Identity and Self-Other Differentiation in Work and Giving Behaviors: Experimental Evidence

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Summary

We show that the distinction between Self and Other, 'us' and 'them,' or in-group and out-group, affects significantly economic and social behavior. In a series of experiments with approximately 200 Midwestern students as our subjects, we found that they favor those who are similar to them on any of a wide range of categories of identity over those who are not like them. Whereas family and kinship are the most powerful source of identity in our sample, all 13 potential sources of identity in our experiments affect behavior. We explored individuals' willingness to give money to imaginary people, using a dictator game setup with hypothetical money. Our experiments with hypothetical money generate essentially identical data to our experiments with actual money. We also investigated individuals' willingness to share an office with, commute with, and work on a critical project critical to their advancement with individuals who are similar to themselves (Self) along a particular identity dimension than with individuals who are dissimilar (Other). In addition to family, our data point to other important sources of identity such as political views, religion, sports-team loyalty, and music preferences, followed by television-viewing habits, dress type preferences, birth order, body type, socio-economic status and gender. The importance of the source of identity varies with the type of behavior under consideration.

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I. Introduction

        Identity is "a person's sense of self" (Akerlof and Kranton, 2000, p. 715); it is the

concept that individuals come to realize when they answer the elemental question of "who am

I?" The answer, typically, includes multiple dimensions or attributes such as gender, facial

features, and height, as well as religion, ethnicity, social-group affiliation, sports-team loyalty,

family, profession, artistic preferences, culinary preferences, and place of origin. These

attributes represent how a person views himself or herself, and are likely to have different

weights to the sense of self. For example, one may identify oneself primarily as a music lover,

tall, who loves to eat health food, while being a Protestant, female, or a fan of a certain team

sports could be of less importance.

        Generally, people act more favorably towards persons who share with them an

important attribute of their identity compared to persons who differ significantly on that

attribute. For example, fans of the same sports team give each other high-fives but jeer fans of a

rival team; enthusiasts of certain musical groups may work more readily with those who share

their preferences than with others; and members of some religious groups sacrifice their own

lives but take the lives of members of other groups to advance their group's cause. Even

arbitrary assignment of identity in the context of a psychology experiment can elicit partisan

behavior (Tajfel and Turner 1979; see also examples in Akerlof and Kranton 2000, p. 720).

        The difference in how someone treats a person of the same identity – *self* – as compared

to a person of a different identity – *other* – is likely to depend on several factors: the identity

attribute in question, the circumstances of the interaction between subject and object, as well as

the subject's individual characteristics. Many questions with regard to how different identity attributes affect behavior remain unaddressed in the social scientific literature. For example, does religion evoke more passion than ethnicity? Are all differences in identity fertile grounds for discrimination? Do differences affect equally various social and economic behaviors?

Identity is often the source of positive and desirable outcomes, such as the warm feeling of amity and affiliation, constructive and cooperative behavior in the context of social, ethnic, and religious organizations, and desirable diversity and variety. However, identity is also the basis for hatred and discrimination, exclusion, enmity, sports riots, national and religious wars, ethnic 'cleansing' and extermination, and other undesirable behaviors and outcomes. In this paper, we attempt to examine the weight of different attributes of identity on behavior and whether the weight of a given attribute depends on the specific behavior or activity in question.

Although it is driven by a theoretical conceptualization, the thrust of the paper is empirical and represents an exploratory analysis aimed at uncovering potential relationships between identity and behavior. We study a fairly homogenous sample of young men and women who have very little experience with strife associated with religious, national, or ethnic identities, the kind of conflicts that fuel much of the most visible identity-based behaviors. Such a sample is likely to inform about the presence or absence of deep-seated, perhaps hard-wired, sentiments about the differentiation between 'Self' and 'Other,' and behaviors driven by such sentiments, possibly mixed with culturally-transmitted values regarding such differentiation, but with only limited contribution from direct life experiences.

In a series of paper and pencil experiments, we asked the subjects to engage in various behaviors towards other (imaginary) persons bearing various identity attributes. In one experiment, subjects are invited to consider sharing an endowment of $10 with different

persons who are characterized by various social, economic, cultural and other identities. In other experiments, subjects are asked to indicate their willingness to work on a project crucial to their career, to share an office, and to commute with different imaginary persons. The behaviors elicited in these experiments correlate with altruism, cooperation and concern for others, instrumental considerations at work and in leisure activities, and also with identity attributes. The behaviors studied in our experiments do not include explicit conflict; subjects could not take money away from others, and the most they could do is to express lack of willingness to engage in the work or leisure activities described in the experiment.

There is a large and expanding body of literature on identity in several disciplines.[1] The unique contributions of the present paper include a simultaneous examination of multiple categories of identity and of their comparative strength, and a consideration of varied forms of behavior. Our results run counter to social desirability bias because even though most people in the society from which these subjects were drawn tend to behave in public in a politically correct or socially desirable manner, our subjects generally differentiated between Self and Other over several categories of identity. The paper finds significant bias in favor of Self over Other in all four forms of behavior studied in our experiments.

The paper is organized as follows: Section II explores the concept of identity and its key dimensions. Section III links identity and behaviors aimed at Self and Other. Section IV offers key hypotheses. Section V describes the experiments, the sample, the behaviors studied in these experiments, the attributes of identity under consideration, and the categories of identity that can be constructed from these attributes. Section VI compares empirically behaviors towards Self and Other across 13 identity categories. Section VII concludes the paper.

II. The concept of identity and its attributes, and key categories of identity

Identity, or a person's sense of self, is the outcome of a developmental process whereby differentiation between Self and Other occurs. It is a process that starts in early childhood from the undifferentiated unit of mother and child (Klein, 1969). In adulthood, identity is associated with identification with groups or categories such as gender, ethnicity, religion, musical preferences, and dressing style. A sense of self and group belonging is also observed among animals, who display the ability to recognize their kin (Fletcher and Michener 1987 and Hepper 1991).

Identity is the concept of which individuals become aware when they answer the elemental question of "who am I?" The answer is characteristically given with reference to multiple groups or categories and represents how a person views himself or herself (Hamachek 1992; Akerlof and Kranton 2000). For example, one may identify oneself as tall, a music lover, who loves to eat health food, a Protestant, a fan of certain sports teams, and so on. 'Identity' is thus a composite of multiple attributes. The relative composition and weight of each of these attributes may vary over a person's life cycle, across people, and with the circumstances of their lives (Hamachek 1992). For example, musical preferences may be very important and religion only marginal in some persons' concept or sense of identity; the weight of ethnicity may be enhanced by the presence of multiple ethnics groups or ethnic confrontation at the expense of other attributes such as cultural or musical preferences.

Identity has genetic, cultural and neural bases grounded in an evolutionary process (Cavalli-Sforza and Feldman 1981). Genetic relatedness, whether observed and known or only inferred and assumed, offers a strong basis for answering the question of "who am I?" If we are our genes, then the people with whom we share a greater proportion of our genes are an

immediate instance of 'us' as compared to less related people. Going from identical twins, who are genetically identical, to members of an extended family, who are closely related, to members of a tribe, who share only a small proportion of common genes, and so on, the declining proportion of shared genes provides an instant basis for increasing differentiation between Self and Other; this is the key insight of Hamilton's (1964) theory of *inclusive fitness*. Since genetic similarity can only rarely be observed directly, individuals may use clues that may be correlated with genetic identity: ethnicity, skin complexion, religion, culinary preferences, place of origin, physical similarity, etc. (van den Berghe 1999).

Evolutionary theorists, biologists and psychologists, note the value of steady affiliation with a group, and claim that the desire to belong to a group may be hard wired in some species, including humans. Group affiliation provides physical protection (Shaw and Wong 1989), facilitates the ability to read facial, behavioral, or linguistic clues regarding feelings such as guilt and the detection of lying, which confers an obvious advantage (Wilson 1978), and facilitates reciprocity, a key element of sustained cooperation (Ben-Ner, Putterman, Kong and Magan 2004).

Other sources of identity may have little to do with genetic relationship. Group affiliation may be based on demographic characteristics such as age and generation, or on functional association, such as a work group, neighborhood, common interest, culture, or hobby; therefore, the range of possible identities is very large. One theory that advances this view, *social identity theory* (Tajfel and Turner 1979), is widely accepted among sociologists and social psychologists.[2]

Many identity attributes have been recognized in the literature, and those have been aggregated into a set of broad, partly overlapping categories. Most of these categories can be

derived without much stretch from all three theories. The panel below lists the most important categories that appear in the literature, and when available, cites references that elaborate on each category from diverse theoretical perspectives.

Broad Identity Categories

Identity Category	*Literature*
Family and kinship	Shaw and Wong (1989); Sökefeld (1999); Alderfer (1997); van den Berghe (1999)
Gender	Davis (2000); Akerlof and Kranton (2000); Barkow (1989); Dickson and Pollack (2000); Wade (2001)
Occupation	Spreitzer et al. (1974); Cartwright et al. (1978); Becker and Carper (1956); Savickas (1999)
Ethnicity	Barkow (1989); Dien (2000); Alderfer (1997); Davis (2000); Devos (1974); van den Berghe (1999)
Culture	Sökefeld (1999; Dien (2000); Davis (2000); Devos (1974)
Nationality	Dien (2000); Wade (2001)
Race	Abdullah (1998); Alderfer (1997); Davis (2000); Hirschfeld (1995); Wade (2001)
Religion	Barkow (1989); Miller et al. (2001) ; Sökefeld (1999)
Political philosophy	Miller et al. (2001)
Dress style	Miller et al. (2001); Dickson and Pollack (2000); Hayes (2000)
Community type	Hummon (1986); Davis (2000)
Interests	Hummon (1986); Pitts (2002)
Hobbies and leisure	Spreitzer et al. (1974); Anderson and Farris (2001); Baughman (2000); Dickson and Pollack (2000)
Knowledge	Hummon (1986)
Sentiment	Hummon (1986)
Generation and age	Alderfer (1997); Dickson and Pollack (2000)
Socio-economic status	Cartwright et al. (1978); Akerlof and Kranton (2000); Devos (1974)
Musical preference	Brown (2000); Pitts (2002); Tarrant et al (2001); Wade (2001)
Sexual preference	Brown (2000); Wade (2001)

The literature suggests that individuals tend to assign people with whom they interact to a class of Self or Other ('us' or 'them') according to these categories. The Self-Other differentiation may go beyond a stark dichotomy; for instance, individuals distinguish among immediate relations such as parents and siblings, more distant relatives, such as cousins, and even more distant members of an extended family, and likewise, some religions or denominations within broad religions may be considered closer to each other than to others. However, there is also a strong tendency to make a simple division between Self and Other, in-group and out-group, 'us' and 'them;' we will follow such a dichotomy in the remainder of this paper.[3]

III. Identity and behavior: behaviors aimed at Self and Other

Humans seem to have a deep-rooted propensity to respond emotionally to symbolic representations of members of their in-group by exhibiting spontaneous joy, pride, and so on (Isaacs 1975; Tönnesmann 1987), and these emotions are aroused and reinforced through the language of kinship and the use of rituals, flags, anthems, marches, and so on (Johnson 1995). It has been widely noted that individuals engage in more favorable behaviors towards people who share with them some salient identity attributes than towards people who are different from them. Behaviors and relationships affected in this fashion by the Self-Other differentiation or 'us' vs. 'them' have been discerned in many contexts, such as conflict (Shaw and Wong, 1989), teacher-student relations (Akerlof and Kranton 2002; Hamachek 1992), manager-subordinate interactions (Boone et al. 1999; Akerlof and Kranton 2000), job performance (LePine and Van Dyne 2001), and occupational choice (Cartwright et al. 1978).

The preference for a partner in an activity is likely to be affected by identity considerations, along with other factors. Similarity in identity may entail more trust, reciprocity, efficiency due to shared language, norms, or understandings, and fewer concerns about being taken advantage of, as well as engender in some individuals a greater willingness to make sacrifices. Identity may also be a clue to possession of instrumental skills (such as occupational and educations status), or for a special need (such as socio-economic status), in which case similarity and difference in identity may be less important. Identity and other considerations may be mutually reinforcing in a certain behavior, such as in the case of potential cooperation between two professionals whose qualifications play an important role in

their identities, or may counteract each other, for example with a champion swimmer saving a non-swimmer from drowning.

The theories reviewed earlier predict that individuals will treat more favorably other individuals whom they consider Self than those whom they regard as Other. The theory of inclusive fitness suggests that an individual will act more solicitously towards those who share with him or her greater proportion of their genetic material, because genes that incline their bearers to be caring toward those who carry similar genes would have been selected in the process of human evolution. As noted earlier, some kin relationships, particularly if distant, may not be known specifically to the affected individuals, yet they may be correlated with observable or knowable characteristics such as looks, ethnicity, religion, and place of origin; individuals who are similar with respect to such characteristics may therefore treat each other more favorably than individuals who are dissimilar. More generally, fitness advantages may have accompanied those individuals who were willing to commit strongly to groups in terms of choosing actions that favor those within a group more strongly than those outside the group. Evolutionary theory then implies these individuals would become more prevalent in populations over time. Thus, individuals may have a hardwired tendency for group commitment. Moreover, evolutionary theory predicts that the strength of this commitment across different types of groups should vary directly with the group's ability to affect an individual's and his or her descendants' survival. The social identity theory equally predicts that behavior towards in-group members will be more favorable than towards out-group members. Studies have demonstrated that people generally favor Self over Other in distribution of rewards (Brewer 1979; Tajfel and Turner 1986; Brewer and Brown 1998), and that they attribute more positive views to in-group members than to out-group members (Allen 1996;

Rustemli, Mertan, and Ciftci 2000).[4] This theory does not provide a criterion for predicting the degree of solicitousness towards groups belonging to different categories of identity, as the inclusive fitness theory does with respect to family relations.

Indeed, there is ample direct evidence that identity matters for behavior: ethnic, national, and religious wars dot history, discrimination on the basis of almost any conceivable grounds is commonplace, and a visit to a schoolyard during recess shows how children divide into random teams to play a ball game and develop instantly strong feelings towards members of their own team and their temporary adversaries. In a series of experiments, Tajfel and Turner (1986) divided subjects arbitrarily into groups according to preferences for painting styles, and then asked members of different groups to share money with members of their own preference group or other groups. Those who were assigned to a particular preference favored persons who were assigned the same preference. These dictator-game like experiments showed how important are in-group and out-group identities, irrespective of their arbitrariness. Other studies found a gender effect on giving in dictator-game experiments (see Andreoni and Vesterlund 2001 and Ben-Ner, Kong and Putterman 2004) and trust game experiments showed differences in trusting on ethnic and national lines (see Glaeser et al. 2000, Fershtman and Gneezy 2001, and Bornhorst et al. 2004).

In summary, theory suggests that identity affects behavior in a way that favors Self relative to Other in different identity categories. The inclusive fitness theory suggests that family and kin relations constitute the most important identity category, with other categories possibly associated with genetic similarity following suit. Evolutionary theory predicts that long-term affiliation is valuable, pointing to the same categories as inclusive fitness theory, and to groups with which individuals tend to be attached for long periods of time and where they

can get to know each other, such as small communities and workplaces, membership organizations, and so on. Social identity theory only identifies the importance of social categories for belonging without providing a clear basis for their ordering in terms of importance for behavior.

Is differentiation between Self and Other the only engine of behavior? Of course not: there are additional influences on individual behavior.[5] In particular, rational individuals may well temper their identity-based instinct with instrumental considerations, leading to the possibility that identity plays a greater role in situations where instrumental considerations are less important, such as in leisure activities, and a lesser role in activities such as work where skills and knowledge are crucial. On the other hand, similarity in identity may provide advantages from enhanced trust and cooperation,[6] generating the alternative possibility that identity plays a greater role in situations such as the workplace and many business interactions where cooperation and trust are important. We conjecture that the balance between these two forces will vary across activities relative to their requirements of skill, knowledge, trust and cooperation.

IV. Hypotheses

The foregoing discussion's main conclusions can be summarized in the form of three principal hypotheses.

> A. *Self is favored over Other in economic, work, social, and leisure interactions.*

> B. *Identity categories have varying degrees of influence over how much Self is favored over Other; the strongest source of identity is kinship.*

> C. *The effects of identity vary across activities and behaviors.*

V. The experiments

We designed four experiments that capture various behaviors in social and economic situations aiming to: 1) test the hypothesis that the Self-Other differentiation affects behavior, 2) explore the differences in the strength of different identity categories, and 3) investigate differences across types of behavior relative to identity categories. In the four experiments subjects were asked to express their willingness to give money to, work with, share an office with, and commute with different persons characterized by various identity attributes. Information was gathered about subjects through a background survey, a personality inventory, and a cognitive ability test that subjects completed at the end of the experiments. The survey permitted the creation of Self and Other variables indicating whether a subject was similar to or different from each of the various imaginary persons with whom they were paired. Our subjects were 220 first-year undergraduate students at the University of Minnesota.

1. Experimental design

The first experiment was designed as a zero-sum, one-shot game, where the subjects were asked to *"… imagine yourself in a situation in which you are given $10, which you can keep to yourself or give to another person, all or any portion of it."* Subjects were asked to consider sharing their hypothetical (imaginary) $10 endowment with another (imaginary) person. This experiment mimics the familiar dictator game that is carried out with actual money. The dictator game is a-one person decision process: one player, the 'dictator,' divides a fixed amount of money between himself or herself and another person, the recipient, who is entirely passive and has no say in the decision. In this situation, giving any amount to the other person costs the subject exactly that amount, dollar for dollar. Because a selfish subject who

understands the extremely simple structure of the game would give nothing, the common interpretation is that any giving implies caring, altruism and unconditional cooperation towards the other person. This experiment is thus especially relevant to the question concerning differential caring for Self and Other. Although this experiment involved no real money, the findings derived from it are very similar to those from similarly-structured economic dictator-game experiments carried out with a $10 endowment and with a similar pool of subjects. Subjects give essentially the same amounts from a $10 endowment, whether the endowment consists of an actual or of a hypothetical endowment (Ben-Ner and Levy 2005). Moreover, since in this study we are interested in differences in levels of giving between self and other rather than the level of giving itself, our results are valid even under the weaker assumption that these differences are similar between actual and hypothetical giving experiments.

In addition to the explicitly economic situation of giving money, we examined hypothetical behaviors in work and social situations. In three other separate experiments subjects were asked to answer 'yes' or 'no' to three questions: *do you want, or not want, to commute daily to school with a particular person," "do you want, or not want to work with a particular person on a project critical to your career advancement,"* and *"whether you like or dislike sharing an office with this person."* Working on a project critical to one's promotion requires a choice of partner who can be trusted to cooperate, reciprocate and generally act favorably to one's interests, and who is likely to be a good worker. Sharing an office is an ongoing activity that has milder instrumental implications and stronger social-compatibility requirements. Commuting together is an activity of short duration that entails social interactions without any instrumental elements. Note that the questions were phrased in terms

of "want" with respect to working and sharing office, and in terms of "like" regarding commuting.

Our expectation has been that identity would engender stronger differentiation in the 'giving' and 'working together' than in 'sharing an office' or 'commuting.' In each experiment subjects were paired separately and sequentially with 91 different persons characterized in ways that are directly associated with an identity category. Experimental instructions are included in Appendix A.

2. The subjects

All freshmen at the University of Minnesota (approximately 5,000) were invited by email to participate in economic-psychological experiments; nearly 10% responded, with 222 actually showing up at the experiment. The average age of the sample was 18.8 years with 92.8% of individuals being between 18 and 21. A majority of the sample was female (64.0%) and 71.4% were Caucasian.

After the completion of the experiments, we administered a personality inventory, a cognitive-ability test, and a background survey. These are not analyzed in this paper, and therefore will not be described here.

3. Empirical specification of Self and Other and of identity categories

In this paper, of the 91 imaginary persons listed in the experiments we used only those that fit into one of the following categories of identity: family, political views, sports-team loyalty, music preferences, nationality, religion, socio-economic status, television viewing habits, food preferences, birth order, body type, dress type, and gender. These 13 categories correspond to most of the categories presented in section II. Table I illustrates the bases for creating the Self and Other variables. This was done by matching persons listed in the

experiments with corresponding characteristics reported in the background survey. For example, if a subject indicated on the survey that s/he is Protestant, then the Self-Other variable was coded as Self for a person described as Protestant in the experiment list, and was coded as Other for a person described as Buddhist, Muslim, or Jewish.[7] For a subject shorter than 66" (for males), the variable was coded as Self for a person described in the experiment as short, and Other for tall.

An identity category generally consists of multiple attributes or items, and we create the giving, commuting with, working with, and sharing office with variables by taking the average over the items in each category. For example, there are multiple musical preferences, several religions, different ways of characterizing body type, and so on. In the body type category, for example, we use the average of two items, height and weight. In the sports-team loyalty, we use only one item, fan of one's team versus fan of a rival team. In most categories, the Self and Other designations are natural differences, or even opposites. In the family and kinship category, Self includes family relations of varying degrees, as well as persons described as "looks like you" and "resembles you." The last two items were included because clues to genetic closeness are associated with looks. 'Other' for this category is the person described as a 'stranger,' the obvious non-kin.[8]

VI. The relationship between identity and behavior: empirical findings

Figure 1 displays the sample averages and proportions broken down by Self and Other for each identity category, by type of behavior. The upper left panel shows that for all identity categories, with the exception of gender, mean levels of giving are larger for Self than for Other. The differences are particularly large for the family, religion, political views, sports-

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team loyalty and music preferences categories. Similar results are seen in the remaining panels

of Figure 1 for the proportions of subjects liking to share an office, wanting to commute, or

wanting to work with another person. The identity categories in Figure 1 are listed from the

smallest Self-Other difference in giving to the largest. The *largest* average difference for all

four behaviors is for the family category: for giving, the Self-Other difference is $2.93, while

for the share office, commute and work behaviors the Self-Other differences are 0.28, 0.52 and

0.53, respectively. The *smallest* average Self-Other difference for giving is for the gender

category ($-0.14), for share office the body type category (-0.016), for work is the body type

category (-0.005), and for commute is the gender category (-0.013). A slightly higher

proportion of subjects favor Other than Self in the gender category, for the giving and commute

behaviors; Other in the body type identity category is also shown a slightly more favorable

attitude, on average, than Self in the share office, work and commute behaviors but not in

giving.

The raw averages presented in Figure 1 suggest that (a) Self is treated more favorably

than Other, with very minor exceptions, (b) there are marked differences in the way Self and

Other are treated across identity categories, and (c) there are differences across behaviors. The

remainder of this section explores these points in more detail and relative to the hypotheses

enumerated in section IV.

(a) In order to further investigate Self-Other differences by identity category and

behavior type, we estimated fixed-effects regression and fixed-effects logit models. For the

level of giving, we assumed that

$$g_{iq} = \beta_0 + \alpha_{is} + \alpha_{io} + \sum_{c \in C} \beta_{sc} I(q = \{c,s\}) + \sum_{c \in C} \beta_{oc} I(q = \{c,o\}) + \varepsilon_{iq} \qquad (1)$$

where i denotes the individual, q denotes the particular imaginary person that subject i is paired with, c denotes the identity category under consideration, $c \in \{1, \ldots, C\}$, s denotes whether the imaginary person q is of the Self type and o the denotes whether the imaginary person q is of the Other type. The parameters α_{is} and α_{io} are individual fixed effects for imaginary people who fall into the Self and Other types, respectively. Thus, these parameters measure the average giving to Self and Other across all identity categories for a particular individual. By allowing for individual fixed effects for Self and Other our estimates, which are based on the hypothetical dictator giving game, will be valid estimates for an actual dictator giving game even if the general individual levels of giving and the differences in these levels between self and other differ between the actual and hypothetical dictator games; all that is required is that the difference in differences across identity categories are the same. The parameters β_{sc} and β_{oc} measure the category deviation from the person-specific mean for Self and Other types. For simplicity, we have assumed that these deviations themselves are not person specific. Finally, ε_{iq} is an individual-imaginary person specific error term. For the commute, work and share office behaviors the fixed-effects logit model

$$\ln(\frac{p_{iq}}{1 - p_{iq}}) = \beta_0 + \alpha_{is} + \alpha_{io} + \sum_{c \in C} \beta_{sc} I(q = \{c, s\}) + \sum_{c \in C} \beta_{oc} I(q = \{c, o\}) \tag{2}$$

is estimated, where p_{iq} represents the probability that individual i says "yes" to the question posed that pertains to imaginary person q.

Table II presents estimates of $\hat{\beta}_{sc} - \hat{\beta}_{oc}$, the Self-Other differences, by identity category, in the four experiments; these estimates are based on the estimates of the fixed-effects models described by equations (1) and (2). The full set of fixed-effect estimates is presented in the Appendix Table A1. Column (1) presents estimates based on the fixed-effects regression

estimates for the giving experiment, whereas columns (2)-(4) present estimates based on the fixed-effects logit estimates for the share office, work and commute experiments, respectively.

The message conveyed by Table II is rather strong: Self is significantly favored over Other in all four experiments in nearly all identity categories. Exceptions are glaringly few: a small and statistically insignificant difference in preference for giving to Other than Self in the socio-economic status category (probably explained by the fact that many who are well-off, as well as most others, prefer to give money to the poor rather than the well-off), and a small advantage given to Other over Self in the gender category (probably explained by asymmetries in ways that men and women treat each other detected in dictator game experiments by Ben-Ner, Kong and Putterman 2004). We conclude that hypothesis A is supported by our experimental evidence.

(b) The results in column (1) show large differences in giving to Self versus Other for the family, sports-team loyalty, political views, food preferences, religion, music preferences and nationality categories, smaller yet statistically significant differences for birth order, dress type and body type, and negative but insignificant differences for the socio-economic and gender categories. For giving, we can reject the null hypothesis that the Self-Other difference is independent of identity category (F = 21.99, p-value = 0.000). For sharing an office, and commuting and working with another individual, we also soundly reject (p-value = 0.000) the null hypothesis that the Self-Other difference is independent of identity category ($\chi^2(12)$ =115.83, $\chi^2(12)$ =208.93, $\chi^2(12)$ =201.56, respectively). Thus, while individuals tend to favor individuals who are similar to themselves over individuals who are different, the extent of such favoritism varies substantially across identity categories. Table II therefore provides support for the main part of hypothesis B.

In order to explore hypothesis B in more detail and gain insight into the relative importance of various identity categories, we analyzed the relative ranks of the Self-Other differences by identity category. Our point estimates for the giving experiment show that the family category has the largest Self-Other difference followed by sports-team loyalty, political views, and religion and music preferences. What is the likelihood that this ordering is due to chance? We used bootstrapping techniques using 1000 replications to examine the rank-order distribution. Bootstrapping treats the sample as a population and then re-samples with replacement a number of times and computes relevant statistics for each replacement sample. The empirical distribution of the bootstrapped sample statistics are then used to address questions of statistical significance (see Efron and Tibshirani 1993 for details). Here we analyze the bootstrapped samples' empirical distribution of relative ranks. Because of the computational complexity of estimating the fixed effects logit model, the rank order of Self-Other differences was bootstrapped only for the giving experiment, which was based on a fixed-effects regression model. The results are presented in Table III. For each identity category, the table reports the mean rank and the 5th and 95th percentiles of the rank distribution based on the 1000 replications. For example, the Self-Other difference for the religion category was ranked on average 4.5 across all identity groups while in the upper 5% of the replications the difference was ranked third or higher and in the lower 95% of the replications the difference ranked sixth or lower.

The Self-Other difference was largest for the family category in all 1000 replications. The next two highest mean ranks were for the sports-team loyalty and political views categories. However, since sports-team loyalty was ranked higher than political views only in 55% of the replications, the difference in mean ranks is not statistically significant. The fourth

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and fifth highest mean ranks for giving were the religion and music preferences categories, respectively. Since the Self-Other difference for religion was larger than that for music preferences in only 52% of the replications, the rank differences are not statistically significant. When comparing sports-team loyalty to the religion and music preferences categories, the Self-Other differences for the sports-team loyalty category are larger than both religion and music preferences categories in over 95% of the replications. Thus, the rank differences are statistically significant. The political views Self-Other difference was larger than the religion and music preferences differences for giving in 90 and 91% of the replications, respectively. The evidence is therefore not as strong as for sports-team loyalty.

The rank ordering of identity categories obtained from bootstrapping replications is, not surprisingly, essentially the same as that implied by the relative magnitude of differences in giving across identity categories in the fixed-effects regression reported in column (1) of Table II. The rank ordering of different identity categories for the other behaviors presented in columns (2)-(4) is similarly implied by the relative magnitude of the estimated differences for each behavior. The order of importance of identity categories varies across the four columns, but the preeminent role of family persists across behaviors. Family is far ahead of other categories in terms of the preference given to those who are Self versus Other with respect to giving (estimated difference of 4.264 as compared to 2.586 for sports-team loyalty, the next largest difference), work (estimated difference of 9.225 as compared to 6.798 for music preferences, the next largest difference), and commute (estimated difference of 9.938 as compared to 5.364 for nationality, the next largest difference); in the share-office experiment the estimated difference between Self and Other for family is just slightly smaller than the difference for music preferences (7.063 versus 7.475). Thus, in addition to the main point of

hypothesis B, the key secondary postulate generated by the inclusive fitness theory, that kin relations constitute the most important identity category, is also supported by our findings. The postulate regarding the importance of identity categories linked to long-term affiliation cannot be tested without classifying identity categories according to the duration of affiliation. Such a classification is not available in the literature, and is a task that is well beyond the scope of this paper.

(c) Hypothesis C suggests that the importance of similarity in identity varies across behaviors. While we are unable to compare directly parameter estimates from regression and logit analyses, we can do so across the logit analyses concerning the share office, work, and commute behaviors. In order to evaluate the importance of *similarity* for a given identity category we tested the equality of the (Self) **x** (identity category) coefficients across the share-office, work and commute behaviors; the chi-square tests reject the null of equality at the 1% level for the identity categories of family, music preferences, and sports-team loyalty (and for dress type and birth order at the 10% level). As the parameter estimates on (Self) **x** (identity category) in Appendix Table A1 suggest, our subjects value more commuting and working with their kin than sharing an office with them, and they prefer commuting with someone who shares their musical preferences and sports-team loyalty, but this similarity does not seem to be very important for sharing an office and certainly not for working on a critical project. In other categories similarity (rather than difference) in identity does not seem to play a role.

To explore this hypothesis in more detail we compared behaviors towards Self and Other across the three behaviors by carrying out pair-wise tests of equality between the logit estimates in columns (2)-(4) of Table II for each identity category. The chi-square tests and direction of the difference in estimates are presented in Table IV. There bias in favor of Self

versus Other is statistically different and substantial across the three types of behaviors in the case of only two identity categories: family and music preferences. The differentiation between Self and Other in the family category is greater in the work and commute behaviors than in the share-office behavior, whereas in the case of music preferences the bias is larger for the share office and commute behaviors than for work. The music preferences category is likely to bear more on compatibility in social situations such as commuting and sharing an office than on trust and cooperation and therefore the order we just discussed makes sense. The family category probably bears more on trust and cooperation than on compatibility in social settings and therefore should be more important for work than sharing an office or commuting; the former relationship is found in our data, but not the latter. Less significant differences (at the 5% level) concern sports-team loyalty, which is more important for sharing an office and commuting than for work, similar to music preferences, and dress type, which is more important for commuting than for work, again similar to music preferences.

Hypothesis C is thus generally supported by these findings, which suggest that some identity categories are more important for activities in which trust and cooperation is central (work), and others are more important for behaviors that entail a large element of social interaction. However, for the several remaining identity categories there is no strong differential impact by identity on behavior.

VII. Conclusions

The assumption that behavior is independent of the identity of those who participate in an economic interaction is central to economists' understanding of how markets operate, how firms work internally, how nations trade with each other, and much else. On the basis of this

assumption economists have been strong proponents of globalization, of the diminution of economic and political boundaries, and of the expansion of market principles to non-economic arenas. In this paper we show that the distinction between Self and Other, 'us' and 'them,' or in-group and out-group, affects significantly economic and social behavior. In a series of experiments with Midwestern students as our subjects we found that they favor those who are similar to them on any one of a wide range of categories of identity over those who are not like them. Whereas family and kinship (including persons described as "looks like you" and "resembles you" in addition to various relatives) are the most powerful source of identity in our sample, it appears that there is no inconsequential source of identity: if an identity category happens not to affect one type of behavior then it will affect other behaviors.

Our findings indicate that people are more willing to give to, share an office with, commute with, and work on a critical project critical to their advancement with individuals who are similar to themselves (Self) along a particular identity dimension than with individuals who are dissimilar (Other). However, the magnitudes of these differences depend on the particular identity category. In particular, we found strong evidence that in the context of a dictator game experiment, the Self-Other differences in giving behavior are largest for the family and kinship category. The evidence also points towards this conclusion for working and commuting preferences, and essentially so in sharing an office preference. These results are consistent with evolutionary models of inclusive fitness.

Other identity categories in which the Self-Other distinction is important are political views, religion, sports-team loyalty, and music preferences. Although other interpretations are possible, the first two identity categories (and to some extent the third) may be viewed as modern-day equivalents of tribal or hunting-band affiliation of yore when belonging to groups

was particularly important for survival and, thus, may have evolutionary roots. From the same theoretical perspective we would expect that nationality would be a strong basis for identity; surprisingly, although it is a source of differentiation between Self and Other for our subjects, nationality ranks low for the giving behavior, lower than television viewing and dress type, for example, and is really high only for the commuting experiment.[9]

The finding of strong differentiation between Self and Other along so many diverse sources of identity and over such a wide range of behaviors suggests that attention must be paid to the role of identity. Ignoring the influence of identity does not advance economic analysis, and certainly does not supply a solid basis for good policy. Our findings of course do not mean that globalization, the diminution of economic and political boundaries, and the expansion of market principles to non-economic arenas are not desirable. Nor do our findings mean than diversity in the workplace is not desirable, or that discrimination can be justified because it may be due in part to tendencies inherited over many generations. But these findings do call attention to the need for much more nuanced analyses than what the standard economic assumption would beg.

Our sample exhibited significant identity-based behaviors, but given the sample's very specific demographic characteristics it is impossible to generalize our findings to other samples. The large literature on identity has shown that identity matters in a variety of samples; however, there is no literature that evaluates different identity categories' relative importance, or the effect of identity for different activities, and it would be valuable to study other samples in order to throw light on the question whether the ranking of identity categories varies with culture, historical experiences, and other circumstances.

As it provides tentative answers to several questions, the paper also stimulates additional research questions: (a) how do individual differences in personality, cognitive ability, family background, personal experiences and more affect identity-based behavior, (b) what is the interplay between rational economic action and action driven by identity considerations, and (c) what happens when identity is under stress from changes in the environment?[10] Answering these questions may throw additional light on the role of identity in complex economic life and further our understanding of how individuals from diverse backgrounds may interact with each other in the workplace and in the marketplace, and how larger groups including nations, homogeneous on some dimensions but not on others, may manage affairs of mutual concern.

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Table I: 'Self' and 'Other' Definitions by Identity Category

Identity Category	Subject's self-characterization in the background survey	The object is <u>Self</u> relative to the subject when the 'other person' is characterized in the experiment as	The object is <u>Other</u> relative to the subject when the 'other person' is characterized in the experiment as
Family and Kinship		Your brother	Stranger
		Your close relative	Stranger
		Your father	Stranger
		Your brother-in-law	Stranger
		Your stepfather	Stranger
		Your cousin	Stranger
		Resembles you	Stranger
		Looks like you	Stranger
Political Views	Politically liberal (1-3 on a 6 point scale)	Politically liberal	Politically conservative
	Politically conservative (4-6 on a 6 point scale)	Politically conservative	Politically liberal
Sports-team loyalty		Fan of your favorite sports team	Fan of your rival sports team
Music preferences	Bluegrass is a favorite type	Listens to bluegrass music	
	Alternative is a favorite type	Listens to alternative music	
	Contemporary pop/rock is a favorite type	Listens to contemporary pop/rock	
	New age is a favorite type	Listens to new age music	
	Rap/hip-hop is a favorite type	Listens to rap/hip-hop music	
	Opera is a favorite type	Listens to opera music	
	Bluegrass is not listed as a favorite type		Listens to bluegrass music
	Alternative is not listed as a favorite type		Listens to alternative music
	Contemporary pop/rock is not a favorite type		Listens to contemporary pop/rock
	New age is not a favorite type		Listens to new age music
	Rap/hip-hop is not a favorite type		Listens to rap/hip-hop music

	Opera is not a favorite type		Listens to opera music
Nationality	American	American	Chinese, and from France, Iraq, Argentina, Russia and Poland
	Other nationalities: parallel treatment		
Religion	Belongs to a Protestant denomination	Protestant, Lutheran	Muslim, Buddhist, or Jewish
	Other religions: parallel treatment		
Socio-economic status	Family experienced financial difficulties while growing up	Poor	Financially well-off
	Family was financially well-off	Financially well-off	Poor
	Had to work while in high school	Had to work while in high school	Did not have to work in high school
	Father is professional worker	Father is a physician	Father is a factory worker
	Father is unskilled or semiskilled worker	Father is a factory worker	Father is a physician
TV viewing	Watches TV for at least 3 hours a day	Watches a lot of TV	Hardly ever watches TV
	Watches TV at most 1 hour a day	Hardly ever watches TV	Watches a lot of TV
Food preferences	Convenience foods such as chips are favorite	Eats chips often	Eats salad often
	Vegetarian meal is favorite	Vegetarian	Eats hamburger often
Birth order	Youngest child	Youngest child	Oldest child
	Oldest child	Oldest child	Youngest child
Body Type	Taller than 73" if male, 68" if female	Tall	Short
	Shorter than 58" if female, 66" if male	Short	Tall
	Body mass index (definition in Table 4) ≤ 20 if female, 20.7 if male	Skinny	Overweight
	BMI ≥ 27 if female, 27.3 if male	Overweight	Skinny
Dress Type		Dresses like you	Dresses differently from you
Gender	Female	Female	Male
	Male	Male	Female

Table II: Estimated Differences in Behaviors towards 'Self' and 'Other' by Identity Category

Variable	_Regression_	_Logit_		
	Giving	Share office	Work	Commute
	(1)	(2)	(3)	(4)
Family	4.264***	7.063***	9.225***	9.938***
Nationality	0.992**	4.753***	4.048***	5.364***
Political Views	2.524***	6.353***	5.983***	5.289***
Television Viewing	1.549***	4.610***	3.747***	4.929***
Religion	2.007***	5.028***	4.321***	4.433***
Music Preferences	1.995***	7.475***	6.798***	5.163***
Food Preferences	1.415***	3.375***	3.144***	3.117***
Sports Team Loyalty	2.586***	6.006***	4.981***	4.410***
Socio-economic Status	-0.104	4.429***	2.924***	4.829***
Body Type	0.938**	2.184**	1.865**	2.186**
Dress Type	1.045**	1.783	2.692***	1.514
Birth Order	1.202**	2.957**	2.004*	2.468***
Gender	-0.714	-2.232**	-1.420*	-2.509**

Note: The table reports estimated differences in behaviors towards Self and Other based on the fixed-effect estimates reported in Appendix Table A1. Significance tests are based on two-sided asymptotic z-tests of differences in the Self-Other estimated coefficients for each identity category. One, two and three asterisks indicate statistical significance at the 10%, 5% and 1% levels, respectively.

Table III: Ranks of Self-Other Differences for Giving
Summary Statistics from Bootstrap replications

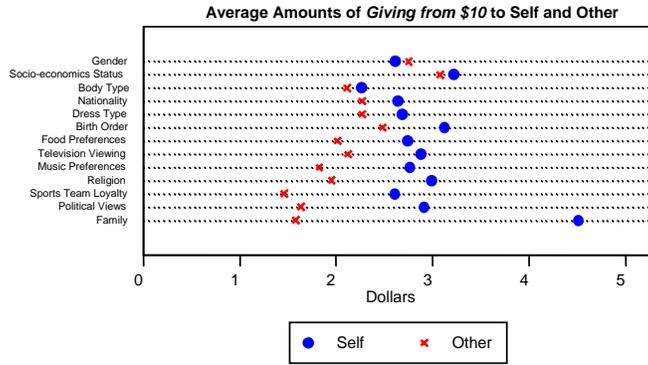| Variable	Mean Rank	5th Percentile	95th Percentile
Family	1	1	1
Nationality	9.721	8	11
Political Views	2.761	2	5
Television Viewing	6.58	4	9
Religion	4.469	3	6
Music Preferences	4.509	3	6
Food Preferences	7.036	6	9
Sports Team Loyalty	2.521	2	3
Socio-economic Status	12.371	12	13
Body Type	10.015	8	11
Dress Type	9.269	7	11
Birth Order	8.361	6	11
Gender	12.387	10	13

Table IV: Test of equality of coefficients across behaviors by identity category

	Share-Work	**Share-Commute**	**Commute-Work**
Family	11.61***(-)	9.01(-)***	0.03(+)
Nationality	0.16(-)	0.01(-)	0.08(-)
Political Views	2.17(+)	0.17(-)	3.02(+)*
Television Viewing	0.01(-)	0.01(+)	0.03(-)
Religion	1.34(+)	0.01(-)	1.15(+)
Music Preferences	11.28(+)***	0.02(-)	8.93(+)***
Food Preferences	0.45(+)	0.25(-)	1.26(+)
Sports Team Loyalty	4.94(+)**	0.05(+)	2.80(+)*
Socio-economic Status	0.04(-)	0.67(+)	1.15(-)
Body Type	0.11(+)	0.24(-)	0.63(+)
Dress Type	0.35(-)	2.33(-)	4.58(+)**
Birth Order	0.56(+)	0.01(+)	0.28(+)

Note:
Each cell shows the chi-square test statistic. (-) indicates that the estimate on the first-listed behavior presented in Table 2 is smaller than the estimate on the second-listed behavior; (+) indicates the opposite. One, two and three asterisks indicate statistical significance at the 10%, 5% and 1% levels, respectively.

Figure I: 'Self' and 'Other' Comparisons by Identity Category

Average Amounts of *Giving from $10* to Self and Other

Proportion *Liking to Share Office With* Self and Other

Proportion *Wanting to Commute With* Self and Other

Proportion *Wanting to Work With* Self and Other
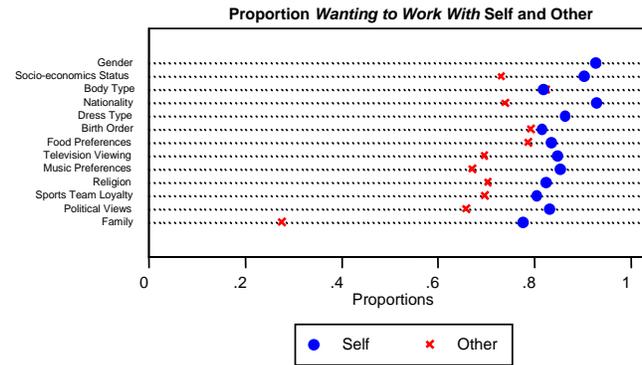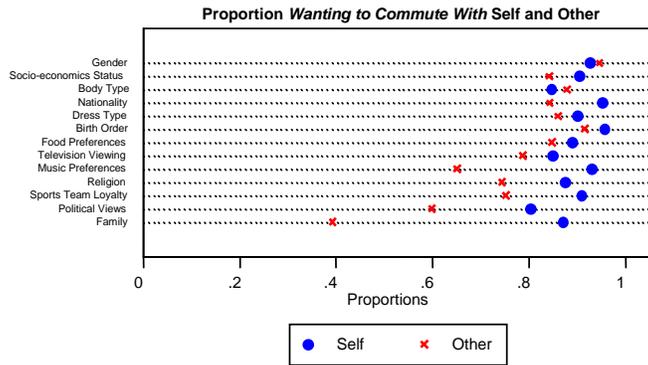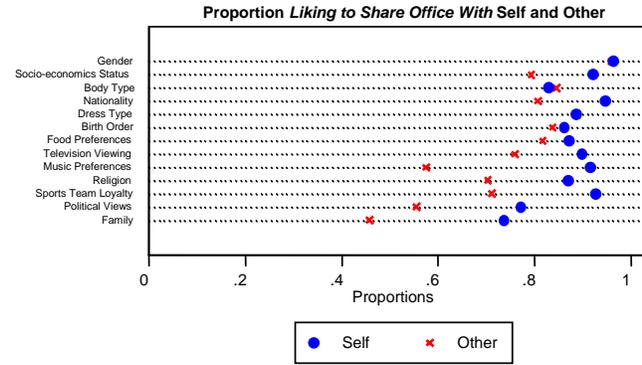
Source: see text for details

Table A1: Fixed-Effects Regression and Fixed-Effects Logit Estimates

Variable	Regression		Logit	
	Giving (1)	Share Office (2)	Work (3)	Commute (4)
Family	-1.175***	-5.084	-5.985	-5.074
	(0.213)	(0.48)	(0.423)	(0.422)
Nationality	-0.485	-2.702	-2.716	-1.8
	(0.163)	(0.456)	(0.379)	(0.39)
Political Views	-1.071	-4.655	-3.418	-3.884
	(0.224)	(0.486)	(0.424)	(0.427)
Television Viewing	-0.629	-3.087	-3.107	-2.401
	(0.192)	(0.474)	(0.399)	(0.412)
Religion	-0.809	-3.562	-3.05	-2.737
	(0.168)	(0.458)	(0.382)	(0.392)
Music Preferences	-0.936	-4.372	-3.249	-3.402
	(0.166)	(0.457)	(0.381)	(0.39)
Food Preferences	-0.683	-2.625	-2.291	-1.857
	(0.179)	(0.468)	(0.394)	(0.405)
Sports Team Loyalty	-1.284	-3.505	-3.08	-2.669
	(0.213)	(0.485)	(0.417)	(0.426)
Socio-economic Status	0.353	-2.838	-2.761	-1.791
	(0.172)	(0.462)	(0.385)	(0.398)
Body Type	-0.643	-2.282	-1.9	-1.441
	(0.173)	(0.465)	(0.391)	(0.404)
Dress Type	-0.485	-1.732	-1.306	-1.604
	(0.213)	(0.517)	(0.451)	(0.447)
Birth Order	-0.35	-2.471	-2.155	-0.799
	(0.205)	(0.529)	(0.419)	(0.458)
Self x Family	2.374	-0.284	1.462	2.697
	(0.537)	(0.895)	(0.958)	(0.597)
Self x Nationality	-0.208	-0.187	0.133	0.826
	(0.538)	(0.947)	(0.995)	(0.692)
Self x Political Views	0.738	-0.537	0.133	0.826
	(0.563)	(0.919)	(0.986)	(0.636)
Self x Television Viewing	0.206	-0.72	-0.653	-0.079
	(0.583)	(0.985)	(1.019)	(0.701)
Self x Religion	0.484	-0.77	-1.131	0.162
	(0.531)	(0.897)	(0.952)	(0.6)
Self x Music Preferences	0.344	0.876	-0.604	2.005
	(0.535)	(0.916)	(0.96)	(0.643)
Self x Food Preferences	0.018	-1.417	-1.615	-0.138
	(0.536)	(0.908)	(0.961)	(0.62)

Table A1 *(continued)***:**

Variable	Regression	Logit		
	Giving (1)	Sharing (2)	Working (3)	Commute (4)
Self x Sports Team Loyalty	0.587	0.259	-1.187	0.888
	(0.555)	(0.944)	(0.974)	(0.659)
Self x Socio-economic Status	-0.465	-0.646	-0.446	-0.289
	(0.49)	(0.834)	(0.897)	(0.498)
Self x Body Type	-0.419	-2.335	-2.224	-0.996
	(0.547)	(0.919)	(0.974)	(0.637)
Self x Dress Type	-0.154	-2.183	-2.301	-0.333
	(0.555)	(0.948)	(1)	(0.668)
Self x Birth Order	0.138	-1.756	-2.197	-0.216
	(0.563)	(1.019)	(0.991)	(0.801)
Self x Gender	-0.714	-2.231	-2.505	-1.418
	(0.555)	(1.076)	(1.058)	(0.749)
Constant	2.978	-	-	-
	(0.255)			
Number of Observations	10660	8784	8695	8484
Person-Self-Other Groups	402	345	335	312
	R^2=0.0752	Log Likelihood= -2964.92	Log Likelihood= -2946.01	Log Likelihood= -2675.67

Note: Each observation corresponds to a particular person-identity category-Self/Other value. For the fixed-effects logit estimates, all observations in which Self/Other-identity category groups have no variation in the dependent variable are dropped from the estimations. One, two and three asterisks indicate statistical significance at the 10%, 5% and 1% levels, respectively; standard errors are in parentheses.

Experiment 1

Imagine yourself in a situation in which **you are given $10, which you can keep to yourself or give to another person, all or any portion of it**. You may give money only in increments of $1. We are asking you to consider giving money to different persons, one at a time. That is, each time you are given $10, which you can divide between yourself and another person. Each person is described in the table provided below. When making your decision, please consider only the information given on each line.

Please imagine the situation to be as close as possible to a real-life situation. Remember, all of your answers are entirely anonymous and the researchers have no way of linking them to you or to anybody else in this experiment.

Please indicate in the space provided the amount you give and the amount you keep; make sure that the amount given to the other person and the amount you keep for yourself add up to $10.

Here are a few examples. Suppose that the other person is someone who listens to Broadway musicals – this is the only information you have about the other person. Assume that you decide to give $0, thus keeping $10. This decision should be recorded as indicated in the first line of the examples table shown below. Alternatively, suppose that the other person is your next-door neighbor (and that's all you know about this person), and you decide to give $2 and keep $8. This decision should be recorded as indicated in the second line of the examples table. As a final example, suppose that the other person is someone named James (again, this is the only information you have about the other person), and you decide to give $10 and keep $0. This decision should be recorded as indicated in the third line of the examples table.

Examples table

The other person...	Money you **give** to this person	Money you **keep** to yourself	Total
Listens to Broadway musicals	$0	$10	$10
Is your next door neighbor	$2	$8	$10
Is named James	$10	$0	$10

These are only hypothetical examples, and the decision how much to give is of course entirely yours.

The experiment begins here. You have $10 that you can keep to yourself, or give to another person, all or any portion of it in increments of $1. Each line describes a different person. The only thing you know about this person is the information given on that line. Please consider each person separately. Write the amount of money you give to the other person and the amount to keep for yourself in the space provided.

The other person...	Amount of money you **give** to this person	Amount of money you **keep** to yourself	Total
Is from a small family			$10
Listens to bluegrass music			$10
Speaks English and additional languages			$10
Was born and raised in Minnesota			$10
Has parents who are still together			$10
Has a father who is a physician			$10
Is poor			$10
Was an "A" student in high school			$10
Listens to alternative music			$10
Hardly ever watches TV			$10
Is politically conservative			$10
Speaks Spanish at home			$10
Is your brother			$10
Is the youngest child in their family			$10
Listens to contemporary pop/rock music			$10
Had to work while in high school			$10
Has a steady dating partner			$10
Is financially well off			$10
Is someone you've seen at the checkout counter at the supermarket			$10
Has many close friends			$10
Was born and raised in a small town or village			$10
Has many brothers and sisters			$10
Was born and raised in the Midwest			$10
Is your close relative			$10
Is politically liberal			$10
Is Protestant			$10
Is a male			$10
Is an American			$10
Is a stranger			$10
Is from your hometown			$10
Has divorced parents			$10
Is Jewish			$10
Is an avid newspaper reader			$10

Is your father			$10
Dates a lot			$10
Is the oldest child in their family			$10
Was your classmate in high school			$10
Immigrated recently from another country			$10
Is a friend of your parents			$10
Didn't have to work while in high school			$10
Has a father who works in a factory			$10
Is Buddhist			$10
Is from France			$10
Listens to new age music			$10
Is Muslim			$10
Has few close friends			$10
Is someone from your own church			$10
Grew up in a large town			$10
Watches a lot of TV			$10
Attends regularly religious services			$10
Is your closest friend			$10
Is from Argentina			$10
Speaks English only			$10
Dresses differently from you			$10
Looks like you			$10
Went to a private high school			$10
Is tall			$10
Is of Chinese background			$10
Listens to rap/hip-hop music			$10
Is from Russia			$10
Dresses like you			$10
Listens to opera music			$10
Is a "C" student			$10
Is college educated			$10
Is female			$10
You have known for many years			$10
Is white			$10
Is your brother-in-law			$10
Is from Iraq			$10
Didn't finish high school			$10
Went to a public high school			$10
You've seen crossing the street			$10
Has an advanced graduate degree			$10
Is from Poland			$10
Does not believe in God			$10
Is your stepfather			$10
Is short			$10
Is skinny			$10

Is a fan of your favorite sports team			$10
Cheers for the rival of your favorite sports team			$10
Is overweight			$10
Is named Susan			$10
Is Lutheran			$10
Is named Mike			$10
Is a foreigner			$10
Eats chips often			$10
Is your cousin			$10
Eats salad often			$10
Is a vegetarian			$10
Resembles you			$10
Eats hamburgers and fries often			$10

Experiment 2

In this experiment you are faced with a simple choice: **do you want, or not want, to commute daily to school or work with a particular person**. We are asking you to consider this decision with respect to different persons, one at a time. Each person is described in the table provided below. In making your decision, please consider only the information given on each line.

Please imagine the situation to be as close as possible to a real-life situation. Remember, all of your answers are entirely anonymous and the researchers have no way of linking them to you or to anybody else in this experiment.

Please indicate your decision in the space provided in the table.

Here are a few examples. Suppose that the other person is someone who listens to Broadway musicals – this is the only information you have about the other person. Assume that you want to commute daily with this person; this decision should be recorded as indicated in the first line of the examples table below. Alternatively, suppose that the other person is your next-door neighbor (and that's all you know about this person), and you do not want to commute with this person; this decision should be recorded as indicated in the second line of the examples table. As a final example, suppose that the other person is someone named James (again, this is the only information you have about the other person), and you want to commute with this person; this decision should be recorded as indicated in the third line of the examples table.

Examples table

The other person...	**Want** *to commute daily with this person*	**Do not want** *to commute daily with this person*
Listens to Broadway musicals	√	
Is your next door neighbor		√
Is named James	√	

These are only hypothetical examples, and the decision is of course entirely yours.

The experiment begins here. Please indicate whether you want or do not want to commute daily with each of the persons listed below. Each line describes a different person. The only thing you know about this person is the information given on that line. Please consider each person separately, and indicate whether you want or do not want to commute daily with this person.

The other person...	*Want* to commute *daily with this person*	**Do not want** *to commute daily with this person*
Is from a small family		
Listens to bluegrass music		
Speaks English and additional languages		
Was born and raised in Minnesota		
Has parents who are still together		
Has a father who is a physician		
Is poor		
Was an "A" student in high school		
Listens to alternative music		
Hardly ever watches TV		
Is politically conservative		
Speaks Spanish at home		
Is your brother		
Is the youngest child in the family		
Listens to contemporary pop/rock music		
Had to work while in high school		
Has a steady dating partner		
Is financially well off		
Is someone you've seen at the checkout counter at the supermarket		
Has many close friends		
Was born and raised in a small town or village		
Has many brothers and sisters		
Was born and raised in the Midwest		
Is politically liberal		
Is Protestant		
Is a male		
Is an American		
Is a stranger		
Is from your hometown		
Has divorced parents		
Is Jewish		
Is an avid newspaper reader		
Is your father		
Dates a lot		
Is the oldest child in the family		

Was your classmate in high school		
Immigrated recently from another country		
Is a friend of your parents		
Didn't have to work while in high school		
Has a father who works in a factory		
Is Buddhist		
Is from France		
Listens to new age/space music		
Is a Muslim		
Has few close friends		
Is someone from your own church		
Grew up in a large town		
Watches a lot of TV		
Attends regularly religious services		
Is your closest friend		
Is from Argentina		
Speaks English only		
Dresses differently from you		
Looks like you		
Went to a private high school		
Is tall		
Is of Chinese background		
Listens to rap/hip-hop music		
Is from Russia		
Dresses like you		
Listens to opera music		
Is a "C" student		
Is college educated		
Is female		
You have known for many years		
Is white		
Is your brother-in-law		
Is from Iraq		
Didn't finish high school		
Went to a public high school		
You have seen crossing the street		
Has an advanced graduate degree		
Is from Poland		
Does not believe in God		
Is your stepfather		
Is short		
Is skinny		
Is a fan of your favorite sports team		
Cheers for the rival of your favorite sports team		
Is overweight		

Is named Susan		
Is Lutheran		
Is named Mike		
Is a foreigner		
Eats chips often		
Is your cousin		
Eats salad often		
Is a vegetarian		
Resembles you		
Eats hamburgers and fries often		

Thank you for participating in this experiment!

Experiment 3

In this experiment you are faced with a simple choice: **do you want, or not want, to work with a particular person on a project critical to your career advancement**. We are asking you to consider this decision with respect to different persons, one at a time. Each person is described in the table provided below. In making your decision, please consider only the information given on each line.

Please imagine the situation to be as close as possible to a real-life situation. Remember, all of your answers are entirely anonymous and the researchers have no way of linking them to you or to anybody else in this experiment.

Please indicate your decision in the space provided in the table.

Here are a few examples. Suppose that the other person is someone who listens to Broadway musicals – this is the only information you have about the other person. Assume that you want to work with this person on a project critical to your career advancement; this decision should be recorded as indicated in the first line of the examples table below. Alternatively, suppose that the other person is your next-door neighbor (and that's all you know about this person), and you do not want to work with this person on a project critical to your career advancement; this decision should be recorded as indicated in the second line of the examples table. As a final example, suppose that the other person is someone named James (again, this is the only information you have about the other person), and you want to work with this person; this decision should be recorded as indicated in the third line of the examples table.

Examples table

The other person…	***Want** to work with this person on a project critical to your career advancement*	***Do not want** to work with this person on a project critical to your career advancement*
Listens to Broadway musicals	√	
Is your next door neighbor		√
Is named James	√	

These are only hypothetical examples, and the decision is of course entirely yours.

The experiment begins here. Please indicate whether you want or do not want to work with each of the persons listed below on a project critical to your career advancement. Each line describes a different person. The only thing you know about this person is the information given on that line. Please consider each person separately, and indicate whether you want or do not want to work with this person on a project critical to your advancement.

The other person...	*Want* to work with this person on a project critical to your career advancement	*Do not want* to work with this person on a project critical to your career advancement
Is from a small family		
Listens to bluegrass music		
Speaks English and additional languages		
Was born and raised in Minnesota		
Has parents who are still together		
Has a father who is a physician		
Is poor		
Was an "A" student in high school		
Listens to alternative music		
Hardly ever watches TV		
Is politically conservative		
Speaks Spanish at home		
Is your brother		
Is the youngest child in the family		
Listens to contemporary pop/rock music		
Had to work while in high school		
Has a steady dating partner		
Is financially well off		
Is someone you've seen at the checkout counter at the supermarket		
Has many close friends		
Was born and raised in a small town or village		
Has many brothers and sisters		
Was born and raised in the Midwest		
Is politically liberal		
Is Protestant		
Is a male		
Is an American		
Is a stranger		
Is from your hometown		
Has divorced parents		
Is Jewish		
Is an avid newspaper reader		
Is your father		

Dates a lot		
Is the youngest child in the family		
Was your classmate in high school		
Immigrated recently from another country		
Is a friend of your parents		
Didn't have to work while in high school		
Has a father who works in a factory		
Is Buddhist		
Is from France		
Listens to new age/space music		
Is a Muslim		
Has few close friends		
Is someone from your own church		
Grew up in a large town		
Watches a lot of TV		
Attends regularly religious services		
Is your closest friend		
Is from Argentina		
Speaks English only		
Dresses differently from you		
Looks like you		
Went to a private high school		
Is tall		
Is of Chinese background		
Listens to rap/hip-hop music		
Is from Russia		
Dresses like you		
Listens to opera music		
Is a "C" student		
Is college educated		
Is female		
You have known for many years		
Is white		
Is your brother-in-law		
Is from Iraq		
Didn't finish high school		
Went to a public high school		
You have seen crossing the street		
Has an advanced graduate degree		
Is from Poland		
Does not believe in God		
Is short		
Is skinny		
Is a fan of your favorite sports team		
Cheers for the rival of your favorite sports team		

Is overweight		
Is named Susan		
Is Lutheran		
Is named Mike		
Is a foreigner		
Eats chips often		
Is your cousin		
Eats salad often		
Is a vegetarian		
Eats hamburgers and fries often		

Thank you for participating in this experiment!

Experiment 4

In this experiment you are asked to consider the following situation. **You have been assigned to share an office with another person. You are asked to state whether you like or dislike sharing an office with this person.** Please note that there are no other options and you have to indicate a preference – like or dislike – on each line. We are asking you to consider this decision with respect to different persons, one at a time. Each person is described in the table provided below. In making your decision, please consider only the information given on each line.

Please imagine the situation to be as close as possible to a real-life situation. Remember, all of your answers are entirely anonymous and the researchers have no way of linking them to you or to anybody else in this experiment.

Please indicate your decision in the space provided in the table.

Here are a few examples. Suppose that the other person is someone who listens to Broadway musicals – this is the only information you have about the other person. Assume that you would like to share an office with this person; this preference should be recorded as indicated in the first line of the examples table below. Alternatively, suppose that the other person is your next-door neighbor (and that's all you know about this person), and you would dislike sharing an office with this person; this preference should be recorded as indicated in the second line of the examples table. As a final example suppose that the other person is someone named James (again, this is the only information you have about the other person), and you would like to share an office with this person; this preference should be recorded as indicated in the third line of the examples table.

Examples table

The other person…	*Like to share* an office with this person	*Dislike to share* an office with this person
Listens to Broadway musicals	√	
Is your next door neighbor		√
Is named James	√	

These are only hypothetical examples, and the decision is of course entirely yours.

The experiment begins here. Please indicate whether you would like or dislike sharing an office with each of the persons listed below. Each line describes a different person. The only thing you know about this person is the information given on that line. Please consider each person separately, and indicate whether you like or dislike to share an office with this person.

The other person...	Like to share an office with this person	Dislike to share an office with this person
Is from a small family		
Listens to bluegrass music		
Speaks English and additional languages		
Was born and raised in Minnesota		
Has parents who are still together		
Has a father who is a physician		
Is poor		
Was an "A" student in high school		
Listens to alternative music		
Hardly ever watches TV		
Is politically conservative		
Speaks Spanish at home		
Is your brother		
Is the youngest child in the family		
Listens to contemporary pop/rock music		
Had to work while in high school		
Has a steady dating partner		
Is financially well off		
Is someone you've seen at the checkout counter at the supermarket		
Has many close friends		
Was born and raised in a small town or village		
Has many brothers and sisters		
Was born and raised in the Midwest		
Is politically liberal		
Is Protestant		
Is a male		
Is an American		
Is a stranger		
Is from your hometown		
Has divorced parents		
Is Jewish		
Is an avid newspaper reader		
Is your father		
Dates a lot		
Is the youngest child in the family		
Was your classmate in high school		

Immigrated recently from another country		
Is a friend of your parents		
Didn't have to work while in high school		
Has a father who works in a factory		
Is Buddhist		
Is from France		
Listens to new age/space music		
Is a Muslim		
Has few close friends		
Is someone from your own church		
Grew up in a large town		
Watches a lot of TV		
Attends regularly religious services		
Is your closest friend		
Is from Argentina		
Speaks English only		
Dresses differently from you		
Looks like you		
Went to a private high school		
Is tall		
Is of Chinese background		
Listens to rap/hip-hop music		
Is from Russia		
Dresses like you		
Listens to opera music		
Is a "C" student		
Is college educated		
Is female		
You have known for many years		
Is white		
Is your brother-in-law		
Is from Iraq		
Didn't finish high school		
Went to a public high school		
You have seen crossing the street		
Has an advanced graduate degree		
Is from Poland		
Does not believe in God		
Is short		
Is skinny		
Is a fan of your favorite sports team		
Cheers for the rival of your favorite sports team		
Is overweight		
Is named Susan		
Is Lutheran		

Is named Mike		
Is a foreigner		
Eats chips often		
Is your cousin		
Eats salad often		
Is a vegetarian		
Eats hamburgers and fries often		

Thank you for participating in this experiment!

Notes

[1] See the review article by Ellemers, Spears, and Doosje (2002), and literature reviews in Akerlof and Kranton (2000) and Leonard and Levine (2003).

[2] For an expansive discussion of this and related theories, see Ellemers, Spears, and Doosje (2002).

[3] For an argument that human beings process information with the aid of categories rather than more detailed attributes, see Fryer and Jackson (2003).

[4] Allen (1996) found an in-group bias effect for individuals of European and African descent, such that both groups attributed more positive traits to members of their respective in-group.

[5] See for example Ben-Ner and Putterman (2000) who attempt to sort out conceptually various influences.

[6] This is the familiar trade-off between loyalty and expertise in family-owned firms or state-owned firms in communist countries. Also ethnically homogenous middlemen groups confer benefits (as well as sanctions) on its members and arise to reduce the transaction costs associated with exchange uncertainty (Landa, 1997).

[7] For various reasons, we did not include race and ethnicity in our experiments ("Jewish" was included in the religion category).

[8] Other characterizations, such as "someone you've seen crossing the street" and "someone you've seen at the checkout counter at the supermarket" are less loaded that the term "stranger" but produce similar results.

[9] We conjecture that the categories of race and ethnicity, not included in this experiment, might belong to this group of identity categories.

[10] We are exploring question (a) in a forthcoming paper. Akerlof and Kranton (2000) established some principles for dealing with questions (b) and (c). An elegant treatment of one aspect of question (b) is provided by Ortona (2002) who proposes a theory of mass ethnic violence produced by rational subjects fueled by various 'non-economic' passions. An initial step in the direction of question (c) is made by Giuriato and Molinari (2002) who study some effects of 'lacerations in identity.'

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