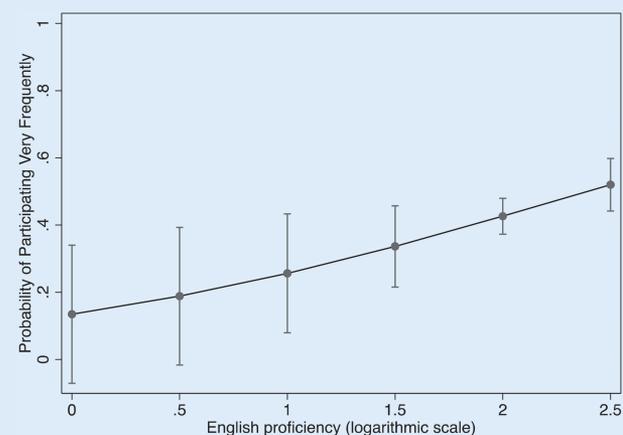
\**p* < 0.05, \*\**p* < 0.01, \*\*\**p* < 0.001

Marginal effects are predicted probabilities for participating ‘very frequently’

Clustering at the level of tutorials does not change the results.

Strong English-language skills (the language of instruction) increase reported participation (table 2). The difference in the predicted probability of participating “very frequently” between students who indicate the lowest English proficiency and those who indicate the highest proficiency is a whopping 32 percentage points (figure 1). Our third main independent variable—race—is also significant. Identifying as a white student increases the

**Figure 1**  
**Marginal Effect of English Proficiency on Probability of Participation**



predicted probability that a student participates “very frequently” by 9 percentage points. Our findings confirm the concern that students belonging to less empowered social groups—women, non-native language speakers, and racial minorities—are less likely to exercise their voices in the classroom.

Female students, those with lower English proficiency, and racial minorities are all less likely to participate, even when controlling for factors such as social anxiety. Perhaps unsurprisingly, social anxiety also independently reduces reported participation. The effect of being a first-year student does appear to reduce

of disempowered group members in discourse (Beauvais 2015; Young 2000; Fraser 1990). Because students in our study were graded on their active participation in tutorials, women’s, as well as linguistic and racial minorities’ relative silence had measurable, material consequences for their success. The solution, however, does not lie in returning to an older view of education, where students are treated as empty vessels to be filled with knowledge by professors lecturing from a podium. Based on our personal experiences with teaching, and from student feedback and evaluations, students seem to genuinely enjoy and benefit from active

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participation, but is only marginally significant after controlling for other factors ( $p = 0.06$ ). Having greater rapport with the TA (meeting with the TA outside the tutorial) significantly increases participation, but with diminishing returns: meeting with the TA “rarely” is significantly better than “never,” and meeting “sometimes” is better than “rarely.” But there is no significant difference between meeting “sometimes” and meeting “often” in terms of participation levels (figure 2). Even when controlling for social anxiety, knowing more acquaintances significantly increases participation. It is not just that students who feel more comfortable speaking in class are social butterflies, as even shyer students reap the participatory benefits of knowing more acquaintances in tutorial (figure 3). This suggests that improving active learning may begin outside the classroom, by fostering campus social activities.

**DISCUSSION AND SUGGESTIONS FOR MOTIVATING VOICE AND OVERCOMING THE PARTICIPATION GAP**

Our findings confirm the concerns of normative political theorists, who warn about the danger of internal exclusion and the silencing

learning, regardless of gender, mother tongue, or race. Given that active and cooperative learning is—we hope—here to stay, what can we do to help all our students find their voices?

Answering this question requires getting a better sense of what silence means to the students. One question in our survey asks students to indicate their reasons for *not* participating from a list of options. When we tabulate the reasons for non-participation by gender, the table helps to clarify the picture, and hints at possible avenues for further research (table 3).

Considerably more female students selected items emphasizing personal doubts or insecurity, such as “I may be wrong,” “I might look stupid,” and “I don’t know how to express myself.” To answer the question of what causes the gender gap in participation, more research into what causes females to have greater self-doubt is needed. Extant political science research hints at a factor that might *aggravate* female’s self-doubt: patterns of negative male interruptions, which can silence female discussion partners in certain contexts (Mendelberg, Karpowitz, and Oliphant 2014). But this does not explain the origins of the insecurity. In terms of what this means for teaching, building confidence early is essential. We recommend instructors introduce

Figure 2  
Marginal Effect of Meeting with the TA on Probability of Participation

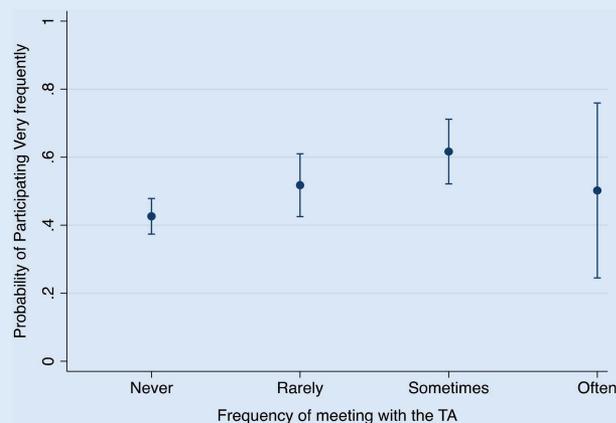


Figure 3  
Marginal Effect of Acquaintances on Probability of Participation

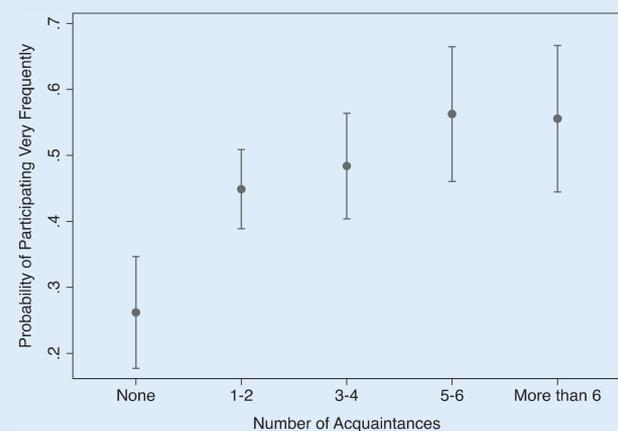


Table 3

### Distributions of Female and Male Students' Responses to Why They do not Participate

	FEMALE	MALE	Test of difference
	N=394	N=277	P-values
I don't have much to say	62.44	51.99	0.007
The discussion is not interesting	25.76	31.77	0.092
I think I might be wrong	45.96	29.24	0.000
I think I might look stupid	29.8	16.25	0.000
I don't know how to express myself	27.78	14.08	0.000
I am worried I would be misunderstood	19.7	13.72	0.038
I think my views might be unpopular	13.38	11.91	0.571
English is not my first language	7.07	6.14	0.630

Numbers in the cells are percentages of respondents who indicated "yes" to the reason.

t-tests assumed unequal variance in two samples.

participatory learning that is accessible to all students (we will return to this point) early in the semester, and give strong encouragement and praise. Instructors must be attentive to the conversational dynamics of discussion groups to ensure patterns of interruptions are not silencing voices, and could include a penalty for interrupting as part of their grading rubric. For instance, the rubric could be designed so that students not only gain points for speaking out, but also lose points for interrupting others. Studies of political deliberation suggest that facilitation is useful for ensuring that everyone has an equal chance to speak, and that different sides of the debate are heard (Landwehr 2014). Instructors should remember that they are not just there to teach and grade, but also to play an important role as discussion facilitators.

Relatedly, on the very first day the tutorial convenes, instructors should articulate ground rules for participation. This includes not only explaining (or developing) the rubric for participation, but also explaining the boundaries of respectful communication. It is difficult to give blanket examples of participatory learning that is "accessible" to all students, since this is highly subjective, and will vary by student. As such, instructors might get student input into what *they* consider accessible participation, such as asking how participation should be graded, either by deciding on the grading rubric together as a group on the first day of class, or by giving students pre-set options from which to choose. Giving students a say in how they are assessed may give them some ownership over the process and allow them to make suggestions for participation that they find less intimidating. If participation is assessed based on the typical "speaking in class," instructors should provide some questions or topics in advance so that self-conscious students, or students with lower language proficiency, can prepare answers before the tutorial. Instructors can also include options that involve technology, such as allowing students to participate in an online forum outside tutorial meetings, or to participate during tutorial via a live Twitter feed. Instructors could count the tweets and rate the quality of tweets and posts for participation grades.

Another way to boost participation is to allow students to discuss in small groups and ask one student to present the group's conclusion to the rest of the tutorial (rotating the role of presenter each week). This would not only create a less intimidating avenue for participation, but would also create an in-class opportunity for building relationships between students. This is important considering our finding that knowing more acquaintances in tutorials independently increases participation. In order to prevent the conversational dynamics that inhibit participation in the tutorial as a whole from also inhibiting participation in small groups, instructors could try "skills grouping." That is, grouping students according to their participation levels, so that high participators are paired with high participators for group work, and low-low participators are grouped together. This should create an opportunity for "enclave deliberation" among less vocal students, a quieter space for those who find that their voices get drowned out in the general discussions (see Karpowitz, Raphael, and Hammond 2009 for a discussion of the benefits of enclave deliberation among the disempowered). Note that even though student participation varies systematically by social group membership, we recommend that, for "skills grouping," instructors group students based on their *level of participation* in the larger group, and not students' ascribed characteristics.

### CONCLUSION

The literature suggests that active and cooperative learning increases student knowledge and retention (Prince 2004). Tutorials serve the purpose of promoting active learning with interactive environments and emphasis on participation. Despite their vital role in learning, there is a dearth of research on participatory dynamics in tutorial. Our study provides valuable input to this literature by shedding light on concerning variation in tutorial participation. Specifically, the concern that participation rates vary systematically by social group, with members of less powerful social groups—females, non-native speakers, and racial minorities—participating at lower rates. Our findings also guide our suggestions for promoting greater student participation in tutorials. Our findings and suggestions are not necessarily limited to tutorials, but may also be applicable to other settings, such as classes in small liberal arts colleges, where discussion groups are slightly larger (around 35 students), and where social anxiety and other factors may play an even larger role in regard to speaking in front of larger groups. We encourage all political science instructors and teaching assistants in colleges and universities to be attentive to classroom dynamics. We hope our suggestions for promoting participation help instructors foster more inclusive classroom discussions.

### SUPPLEMENTARY MATERIAL

To view supplementary material for this article, please visit <https://doi.org/10.1017/S104909651600319X>

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NOTES

1. An anonymous reviewer suggested adding information about the racial composition of the locale where the study took place. Statistics Canada does not collect information on “race” analogous to US measures, although it does include data on mother tongue, which is indicative of Vancouver’s ethnic composition. According to Statistics Canada (2013) census data, 50.2% of Vancouver residents speak English as their mother language, and the next most popular mother tongues are: Cantonese (11%), Chinese not otherwise specified (7.8%), Mandarin (4.1%), Tagalog (3.7%), and Panjabi (2.7%). According to the University of British Columbia (n.d.), 23% of students at the Vancouver campus (where we conducted our study) are international students.
2. Although this measure relies on self-reported participation, the surveys were anonymous, and the students had no incentive to over-estimate their participation. That most students report participating “frequently” or “sometimes” (table 1) makes intuitive sense, as all students in our study were graded based on their participation, and so were highly motivated to participate at least “sometimes.”
3. We initially also controlled for international student status (whether the student is international or domestic), but found there is no effect of being an international student after controlling for language proficiency. Students from other English-speaking countries (many of the international students in our sample were from the United States) participate just as much as their domestic peers, and domestic students with lower language proficiency participate less than domestic speakers who report higher proficiency. We dropped international student status to simplify the model.
4. As an anonymous reviewer pointed out, “Meeting with the TA” may raise endogeneity concerns, if both meeting the TA and participation are due to a confounding latent trait (such as student “keenness”). We checked for an underlying confounding trait variable using item response models and classic alpha scores, and found that meeting the TA does not load on the same factor as student participation. Their correlation is very weak, which should obviate concerns of endogeneity.
5. We initially included an interaction between student gender and TA gender, but the interaction failed to reach statistical significance (contact authors for additional details). We removed the variable from our analysis to simplify the model.
6. We ran multiple interaction models to see if the gender gap is conditional on other factors such as TA gender, social anxiety, race or language skills. However, we find no interaction effects, which corroborates the independently negative effect of being female on participation. Gender composition of the tutorial (proportion female) also does not impact female participation (contact authors for more details).

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