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On wealth and the diversity of friendships: High social class people around the world have fewer international friends

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ABSTRACT

Having international social ties carries many potential advantages, including access to novel ideas and greater commercial opportunities. Yet little is known about *who* forms more international friendships. Here, we propose social class plays a key role in determining people's internationalism. We conducted two studies to test whether social class is related positively to internationalism (the *building social class hypothesis*) or negatively to internationalism (the *restricting social class hypothesis*). In Study 1, we found that among individuals in the United States, social class was negatively related to percentage of friends on Facebook that are outside the United States. In Study 2, we extended these findings to the global level by analyzing country-level data on Facebook friends formed in 2011 (nearly 50 billion friendships) across 187 countries. We found that people from higher social class countries (as indexed by GDP per capita) had lower levels of internationalism—that is, they made more friendships domestically than abroad.

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Forming friendships and alliances is one of the most important social actions people take in their lives. Friendships provide social support, opportunities for innovation and collaboration, social delights, and a sense of community and cooperation (Dakhli & De Clercq, 2004; Weisz & Wood, 2005). Given these functions of friendships, scientific studies have documented that friendships are important predictors of well-being and health (Berkman, 2001). While much of the past work on friendships has focused on close ties, *cross-national friendships* are far less well understood. Yet greater international ties can lead to many benefits, including greater peace between nations and cultural exchanges that can foster innovation through the introduction of novel ideas from foreign cultures (Maddux & Galinsky, 2009). Indeed, cross-national friendships stand to enrich our knowledge of intergroup relations (Davies, Tropp, Aron, Pettigrew, & Wright, 2011; Yzerbyt & Demoulin, 2010) and interpersonal stratification (Fiske, 2010).

There are well known barriers to forming friendships with people from different groups than one's own, including distrust, intergroup anxiety, and even prejudice (Pettigrew & Tropp, 2008). Yet we know little about what factors are positively related to cross-national friendships. In the present investigation, we ask how social class—both

subjective accounts of one's place in society relative to others and objective accounts of a person's income level (Kraus, Piff, Mendoza-Denton, Rheinschmidt, & Keltner, 2012)—at the individual and national level, predicts the tendency to form friendships with people from different nations than one's own. The literature on power, status, and social class yields two competing predictions, which we test in this investigation: the *building* and *restricting social class hypotheses*.

1. Competing perspectives on social class and internationalism

On the one hand, studies suggest that people from high social class groups are action-oriented in connecting with others (Keltner, Gruenfeld, & Anderson, 2003). At the individual level of analysis, high-social class individuals tend to feel more positive emotion, send out more approach-related signals (such as smiles or friendly eye contact), and approach others to the extent that they can be useful to fulfilling their needs and/or goals (Gruenfeld, Inesi, Magee & Galinsky, 2008). Select studies find that, depending on situational demands, people from high-social class groups tend to take responsibility and be more inclined to assist low-social class members (Brewer, 1988; Keltner, Gruenfeld, Galinsky, & Kraus, 2010; Overbeck & Park, 2001). In light of these processes, one might expect upper class individuals to form more friendships across national boundaries (Maddux & Galinsky, 2009). Objective conditions of the lives of upper class individuals—where they work, travel to,

and are educated—would make it reasonable to predict that they will have more international friends. These findings and reasoning converge on the *building social class hypothesis*: upper class individuals and people from high-social class countries build up their international social capital through the formation of more international friendships relative to their lower class counterparts.

A competing hypothesis is found in recent analyses of status, wealth, and social class (Kraus et al., 2012; Vohs, Mead, & Goode, 2006). This line of reasoning holds that high social class individuals are endowed with greater resources, and therefore less dependent upon others. As a result, the wealthy tend to be less socially engaged with others, in particular those from different groups than their own. In keeping with this restriction of social capital perspective, studies have found that higher class individuals show higher patterns of nonverbal social disengagement (e.g. doodling) compared to individuals from lower class backgrounds (Kraus & Keltner, 2009), they prove to be less responsive to others' suffering, and they tend to share less with others (Piff, Kraus, Côté, Cheng, & Keltner, 2010; Piff, Stancato, Côté, Mendoza-Denton, & Keltner, 2012; Stellar, Manzo, Kraus, & Keltner, 2012). By contrast, lower class individuals have perhaps more to gain from diversifying their social connections and prove to be more oriented towards reaching out and connecting with others (Piff et al., 2010). These findings and theoretical analysis lend themselves to a competing hypothesis that we tested in this investigation, the *restricting social class hypothesis*: upper class individuals will form fewer international friendships than low-social class people.

2. Testing the building and restricting social class hypotheses

In the present research, we tested these two competing hypotheses about who is likely to form friendships with people from different countries than one's own. We did so in two complementary studies, one at the individual level of analysis, and a second at the national level of analysis. In Study 1, we tested the relationship between personal social class (income and social class) among individuals in the United States and the percentage of their total Facebook friends (a proxy of social relationships) that came from outside the United States. In Study 2, we examined the relationship between every friendship made on Facebook in 2011 and GDP per capita (as a proxy of social class).

Several aspects of the Facebook platform allow us to overcome certain classic challenges in social sciences. First, Facebook's user base is massive, spanning over 1.3 billion users; thus, in our second study, our findings provide insights based on data from every corner of the earth and most walks of life. With growing concerns about the robustness of findings based on Western, educated, student samples—indeed, even cognitive psychology findings vary massively across cultures—such a huge, culturally, ethnically, and class mixed sample provides a vital step forward to generalizing effects (Henrich, Heine, & Norenzayan, 2010). Second, Facebook friendship structure mirrors real-world friendships (Wilson, Gosling, & Graham, 2012). In fact, unlike other social networking sites, real-world friendships tend to be a precursor to becoming Facebook friends (Ross et al., 2009). These findings highlight the validity of using Facebook friendships as a proxy for a person's social contacts. However, even given these findings, we suggest that Facebook friendships should ultimately be treated as a *proxy* for real relationships as there are almost certainly social ties on Facebook that are with individuals that users have only met once or not at all. Facebook friendships provide a convenient way to approximate a person's social sphere, but there is some error in this metric. Similarly, income, social class, and GDP per capita are powerful proxies for individual and national social class given the central role that money plays in people's determinations of social class (Kraus, Piff, & Keltner, 2011). Third, using Facebook friendships allow us to quantify the percentage of a person's friends that are international without relying on self-report—thus, many classic biases are not threats to the interpretation of the findings. Indeed, it would be exceedingly difficult to quantify the number of international

social ties a person has since—by virtue of them being international—the individual is unlikely to see them often and thus more likely to forget them when asked to make a list of friends.

Our research makes two principal contributions to the intergroup and social class literatures. By demonstrating how social class underpins the creation of cross-national friendships, we shed light on how people reach across social divides and form connections to disparate others, a phenomenon we know to be important for cultural change, increased chances of innovation, and less hostile intergroup attitudes (Maddux & Galinsky, 2009; Pettigrew & Tropp, 2008). In addition to underscoring how social class is a major driver of these cross-national friendships, we also provide support for the idea that, despite status being beneficial in many aspects of everyday life, it affects the composition of social networks in a way that reduces international diversity. Thus, our research strengthens and enhances a budding line of evidence (Kraus et al., 2012; Piff et al., 2012) that social class carries certain risks as well as advantages.

3. Study 1

3.1. Method

3.1.1. Participants and procedure

We recruited 1069 individuals from Amazon's Mechanical Turk who lived in the United States to participate in the study in exchange for $1.00. At the beginning of the study, participants completed a consent form which detailed all parts of the study. No deception was used. Of these individuals, 857 participants consented to authorizing our Facebook app to gather some information from their profiles automatically. This information included their total number of friends and their friends' current location—we note that friend location data was not available for all friends, but it was available for the majority of friends. Facebook researchers were not directly involved in Study 1—the data collection was done independently through the Cambridge team's own app. We focused only on the participants who had at least one Facebook friend (sample $N = 815$). These participants had on average 353 friends, and all together had 287,739 friends.

For each participant, we examined their friends' current location, calculating the percentage of friends who lived outside the United States, which served as our metric of internationalism. In examining the internationalism histogram, we found extreme positive skew: the vast majority of participants had a small percentage of international friends (on average, 4%), with a small minority having high levels of international friendships. Since such outliers can extremely skew the results of a regression model, we followed the recommendations of Tabachnick and Fidell (2006), z-scoring all internationalism values, excluding any values more than 3 SDs away from the mean, z-scoring the remaining values, excluding any values of the new z-scores that are 3 SDs away from the mean, and so forth until the z-scores revealed no scores more than 3 SDs out. This procedure left 671 individuals for analyses (mean age = 28.6, sd = 9.2; 54% female), with internationalism scores ranging from 0 to 14% (mean = 4%, SD = 3%). Since these scores were still skewed positively, we natural log transformed the data, which created an approximately normal distribution of results.

Importantly, we note that we ran all models without excluding the outliers, instead simply natural log transforming the data to account for skew—and all results in that procedure were consistent with the reported findings below. We also ran all models using a Poisson regression without removing any outliers, as a further alternative to taking the natural log, and again found the same pattern of results highly significant. We therefore present the results yielded by the first approach since it offers the best interpretability and protection from bias due to outliers, but note the conclusions of our paper are not dependent on the chosen method of analysis and/or outlier removal.