Altruism and Political Participation *

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March 31, 2005

Abstract
I rework the traditional calculus of participation model by adding a term for benefits to others. Altruism is shown to affect participation in two ways. First, although the probability that a single act of participation affects the outcome of a political activity in large populations is quite small, the number of people who enjoy the benefit is large. As a result, altruists have a significant incentive to participate. Second, if politics involves transfers from one group to another, then unconditional altruists gain nothing from participating. However, discriminating altruists who care more about some groups than others will have a significant incentive to participate in activities that make members of their preferred groups better off. I use dictator games to measure altruism towards an unidentified anonymous recipient and two recipients identified only as a registered Democrat or a registered Republican. These allocations also permit a distinction between discriminating altruists and unconditional altruists. The results show that partisanship has several important effects on dictator game allocations, and both altruism and discriminating altruism significantly increase political participation.

*I would like to thank … for helpful comments. This paper is prepared for delivery at the Midwest Political Science Association annual meeting in Chicago, 2005. A copy of the most recent version can be found at http://jhfowler.ucdavis.edu.
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For decades, social scientists have sought to explain why people participate in politics (Campbell et al. 1960; Rosenstone and Hansen 1993; Verba, Schlozman, and Brady 1995; Wolfinger and Rosenstone 1980). Rational choice scholars have typically approached the problem by using models based on pure self interest (Aldrich 1993; Downs 1957; Feddersen and Pesendorfer 1996; Ledyard 1982; Myerson 2000; Palfrey and Rosenthal 1985). However, these models encounter a well-known difficulty: although an individual may derive personal benefits from a certain political outcome, the probability that a single act of participation will significantly affect the outcome is very small in large populations. This gives individuals an incentive to avoid the costs of participation and free ride on the efforts of others

At the same time, a growing experimental economics literature is beginning to question models based on pure self interest. Subjects in the laboratory frequently engage in altruism, bearing a personal cost to improve the welfare of others (Andreoni and Miller 2002; Camerer 2003; Kagel and Roth 1995). These findings are remarkably robust to a number of manipulations, and they suggest that models of human behavior should include an altruism component. Scholars have recently reworked the traditional calculus of voting model by adding a term for benefits to others (Edlin, Gelman, and Kaplan 2003; Jankowski 2002; Jankowski 2004). Although the probability that a single vote affects the outcome of an election is quite small, the number of people who enjoy the benefit when the preferred alternative wins is large. As a result, people who care about benefits to others may have a significant incentive to vote.

I extend this model in two ways. First, I generalize it for all acts of political participation. Second, I show that when politics is *distributive*, altruism has a different effect on participation. Specifically, individuals who care equally about two political groups will not be motivated by altruism to participate in activities that yield transfers from one group to another. However, altruists who care more about some groups than others *will* be so motivated since their participation helps increase the likelihood of a transfer from a group they care less about to a group they care more about. Thus, *discriminating altruists* ought to participate in politics more than those who do not discriminate.

To test the altruism and discriminating altruism theories of participation, I measure these variables in the laboratory by using a technique from experimental economics. Subjects are asked a

number of standard questions regarding their socioeconomic status, political attitudes, and participation behavior. They then play three "dictator" games (Forsythe et al. 1994), in which they are asked to divide a set of lottery tickets between themselves and an anonymous individual. The recipient is completely anonymous in all three games, but in two of the games subjects are informed that the recipient is a registered Democrat or a registered Republican. Allocations to the anonymous recipient reveal the degree to which each subject is generally concerned about the well-being of others, while allocations to the Democrat and Republican reveal the extent to which subjects may use political information to discriminate in their altruism.

These experiments yield several novel results for behavior in the dictator game and its relationship to political participation. First, there is a *partisan bias* in allocations. The Republican recipient tends to receive less than the Democrat or the unidentified anonymous recipient, even when the donor is a Republican. Second, there is an *own party bias* in giving. Democrats and Republicans both give more to the recipient from their own party than the opposing party. Third, there is a *selfish partisan bias*. Strong partisans give significantly less than other donors to recipients of all types. Fourth, there is a *partisan strength bias*. Nonpartisans give more to the anonymous recipient than the partisan recipients, while partisans do just the opposite.

Finally, both altruism and discriminating altruism appear to increase political participation. People who share with an anonymous individual in the dictator game participate in politics more than those who do not share. People who vary the amount they give depending on the partisan affiliation of the recipient also participate more than those who give the same amount to everyone. These results suggest that altruism plays an important role in the decision to participate.

Altruism and Political Participation

Traditional rational models of participation suppose that there are two possible outcomes to a political activity. For simplicity, a citizen receives a benefit $B > 0$ if her preferred outcome occurs, and 0 otherwise. Participation in the political activity has a cost $C > 0$ because it takes time, money, and other

resources to contribute to a collective endeavor to secure the outcome. However, participation also increases the probability that the preferred outcome will prevail by P. Thus, the citizen will participate if $PB > C$.

The main problem with this model is that a single act of participation usually has only a very small effect on the outcome. For example, if the participatory act is voting, then the outcome can only be changed when there is an exact tie, or when the vote can create a tie. If the participatory act is a contribution of money or time to a candidate or political organization, it may be just one of thousands or even millions of other contributions. In general, the probability that a single person's decision to participate will affect a political outcome is decreasing in the size of the relevant population, N. 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 P is approximately proportional to $1/N$ for voting. Thus, PB is probably less than C for most acts of political participation, even when populations are not too large and even when the cost of participation is very low.

For decades, scholars have tried and failed to explain widespread political participation as a phenomenon based purely on self-interest (Aldrich 1993; Downs 1957; Feddersen and Pesendorfer 1996; Ledyard 1982; Myerson 2000; Palfrey and Rosenthal 1985). However, there is by now a substantial literature in economics, sociology, biology, psychology, and political science yielding evidence that human beings are also motivated by the welfare of others (Fehr and Fischbacher 2003; Monroe 1998; Piliavin and Charng 1990). Specifically, people frequently engage in acts of *altruism* by choosing to bear costs in order to provide benefits to others.

Scholars incorporate altruism into the traditional calculus of participation model by assuming that each citizen also cares about the benefits that others secure from the preferred outcome (Edlin, Gelman, and Kaplan 2003; Jankowski 2002; Jankowski 2004). Under this assumption, B is a function not only of direct benefits to oneself B_S, but to the N other people affected by the outcome who would gain an average benefit B_O if the citizen's preferred alternative occurs. It also depends on how much the citizen

cares about benefits to others, which is labeled α for altruism. These assumptions transform the calculus of political participation to $P(B_S + \alpha N B_O) > C$. If P is proportional to $1/N$ and N is large, then the decision to participate reduces approximately to whether or not $\alpha B_O > C$. The main implication of this equation is that those who exhibit a sufficient degree of concern for the welfare of others will be willing to engage in costly political participation. I call this the *altruism hypothesis*.

Discriminating Altruism and Political Participation

One wrinkle in this story is the fact that it assumes that the political activity in question yields a positive average benefit to the whole population. Many political activities in the real world are *distributive*, conferring benefits on some groups while imposing costs on others. Another wrinkle is the assumption that individuals exhibit the same degree of altruism to all members of the population. Experimental work suggests that individuals may *discriminate* between members of different groups when they are choosing whether or not to bear a personal cost to help them. For example, Hoffman, McCabe, and Smith (1996) find that willingness to engage in altruism is decreasing in the "social distance" between two individuals and Eckel and Grossman (1996) note that altruism increases when the recipient appears to be more "deserving."

To model the effect of altruism on distributive politics, suppose that there are two possible outcomes to a political activity and there are two equally sized groups X and Y in the population such that $N_X = N_Y = N/2$. Without loss of generality, suppose that one outcome yields no benefits to anyone. In the other outcome, the individual deciding whether or not to participate receives a benefit $B_S > 0$, each person in group X receives a benefit $B_O > 0$, while each person in group Y must pay a cost $-B_O$. The individual making the decision whether or not to participate may exhibit different degrees of altruism towards the two groups, so we denote them α_X and α_Y. This changes the calculus of participation to $P(B_S + \alpha_X N_X B_O - \alpha_Y N_Y B_O) > C$. Again, under the assumption that P is approximately $1/N$, this equation reduces to $(\alpha_X - \alpha_Y) B_O > 2C$. What the equation suggests is that people who do not discriminate between the two groups ($\alpha_X = \alpha_Y$) will not be motivated to participate since the left hand side reduces to zero.

Regardless of how much one values benefits to others, the participatory act would not be an act of altruism because it would not be providing a net gain for others—it would merely transfer resources between two groups about which the individual cares equally. On the other hand, *discriminating altruists*, who value benefits to group *X* more than to group *Y* ($\alpha_X > \alpha_Y$) *will* have an incentive to participate, and this incentive will be increasing in the amount with which they discriminate between the two groups. I call this the *discriminating altruism hypothesis*.

It is important to realize that the altruism hypothesis and the discriminating altruism hypothesis may not be mutually exclusive. Politics is usually about both how to make the pie larger and how to split it when we are done. Similarly, the decision to participate in politics may be motivated both by a desire to make things better for everyone and a desire specifically to acquire as many benefits as possible for people in the groups we care about. Thus the benefit from participation may be affected by some combination of the altruism incentive and the discriminating altruism incentive.

Altruism and the Dictator Game

To test the altruism and discriminating altruism hypotheses, we need a measure for how much people value the welfare of others. Previous attempts to examine the relationship between altruism and voter turnout relied on questions in the National Election Study (NES) pilots. Knack (1992) creates an index of "social altruism" from questions about charity, volunteer work, and community involvement on the 1991 NES Pilot Study and finds a positive relationship between the index and turnout. However, the questions used in the index are very close to those used by scholars who argue that organizational involvement (not altruism) enhances political participation (Verba, Schlozman, and Brady 1995). Jankowski (2004) finds a relationship between voter turnout and "humanitarian" norms from questions on the 1995 NES Pilot Study. For example, turnout correlates with answers to the question "One of the problems of today's society is that people are often not kind enough to others." These questions certainly reflect expectations about the altruism of *others*, but it is not clear how they relate to the respondent's own willingness to bear costs to provide benefits to others.

While the findings in Knack (1992) and Jankowski (2004) are supportive of the relationship between altruism and political participation, they both rely on respondents' *expressed* preferences for helping others. In neither case do respondents actually experience a cost in order to give a benefit to someone else. In contrast, preferences for helping others are *revealed* in what experimental economists call the "dictator game" (Forsythe et al. 1994). In this game, the experimenter gives player 1 a certain amount of money and then asks the subject to divide that money between herself and player 2. Unlike the ultimatum game (c.f. Hibbing and Alford 2004), the dictator game does not give player 2 an opportunity to accept or reject the offer—she simply pockets the money that player 1 allocates to her and the game is over.

If player 1 is motivated only by her own economic gain, she should keep all the money for herself and allocate nothing to player 2. This is not what players normally do. In a survey of dictator game results, Camerer (2003) shows that the mean allocation to player 2 ranges from 10% to 52%. Anonymity conditions tend to decrease the mean allocation, but even in the most anonymous treatments (Hoffman et al. 1994) about 40% of the allocations are still greater than 0. These results suggest that many people are willing to engage in acts of altruism.

One argument that can be raised against this interpretation is that subjects do not understand the game and are just making random allocations. Andreoni and Miller (2002) address this concern by examining choices in a series of dictator games with different payoffs. In some treatments, player 2 is given \$0.20 or \$0.30 for every \$0.10 player 1 allocates. In other treatments, player 1 must allocate \$0.20 or \$0.30 for every \$0.10 player 2 receives. By varying the payoffs, Andreoni and Miller are able to determine whether or not within-subject behavior is consistent. They find that 98% of the subjects make choices that are consistent across eight treatments, suggesting that most of them understand the game and are not choosing randomly.

The consistency of dictator game allocations suggests that they would be a good way to measure individual altruism. The well-being of others is probably more important to a person who chooses to allocate 20% than one who allocates 0%. In fact, if we assume the utility function used in Andreoni and

Miller (2002) to explain behavior in the dictator game, then there is a monotonic relationship between the equilibrium allocation in the dictator game and the weight a player places on the other player's utility.[1] In other words, the more a player cares about the well-being of others, the more she will allocate to the other player in the dictator game.

We can also use dictator games to investigate whether or not people discriminate in their altruism. Past experiments have shown that people are more willing to give to charities (Eckel and Grossman 1996), women (Saad and Gill 2001), and people they can see (Bohnet and Frey 1999). What we are interested in here is whether or not people give more to members of one political group than another. By varying information about the political groups to which the recipient belongs, we can identify which individuals discriminate and which do not.

Research Design and Subject Profile

In December 2004, about 350 subjects were recruited from undergraduate political science and sociology courses to participate in a study administered by computer. Subjects were offered credit towards their course grade to show up for the study, and 306 (about 85%) of them chose to participate. Each subject answered several standard political science survey questions and then played three versions of the dictator game. Exact question wording can be found in the appendix.

Subjects exhibit a range of socioeconomic characteristics that are fairly typical for a college population. Subjects range in age from 18 to 43 years, but the average age is 21. The sample is weighted somewhat towards women (56%) and a substantial number (43%) identify themselves as minorities. The median family income is about $80,000 a year. The average subject leans left and Democratic, placing

[1] Suppose a player's utility is a function of the payoff to oneself π_s, payoff to another player π_o, and the weight a player attaches to the other player's payoff, α. Following Andreoni and Miller (2002), utility can be expressed as a CES function $U(\pi_s, \pi_o) = (\pi_s^\rho + \alpha\pi_o^\rho)^{1/\rho}$ where $\rho < 1$ represents the convexity of preferences and the budget constraint is $\pi_s + \pi_o = 1$. Maximizing utility and solving for the optimal allocation to the other player yields $\pi_o^* = 1 - \left(1 + \alpha^{1/(1-\rho)}\right)^{-1}$, which by inspection is increasing in α.

herself at 3.45 on the seven point liberal conservative scale and 3.14 on the seven point party identification scale.

Subjects were also asked whether they had participated in a number of political activities. About 73.4% said they voted in the 2004 general election (compared to official turnout of 81.4% for the city of Davis) while 20.6% said they had given money to a candidate. About 36.0% claimed to belong to a political organization but only 24.9% had given money to one. Two questions about local politics show that 19.3% regularly attend board meetings while 25.2% had volunteered at least once to serve in some capacity for a board. Finally, 42.2% said they had participated in at least one political protest. A participation index was created using a simple equally-weighted sum of responses to each of these seven questions. The average subject participated in 2.41 of these activities, with 12.5% of them never participating in any activity and 2.3% participating in all of them. The correlation between the participation index and the first component of a principal components analysis of these seven activities is 0.981 (±0.004, 95% confidence), suggesting that the index captures the main dimension that these activities share in common.

Dictator Game Method

In a typical dictator game, subjects are given a small amount of money ($5 to $10) and they then give back the portion of the money they choose to allocate to the other player. This procedure can be very costly for larger samples, so I employ a different technique. Subjects are given ten lottery tickets that each have an equal chance of winning a prize of $100. They are then given two identical and opaque envelopes and asked to place the tickets they wish to keep for themselves in one envelope and the tickets they wish to share with an anonymous individual in another envelope. They seal both envelopes, place the envelope designated for the anonymous individual in a locked mailbox under their computer, and then keep the other envelope for themselves. They then type on the computer the number of tickets they kept for themselves. Computers and the locked mailboxes are separated by partitions to protect the anonymity of choices each subject makes.

To study the question of whether or not subjects discriminate in the amount they are willing to give to people from different political groups, I ask each individual to play three dictator games with different information about the anonymous recipient. In one game, subjects are told "you know nothing about this anonymous individual." In the other two games subjects are told "The only thing you know about this individual is that he or she is a registered Republican [Democrat]." The order of these treatments is randomized and a variable indicating the order is included in the analysis below.

One important difference between this method and the typical dictator game is the stake size, since the expected value of the prize is only $\$100/N \approx \$0.33$. Though economists sometimes criticize low-stakes experiments like this one, a survey of the experimental economics literature by Camerer and Hogarth (1999) shows that stake size has only a small effect on average behavior and the biggest effect of stakes on behavior is changing from zero to positive stakes. Furthermore, Forsythe, et al. (1994) and Carpenter, Verhoogen, and Burks (2004) show specifically for the dictator game that changing from low stakes to high stakes has no effect on mean allocations.

Dictator Game Results

Table 1 summarizes mean allocations for each of the three kinds of recipients and breaks them down by the income and gender of the donor. In general, results from the dictator game in this experiment appear to be representative of similar results by other researchers. Forsythe, et al. (1994) specifically compare "with pay" dictator games in which subjects are given $5 or $10 to divide and "without pay" dictator games in which subjects are asked to make hypothetical choices. They find that more people keep everything for themselves in the "with pay" treatment (30.4% vs. 13.0%) and the mean allocation is lower (22.6% vs. 38.7%). By comparison, subjects in this experiment were even more likely (38.0%) to keep everything for themselves than those in both treatments. However, the mean allocation (29.9%) falls between the two treatments. This suggests that the lottery mechanism for the dictator game is replicating at least some of the incentives from dictator games that use cash stakes.

Table 1. Income, Gender, and Allocations in the Dictator Game

Donor	*Anonymous Recipient*	*Democrat Recipient*	*Republican Recipient*	*N*
All	29.9%	30.1	27.3	306
Low Income	34.2	32.1	28.0	132
High Income	26.8	27.9	26.3	145
Difference	7.4	4.2	1.7	
p-value	0.02	0.12	0.32	
Female	32.6	32.2	27.3	173
Male	26.5	27.4	27.3	133
Difference	6.1	4.8	0.0	
p-value	0.04	0.08	0.50	

Note: p-values reflect probability that true relationship is opposite to the sign of the difference (one-sided *t*-test).

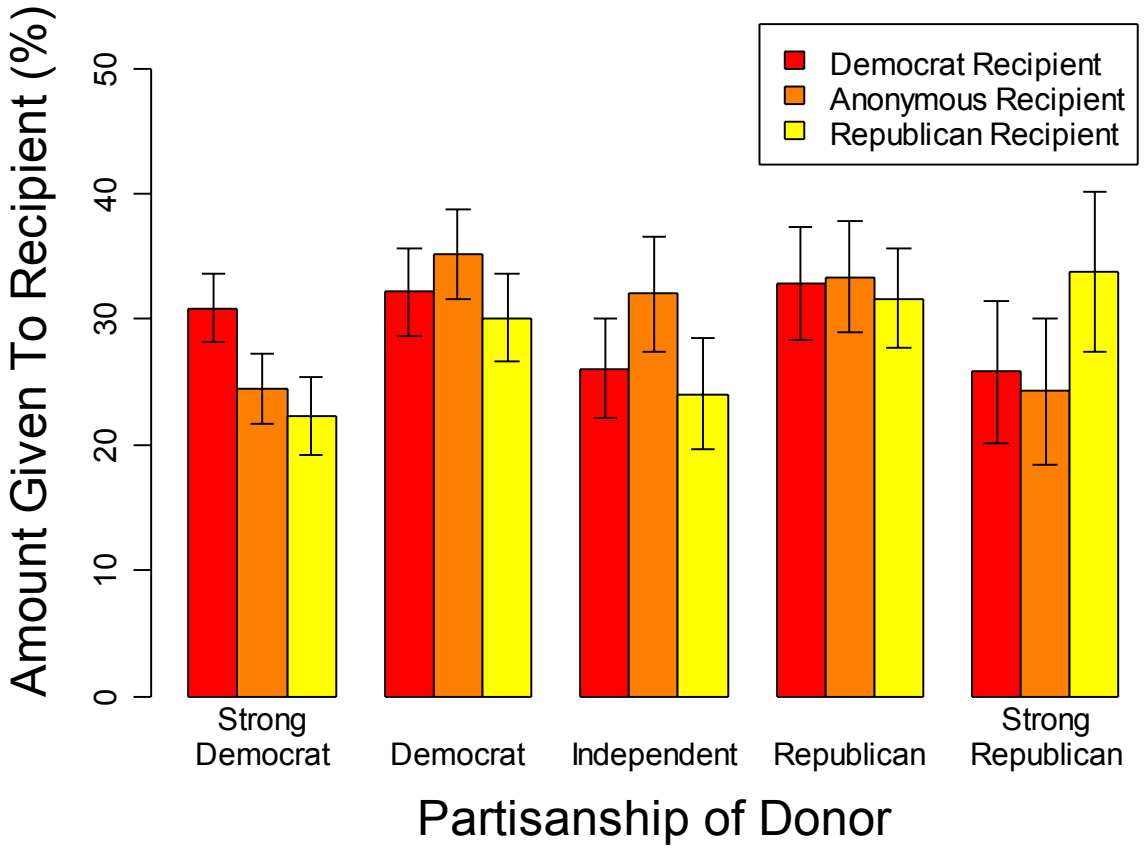
Another way to compare the results of this experiment to the existing literature is by examining the relationship between dictator game allocations and demographic variables. Camerer (2003) notes that most demographic factors have little effect on dictator game allocations, but there are two notable exceptions. Carpenter, Verhoogen, and Burks (2004) find that subjects with higher family incomes tend to give less, while Eckel and Grossman (1998) find that women tend to give more. Table 1 shows that this experiment replicates both findings. Consistent with results from other dictator games, those with low incomes (below the median) give 6.4% more than those with high incomes to the anonymous recipient, while women give 6.1% more than men. Interestingly, both of these differences decline only a small amount when the recipient is a Democrat, but they almost completely disappear when the recipient is a Republican. This suggests that high income subjects and males may be relatively more inclined to give to Republicans than low income subjects and females.

Partisanship and Altruism

No previous studies have examined the effect of partisanship on dictator game allocations, so I explore them here in some detail. Figure 1 shows the mean allocations to each recipient by the partisanship of the donor and how these change when we change the partisanship of the recipient.

Although the low sample size in each category causes the standard errors to overlap in many cases, there do appear to be some relationships that may survive statistical analysis. For example, notice that all subjects except strong Republicans give more to the Democrat than the Republican. This suggests two possible patterns of discrimination. First, there may be a *partisan bias* against giving to Republicans. Second, there may be an *own party* bias in which partisans give more to members of their own party. Notice also that strong partisans give less to the anonymous individual than others do, while independents tend to give less to partisan recipients than the anonymous recipient. This suggests two more patterns of discrimination. First, there may be a *selfish partisan* bias in which strong partisans give less than others, regardless of the recipient. Second, there may be a *partisan strength bias* in which politically engaged individuals give less to individuals who are not politically engaged and vice versa.

Figure 1. Mean Allocations in the Dictator Game by Partisanship of Donor and Recipient



Note: Error bars show standard errors of the mean.

Table 2 shows mean allocations in the dictator game by partisanship of the donor and recipient. Notice first that the Republican recipient receives 2.8% less on average than the Democrat from all donors. However, this difference may be due to the larger number of Democrats in the sample. When we take into account the partisanship of the donor, mean allocations tend to diverge along party lines. People who identify themselves as Democrats and Republicans both give about the same amount to the anonymous recipient, but they tend to give more to the recipient from their own party. Notice that the Republican recipient inspires the largest divergence, receiving 6.7% more from Republican donors than Democratic donors, or about a fifth of the mean allocation.

Table 2. Partisanship and Allocations in the Dictator Game

Donor	*Anonymous Recipient*	*Democrat Recipient*	*Republican Recipient*	*N*
All	29.9%	30.1	27.3	306
Democrat	29.6	31.5	26.0	173
Republican	29.2	29.6	32.7	78
Difference	0.4	1.9	-6.7	
p-value	0.46	0.32	0.06	
Weak Partisan / Nonpartisan	33.8	30.4	28.6	179
Strong Partisan	24.4	29.5	25.4	127
Difference	9.4	0.9	3.2	
p-value	0.00	0.38	0.19	

Note: p-values reflect probability that true relationship is opposite to the sign of the difference (one-sided *t*-test).

Table 2 also shows that partisan strength is significantly related to dictator game allocations. Strong partisans give 9.4% less than others to the anonymous recipient, a difference equivalent to about one third of the mean allocation. Strong partisans also give less than others to the Democrat and Republican recipients, indicating that strong partisans are less altruistic overall. However, when we change the identity of the recipient from anonymous to partisan, allocations by strong partisans increase and allocations by others decrease. These results suggest that people tend to give more to recipients that

share their strength of partisanship. Those who are not affiliated with the main political parties tend to give less to those who are and vice versa.

Table 3 presents results from a multivariate regression that controls for demographic characteristics while determining whether or not there are systematic differences in giving by partisanship. The Tobit regression model (Tobin 1958) is used since the dependent variable is restricted to a finite interval, and all variables except age are scaled to [0,1] for ease of interpretation. The regression also includes dummy variables for the order in which individuals played the dictator games. The full model is presented for comparison, but stepwise AIC model selection (Bozdogan 1987) is used to eliminate less significant variables. Although one of the order variables significantly improves model fit, when we drop it from the model the substantive results for other variables do not change. Income and gender both affect dictator game allocations in the expected direction. Partisan strength is also strongly significant—after controlling for income and gender, strong partisans give 22% less to the anonymous recipient than independents. In other words, strong partisans appear to exhibit weaker altruism than their less partisan peers. Notice also that partisan identification drops out of the model, suggesting that Democrats and Republicans do not systematically differ in the amount they are willing to give.

Table 3. Determinants of Giving in the Dictator Game with an Anonymous Recipient

	Full Model		*Best Model*			*Best Model Minus Order Variable*		
	Coef.	*S.E.*	*Coef.*	*S.E.*	*p-value*	*Coef.*	*S.E.*	*p-value*
Donor Characteristics:								
Partisan Identification	-0.06	0.08						
Partisan Strength	-0.23	0.11	-0.23	0.10	0.03	**-0.22**	**0.10**	**0.03**
High Income	-0.12	0.06	-0.13	0.06	0.02	**-0.12**	**0.06**	**0.04**
Female	0.12	0.06	0.11	0.06	0.07	**0.10**	**0.06**	**0.08**
Age	0.01	0.01						
White	0.03	0.06						
Order Variables:								
Republican First	-0.05	0.07						
Democrat First	0.10	0.07	0.13	0.06	0.04			
Constant	0.08	0.24	0.33	0.09	0.00	0.36	0.09	0.00
Log scale variable	-0.83	0.06	-0.83	0.06	0.00	-0.82	0.06	0.00
AIC	389.6		384.6			386.8		
Null AIC	392.8		392.8			392.8		

Note: Tobit regression, dependent variable is allocation to the anonymous recipient. Best model selected using Stepwise AIC. Order variables indicate which dictator game subject played first.

Partisanship and Discriminating Altruism

The dictator games each subject played not only shed light on the question of who exhibits more or less altruism. They also allow us to determine how partisanship affects the tendency to give more to some political groups and less to others. About 61.7% of the subjects gave exactly the same amount to the registered Democrat and registered Republican that they gave to the anonymous recipient. I will refer to the remaining 38.3% of the subjects as *discriminators*, since they changed their allocation in at least one of the games based solely on information about the partisanship of the recipient.

What determines how much an individual discriminates? Table 4 shows each of the three possible combinations of within-subject differences in the amount given to the anonymous and partisan recipients and how this breaks down by partisanship of the donor. First note that the average subject gave somewhat less to the Republican than the Democrat or anonymous donor, yielding additional evidence for a partisan bias in giving. The partisan identity of the donor also seems to have an effect on allocations. Democrats give significantly less to the Republican than the Democrat or anonymous recipient. Republicans give more to the Republican than the Democrat or anonymous recipient, but the significance of the difference is weak. Once again, the raw data appears to suggest an own party bias, with the strongest difference in behavior exhibited by Democrats towards Republicans. Finally, people who did not identify themselves as either a Democrat or Republican tend to give less to both the Republican and Democratic recipient. In fact, the mean difference for both is exactly the same at 6.2%, or about one fifth

Table 4. Within-Subject Difference in Giving to Anonymous and Partisan Recipients

	Amount Given to Republican Minus Amount Given to Democrat		*Amount Given to Republican Minus Amount Given to Anonymous*		*Amount Given to Democrat Minus Amount Given to Anonymous*	
Donor	*Mean*	*p-value*	*Mean*	*p-value*	*Mean*	*p-value*
All	-2.8%	0.03	-2.2	0.10	0.3	0.42
Democrat	-5.5	0.00	-3.6	0.04	1.9	0.17
Republican	2.8	0.18	4.1	0.10	1.2	0.33
Independent / Leaner	-2.1	0.29	-6.2	0.11	-6.2	0.06

Note: p-values reflect probability that true relationship is opposite to the sign of the difference (one-sided *t*-test).

of the allocation. Although these differences are only weakly significant, they lend qualified support to the partisan strength bias observed above. Partisans tend to receive less from nonpartisans and vice versa.

To further assess the effect of partisanship on differences in dictator game allocations, Table 5 presents results from three sets of multivariate regressions that also control for demographic factors. Once again, the dependent variable falls on a finite interval so I use Tobit regression and then stepwise AIC model selection to determine the best fitting model. Partisan identification has a positive and significant effect on the difference in the amount given to the Republican vs. the Democrat, providing additional evidence for an own party bias. Partisan identification also has a positive and significant effect on the difference in the amount allocated to the Republican vs. the anonymous recipient. Given that there is no such effect for the difference in giving between the Democrat and the anonymous recipient, it appears that there is a partisan bias to give less to Republicans than other kinds of recipients. The partisan strength bias also shows up in the regressions—strong partisans give 14% more than Independents to *either* of the partisan recipients.

Table 5. Determinants of Within-Subject Differences in Giving in Dictator Games with Anonymous and Partisan Recipients

Dependent Variable:	*Amount Given to Republican Minus Amount Given to Democrat*					*Amount Given to Republican Minus Amount Given to Anonymous*					*Amount Given to Democrat Minus Amount Given to Anonymous*				
	Full Model		*Best Model*			*Full Model*		*Best Model*			*Full Model*		*Best Model*		
	Coef.	*S.E.*	*Coef.*	*S.E.*	*p*	*Coef.*	*S.E.*	*Coef.*	*S.E.*	*p*	*Coef.*	*S.E.*	*Coef.*	*S.E.*	*p*
Donor Characteristics:															
Partisan Identification	0.13	0.05	**0.13**	**0.04**	**0.00**	0.14	0.05	**0.12**	**0.05**	**0.01**	0.01	0.04			
Partisan Strength	0.01	0.06				0.16	0.07	**0.14**	**0.06**	**0.03**	0.18	0.06	**0.14**	**0.05**	**0.01**
High Income	0.03	0.03				0.04	0.04				0.02	0.03			
Female	-0.03	0.03				-0.07	0.04	**-0.07**	**0.03**	**0.03**	-0.03	0.03			
Age	0.00	0.01				-0.01	0.01	**-0.02**	**0.01**	**0.01**	-0.01	0.01	**-0.01**	**0.00**	**0.00**
White	-0.01	0.04				-0.02	0.04				-0.02	0.03			
Order Variables:															
Republican First	-0.03	0.04				0.02	0.04				0.06	0.04			
Democrat First	-0.03	0.04				-0.03	0.04				0.00	0.04			
Constant	-0.08	0.14	-0.07	0.02	0.00	0.15	0.15	0.19	0.13	0.11	0.15	0.13	0.18	0.11	0.11
Log scale variable	-1.34	0.04	-1.37	0.04	0.00	-1.23	0.04	-1.27	0.04	0.00	-1.37	0.04	-1.38	0.04	0.00
AIC	62.4		34.2			121.0		103.0			45.0		30.4		
Null AIC	58.6		41.6			126.6		115.0			50.8		42.2		

Note: Tobit regression. Best model selected using stepwise AIC.

Finally, two demographic controls appear to be significant determinants of discriminating altruism. First, older subjects tended to give less than younger subjects to the partisan recipients. However, given the narrow range of typical ages in the subject pool, the size of the effect is small. Women also appear to be significantly more likely than men to give less to the Republican than the anonymous recipient. This gender gap is not surprising, since it conforms to a number of other studies which suggest that women are less likely than men to support Republicans (e.g. Clarke et al. 2005). On the other hand, it is interesting that the gender effect is not significant in the Republican vs. Democrat model. This suggests that women may also have a weak bias against partisans that countervails their bias against Republicans in the comparison between Democrats and Republicans.

Altruism, Discriminators, and Participation

The altruism theory of participation suggests that those who care more about the well-being of others are more likely to participate in political activities that provide a net benefit to all members of the community. Meanwhile, the discriminating altruist theory suggests that those who care more about the well-being of some political groups and less about others are more likely to participate in political activities that redistribute benefits from one group to another. We can test both of these theories using dictator game allocations. Those who give more to the anonymous recipient should be more likely to participate since they exhibit a higher propensity towards altruism. Those who change their allocation in at least one of the games should also be more likely to participate, since they exhibit a propensity to discriminate in their altruism.

A quick look at the raw data supports both of these hypotheses. Those who gave more than 30% (the median allocation) to the anonymous recipient participated in 2.64 of 7 activities compared to 2.24 activities for those who gave 30% or less. Discriminators (those who gave different amounts depending on the partisanship of the recipient) participated in 2.74 activities compared to 2.21 for those who gave the same amount to all three recipients. One-sided *t*-tests suggest that both of these differences are significant (p=0.03, p=0.01, respectively). However, we have already seen that some of the factors that

influence participation also influence allocations in the dictator game, so a fuller model of participation will help determine whether these tendencies in the data are epiphenomenal.

Table 6 shows results from several Tobit models of participation with multiple covariates. In the simple model the participation index is regressed on altruism and a dummy variable indicating whether or not an individual is a discriminator. Both appear to increase participation as already noted in the raw data. The full model controls for a number of factors that are widely thought to affect participation (see Verba, Schlozman, and Brady 1995 for a comprehensive treatment of the following control variables).

Table 6. Altruism and Overall Political Participation

	Dependent Variable: Political Activity Index						
	Simple Model		*Full Model*		*Best Model*		
	Coef.	*S.E.*	*Coef.*	*S.E.*	*Coef.*	*S.E.*	*p*
Altruism Variables							
Altruism	0.72	0.39	0.51	0.34	0.80	0.32	0.01
Discriminator	0.58	0.25	0.52	0.21	0.40	0.20	0.05
Political Variables							
Partisan Identification			-0.70	0.30	-0.59	0.28	0.04
Partisan Strength			1.14	0.41	1.31	0.38	0.00
Political Interest			3.09	0.47	3.28	0.42	0.00
Political Information			0.05	0.10			
External Efficacy			-0.02	0.15			
Socioeconomic Status							
High Income			-0.31	0.22			
Female			-0.42	0.22	-0.38	0.20	0.06
Age			-0.02	0.03			
White			0.41	0.22			
Citizen			0.65	0.54	0.87	0.50	0.08
Skills							
Give Presentation			0.04	0.25			
Write Letter			1.06	0.23	1.03	0.21	0.00
Make Decisions			0.42	0.24	0.49	0.21	0.02
Chair Meeting			0.08	0.26			
Constant	1.86	0.19	-1.45	1.01	-2.25	0.63	0.00
Log scale variable	0.72	0.05	0.46	0.05	0.49	0.05	0.00
AIC	1194.0		990.0		1075.0		
Null AIC	1199.8		1080.2		1194.8		

Note: Tobit regression. Best model selected using stepwise AIC.

First, a number of political variables are included. Partisan identification and strength of partisanship both affect dictator game allocations, and the latter has been shown to correlate strongly with political participation. Interest in politics and the ability to answer basic questions about the government (political knowledge) both indicate political engagement, which tends to correlate with participation. Moreover, if people feel that their government responds to them (political efficacy), then they are more likely to make the effort to organize and communicate their preferences.

Second, socioeconomic status (SES) variables like income, gender, age, and race are included because they tend to correlate with the costs of acquiring information about politics—higher status individuals are more likely to participate because their costs are lower. Citizenship is a related variable, since in some cases (like voting) it determines eligibility to participate. Third, Verba, et al. (1995) argue that the acquisition of civic skills like giving presentations, writing letters, making decisions in groups, and chairing meetings can be critically important to the decision to participate. Again, people without skills may experience greater initial costs to participation since they would have to learn new skills in order to contribute to the collective activity. Details on coding and question wording for all these controls can be found in the appendix.

The best model in Table 6 is chosen from the full model using stepwise AIC model selection. Note that even though there are numerous controls, both altruism and the discriminator dummy continue to have a positive influence on participation. To make these results more concrete, subjects who allocate an equal share to themselves and the anonymous recipient in the dictator game participate in 0.40 more activities than subjects who keep everything for themselves. In other words, altruists appear to be more likely to participate in politics than egoists. Moreover, subjects who change the amount they give based on the partisanship of the recipient also participate in 0.40 more activities than those who give the same amount to each recipient. Thus, discriminating altruists appear to be more motivated to participate in politics than altruists who weigh benefits to all groups equally.

Table 7. Determinants of Individual Acts of Political Participation

Dependent Variables:	*Vote*	*Contribute to a Candidate*	*Join a Political Organization*	*Donate to a Political Organization*	*Attend Local Board Meetings*	*Volunteer for Local Board*	*Protest*
Altruism Variables							
Altruism		0.75		0.68	0.84	1.27	
		(0.52)		(0.45)	(0.53)	(0.48)	
Discriminator		1.01					0.39
		(0.33)					(0.27)
Political Variables							
Partisan Identification	-1.05					-0.66	-1.63
	(0.48)					(0.43)	(0.41)
Partisan Strength		1.39	1.84				1.20
		(0.69)	(0.55)				(0.55)
Political Interest	2.24	2.37	2.71	1.97	3.99	2.19	2.39
	(0.64)	(0.78)	(0.62)	(0.64)	(0.86)	(0.67)	(0.58)
External Efficacy	0.39	0.55					-0.31
	(0.22)	(0.24)					(0.19)
Socioeconomic Status							
Female	-0.60	-1.04	-0.47	-0.46		0.51	
	(0.32)	(0.34)	(0.28)	(0.29)		(0.31)	
Age			-0.07				
			(0.05)				
White	1.59						
	(0.33)						
Citizen	3.47					-1.51	
	(1.10)					(0.66)	
Skills							
Give Presentation					0.76	0.71	
					(0.48)	(0.40)	
Write Letter	0.75	0.67	0.61	0.69	0.91	0.94	0.74
	(0.32)	(0.34)	(0.29)	(0.29)	(0.38)	(0.33)	(0.29)
Make Decisions							0.49
							(0.29)
Chair Meeting			0.73		0.72	0.54	
			(0.29)		(0.38)	(0.34)	
Constant	-4.78	-5.73	-2.60	-2.72	-5.80	-2.77	-2.28
	(1.25)	(0.92)	(1.16)	(0.50)	(0.77)	(0.79)	(0.61)
AIC	277.00	261.10	344.10	317.30	237.60	294.30	359.80
Null AIC	350.10	300.90	387.90	333.30	295.30	339.80	406.00

Note: Best fitting logit models for each dependent variable using stepwise AIC model selection. The *High Income* and *Political Information* variables are not shown because they were rejected from all models.

The results for the participation index lend support to the altruism and discriminator hypotheses. However, these results do not tell us anything about which kinds of participation are most likely to be influenced by the degree of altruism or the tendency to discriminate. Table 7 reports the results of logit models, regressing each of the component variables in the participation index on each of the full model

variables and then using stepwise AIC model selection to choose the best fitting model. Notice that altruism is retained in the models for contribution to a candidate, donation to a political organization, attendance at local board meetings, and volunteering for a local government board. The first two of these dependent variables seem intuitive—the act of contributing or donating is very similar to the act of giving in the dictator game since it involves a financial transfer from the subject to another person or organization. The last two suggest that altruism is important for participation in local politics, a topic which should be more fully explored in future work. The discriminator dummy is retained only in the models for contributing to a candidate and participating in a protest. Although it is not immediately obvious what these two forms of participation have in common, the discriminating altruism theory suggests that they may be those forms of participation with the greatest impact on distributional conflicts.

Finally, it is interesting to note that neither altruism nor discrimination in altruism affects voting. This may be due to the uniquely low costs of this form of political participation. Aldrich (1993) observes that voting is probably a very low cost activity, and Verba, et al. (1995) argue that voting is the *least* costly of the main ways to participate in politics. If C is very close to zero, then other factors important to voter turnout may be sufficient to push individuals over the cost-benefit threshold, making it less likely that variation in altruism will have an impact on voting.

Conclusion

For a long time we have been searching for a model of political participation that is based on pure self interest. While there can be no doubt that much of human behavior is motivated by self interest, dictator game experiments demonstrate that people frequently bear costs to make others better off. The results in this article suggest that altruistic behavior may be an important factor in explaining political participation.

The altruism theory of participation presented here extends the traditional calculus of participation model by incorporating the welfare of others into the individual decision to participate. Although the probability of changing the outcome of a political activity is small in large populations, the

number of people affected by such a change may be large. Thus, a citizen who cares about the well being of others may have a larger incentive to participate than one who is merely self-interested. However, many political activities are distributive, yielding benefits to some people and costs to others. Those who feel a general sense of altruism toward everyone would not gain anything by helping to shift resources from one group to another, but people who care more about the members of one group than another probably would have such an incentive. Thus, citizens who discriminate in their altruism should also be more likely to participate.

I use dictator games in a laboratory setting to measure the degree of altruism and the tendency to discriminate in the amount shared with members of different political groups. Consistent with past work, these experiments show that low income subjects and females give significantly more to the anonymous recipient. They also show that partisanship has four important relationships with dictator game allocations. First, Republicans receive lower allocations from all donors except strong Republicans, suggesting that there is a *partisan bias* against sharing with them. Second, when controlling for the partisan bias, Democrats and Republicans both give more to the recipient from their own party than the recipient from the opposing party, indicating a significant *own party bias*. Third, strong partisans exhibit a *selfish partisan bias*, giving less to recipients of all types, and a lot less to the anonymous recipient. Finally, analogous to own party bias, there is a *partisan strength bias* in which nonpartisans give less to partisans and vice versa.

Controlling for these partisan and demographic factors and a number of other variables known to affect political participation, I test the altruism and discriminating altruism theories of participation. The evidence supports both theories. People who share with an anonymous individual in the dictator game participate more in politics than those who do not share. People who vary the amount they give depending on the partisan affiliation of the recipient also participate more in politics than those who give the same amount to everyone. One might argue that these results are of limited value because they are based on the behavior of college students who are not representative of the population as a whole. However, the first few years of adulthood are probably the most critical for the formation of habitual

political behavior (Highton and Wolfinger 2001; Plutzer 2002). Even if future work suggests that the altruism and discriminating altruism theories cannot explain the habits of older adults, it might still help to explain how these habits are formed.

Finally, the altruism and discriminating altruism theories of participation have important implications for rational choice. The rationality assumption means only that people have preferences that are complete and transitive. Notice that the words "self interest" appear nowhere in this definition (Jackman 1993). While it is true that most rational models are based on self interest, there is no reason we cannot include in them a concern for others, especially when models based on pure self interest have failed to generate observable behavior. Our models of political participation are ripe for such a change in approach.

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*. *Discriminator* is a dummy variable that equals 1 if the amount given to the Democrat, Republican, and anonymous recipient are not equal, and 0 otherwise.

Political information is the number 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* I follow Craig, Niemi and Silver (1990) and 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", "I 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, 0.25 = agree somewhat, 0.5 = neither, 0.75 = disagree somewhat, and 1 = disagree strongly. The third and fourth questions are coded 1 = a good deal, 0.5 = some, and 0 = not much.

For the next set of variables I follow the question wording used in the NES. *Age* is in number of years. *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 = Democrat Leaner, 1/2 = Independent, 2/3 = Republican Leaner, 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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