BEYOND THE SELF:
SOCIAL IDENTITY, ALTRUISM, AND POLITICAL PARTICIPATION

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Web Appendix
for
The Journal of Politics

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A Formalized Sketch of Altruism and Social Identity, Footnote 4

The social identity and altruism theories of participation can help resolve the paradox of participation. To formalize the social identity and altruism theories of participation, suppose society is composed of N individuals and divided into two groups, X and Y. For simplicity, suppose that the groups are equal in size. The altruism theory suggests that the benefit a person receives from participation is a function not only of direct benefits to oneself B_S, but also the benefits to the N other people affected by the outcome of the election. The social identifier theory also suggests that individuals care not only about total benefits to others, but also the way those benefits are distributed. Thus, suppose the political outcome preferred by a member of group X would yield an average benefit B_O for all members of society, but it would also yield an average transfer B_T of resources from group Y to group X. In other words, the preferred outcome would yield $B_O + B_T$ for members of group X and $B_O - B_T$ for members of group Y. Suppose further that the amount the individual cares about the well-being of others is indexed by α for altruism and subscripted by group such that $\alpha_X \geq \alpha_Y$, since a member of group X may care more about benefits to members of group X than group Y. Then the total expected value of participation is the sum of the benefits to oneself, group X, and group Y:

$$P\left(B_s + \alpha_X\left(\frac{(B_0 + B_T)N}{2}\right) + \alpha_Y\left(\frac{(B_0 - B_T)N}{2}\right)\right) \qquad [1]$$

Rearranging produces:

$$PN\left(\frac{B_S}{N} + B_0\left(\frac{\alpha_X + \alpha_Y}{2}\right) + B_T\left(\frac{\alpha_X - \alpha_Y}{2}\right)\right) \qquad [2]$$

Note first that the expected benefit is multiplied by both P and N. Although P might be very small, N might be very large. In fact, a number of scholars have shown both theoretically (Chamberlain and Rothchild 1981; Edlin, Gelman, and Kaplan 2003; Fischer 1999; Good and Mayer 1975; Tullock 1967) and empirically (Gelman, King, and Boscardin 1998; Gelman, Katz, and Bafumi 2004; Mulligan and Hunter 2003) that for the act of voting P is approximately proportional to $1/N$ when there is uncertainty about the election due to polling error, personal information constraints, and so on. Thus, caring about benefits to others might help to explain how we resolve the paradox of participation.

Note also that we can decompose the expected benefit from participation into three separable motivations. The first term B_S / N suggests that the benefit to oneself directly influences the decision to participate, but it is weighted inversely by the number of people in society. Thus, participation increases as the benefit to oneself increases, but in large populations this may only be a small consideration. This term is reflected in the standard paradox of participation.

Our theoretical contribution in resolving the paradox of participation appears in the second and third terms. The second term suggests that the average benefit to others B_O is an important consideration, but only in conjunction with ($\alpha_X + \alpha_Y$) / 2, the average altruism felt towards *all* members of society. The more one cares about either group, the more one will be willing to participate to help achieve those benefits. On the other hand, if a person does not get utility from helping anyone, then $\alpha_X = \alpha_Y = 0$, and benefits to others will not increase the likelihood of participation. Finally, the third term indicates that the redistribution of B_T from group Y to group X may also motivate political participation, but only if the individual socially identifies more with group X than group Y ($\alpha_X > \alpha_Y$). If a person cares equally about both

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groups ($\alpha_X = \alpha_Y$) then they will see no value in transferring resources between them, and B_T will not promote participation. In this illustrative model, our reformulation of the benefits that individuals receive from policy outcomes suggests that purely self-interested individuals are characterized by $\alpha_X = \alpha_Y = 0$, social identifiers are characterized as $\alpha_X > \alpha_Y$, and altruists are characterized by $\alpha_X + \alpha_Y > 0$. Increases in social identification will produce increases in participation, and increases in altruism will produce increases in participation.

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Appendix: Variable Description and Question Wording

Altruism is based on behavior in the dictator game. The game was described as follows: "Find the two envelopes marked with the letter "A". One of these envelopes has 10 prize tickets in it and the other envelope is empty. You may keep one of these envelopes, but we will give the other envelope to a randomly chosen anonymous individual. You will never be able to find out the identity of the anonymous individual, and the anonymous individual will never be able to find out your identity. *You know nothing about this anonymous individual.* You must choose how to divide the 10 tickets between yourself and the anonymous individual. You may keep all, none, or some of the tickets—the decision is up to you and will be *completely anonymous*. If you choose to share some tickets, take that number of tickets out of the "A" envelope with tickets in it and put them in the empty "A" envelope. Seal both envelopes and then deposit the envelope you are giving to the anonymous individual in the box next to the computer. You will keep the other envelope for yourself. How many tickets did you keep for yourself?"

Altruism is coded as the fraction of tickets given to the anonymous player. The dictator game was repeated with envelopes "B" ["C"] where "*You know nothing about this anonymous individual"* was replaced with *"The only thing you know about this individual is that he or she is a registered Republican [Democrat]."*

The order of the dictator games was randomized and stored as dummy variables *Democrat First* and *Republican First*. *Social identifier* is a dummy variable that equals 1 if the amount given to the Democrat, Republican, and anonymous recipient are not equal, and 0 otherwise.

Civic duty is coded 0 = agree strongly, 1/4 = agree somewhat, 1/2 = neither, 3/4 = disagree somewhat, and 1 = disagree strongly for "If a person doesn't care how an election comes out he shouldn't vote in it."

Political information is the fraction of correct answers to the following 4 multiple choice and open answer questions. "Which party currently has the most members in the House of Representatives in Washington?" (Republican / Democrat) "Which party currently has the most members in the Senate in Washington?" (Republican / Democrat) "Who has the final responsibility to decide if a law is constitutional or not?" (President / Congress / Supreme Court) "Whose responsibility is it to nominate judges to the Federal Courts?" (President / Congress / Supreme Court)

For *external efficacy* we follow Niemi, Craig, and Mattei (1991) by creating an index that sums responses from four questions: "People like me don't have any say about what the government does", "We don't think public officials care much what people like me think", "How much do you feel that having elections makes the government pay attention to what the people think?", and "Over the years, how much attention do you feel the government pays to what the people think when it decides what to do?". The first two questions are coded 0 = agree strongly, 1/4 = agree somewhat, 1/2 = neither, 3/4 = disagree somewhat, and 1 = disagree strongly. The third and fourth questions are coded 1 = a good deal, 1/2 = some, and 0 = not much.

For the next set of variables we follow the question wording used in the NES.

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Income is the answer to: "Please choose the category that describes the total amount of income earned in 2003 by the people in your household. Consider all forms of income, including salaries, tips, interest and dividend payments, scholarship support, student loans, parental support, social security, alimony, and child support, and others." (1 = $15,000 or under, 2 = $15,001 - $25,000, 3 = $25,001 - $35,000, 4 = $35,001 - $50,000, 5 = $50,001 - $65,000, 6 = $65,001 - $80,000, 7 = $80,001 - $100,000, 8 = over $100,000). *High Income* is a dummy variable coded 1 if income is greater than or equal to the median (category 7).

Partisan Identification is based on the standard NES set of questions where 0 = Strong Democrat, 1/6 = Democrat, 1/3 = Independent Leaning Democrat, 1/2 = Independent, 2/3 = Independent Leaning Republican, 5/6 = Republican, and 1 = Strong Republican. *Partisan strength* is coded 0 = independents and apoliticals, 1/3 = independents leaning towards a party, 2/3 = weak partisans, and 1 = strong partisans. *Female* is 1 for female, 0 for male. *White* is 1 for whites, 0 for others.

The remaining questions are based on those that appear in Verba, Schlozman, and Brady (1995). *Political Interest* is the mean answer to two questions "Thinking about your local community, how interested are you in local community politics and local community affairs?" and "How interested are you in national politics and national affairs?" (0 = not much interested, 0.5 = somewhat interested, 1 = very much interested).

Questions about civic skills include: *Write letter* - "As part of your job, your involvement with organizations, or your religious activities, have you ever written a letter?" *Make decisions* - "As part of your job, your involvement with organizations, or your religious activities, have you ever gone to a meeting where you took part in making decisions?" *Chair meeting* - "As part of your job, your involvement with organizations, or your religious activities, have you ever planned or chaired a meeting?" *Give presentation* - "As part of your job, your involvement with organizations, or your religious activities, have you ever given a presentation or speech?" (0 = No, 1 = Yes).

Acts of participation include: *Vote* - "In talking to people about elections, we find that they are sometimes not able to vote because they're not registered, they don't have the time, or they have difficulty getting to the polls. Did you happen to vote in the 2004 general election in November?" *Contribute to a Candidate* - "Have you ever contributed money – to an individual candidate, a party group, a political action committee, or any other organization that supports candidates in elections?" *Join a Political Organization* – "Are you a member of any organizations that take stands on any public issues — either locally or nationally?" *Donate to a Political Organization* – "Not counting membership dues, have you given money to any organizations that take stands on any public issues — either locally or nationally?" *Attend Local Board Meetings* – "Have you ever regularly attended meetings of such an official local government board or council?" *Volunteer for Local Board* - "Have you ever served in a voluntary capacity—that is, for no pay at all or for only a token amount—on any local governmental board or council that deals with community problems and issues such as a town council, a school board, a zoning board, a planning board, or the like?" and *Protest* – "Have you ever taken part in a protest, march, or demonstration on some national or local issue (other than a strike against your employer)?" (0 = No, 1 = Yes).

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Table A1: Summary Statistics

Variable	Mean	S.D.
Vote	0.73	0.45
Contribute to a Candidate	0.21	0.41
Protest	0.42	0.49
Volunteer for Local Board	0.25	0.43
Attend Local Board Meetings	0.19	0.40
Join a Political Organization	0.18	0.24
Donate to a Political Organization	0.25	0.43
Altruism	0.30	0.31
Social Identifier	0.38	0.49
Partisan Identification	0.36	0.36
Partisan Strength	0.73	0.27
Political Interest	0.60	0.25
Political information	0.78	0.30
External Efficacy	0.52	0.18
Civic Duty	0.54	0.36
High Income	0.52	0.50
Female	0.57	0.50
White	0.58	0.50
Citizen	0.96	0.20
Give Presentation	0.61	0.49
Write Letter	0.48	0.50
Make Decisions	0.57	0.50
Chair Meeting	0.34	0.47

Note: All variables are scaled from 0 to 1.