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Sharing, Social Norms, and Social Distance:
Experimental Evidence from Russia and Western
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Abstract

This paper investigates how dictator giving varies by social context and worthiness of the recipient. We conduct lab-in-the-field experiments in Kamchatka, Russia, and Western Alaska, as well as a lab experiment with university students, in which we vary social distance and recipient characteristics across treatments. We ask what motivates individuals to share and whether offers from a dictator game, where dictators give from own-earnings, can tell us something more fundamental about social norms and sharing. Results indicate that subjects living in rural Indigenous communities, in both Russia and Alaska, who depend heavily on wild food harvests and possess strong sharing norms, are significantly more likely to give positive amounts compared to university students. We also find that in Indigenous communities, family relations and financial needs are prioritized in giving decisions. We suggest that treatment differences correspond to social norm differences in our study areas.

Keywords: dictator game, experimental economics, lab-in-the-field experiments, sharing, risk pooling

JEL Codes: C93, D64

1. Introduction

Since Forsythe et al. (1994), there have been hundreds of dictator game studies, including several meta studies (Cochard et al., 2021; Engel, 2011a; Umer et al., 2022). Early dictator game studies highlight that economic agents do not behave in a manner consistent with “homo economicus,” since outcomes are inconsistent with pure Nash equilibrium predictions (Ensminger and Henrich, 2014; Forsythe et al., 1994; Henrich et al., 2004, 2001; Kahneman et al., 1986). Dictator studies have contributed to our understanding of the role of other regarding preferences and reciprocity in decisions (Camerer and Fehr, 2002; Hoffman et al., 1996; McCabe et al., 2003). Related research has highlighted the role of social norms or institutions in determining expectations for dictator giving, partly explaining deviations from Nash predictions (Krupka and Weber, 2013; Levitt and List, 2007). Field and laboratory experiments have highlighted the role of social norms and social proximity in sharing decisions (Bicchieri et al., 2022; Gächter et al., 2017; Kimbrough and Vostroknutov, 2016) and related social dilemma studies have emphasized the critical role of local institutions in facilitating cooperation in social dilemmas (Ostrom, 2000; Ostrom et al., 1994).

Related to the role of social norms affecting dictator giving, are studies that explore how recipient characteristics influence dictator giving (Hoffman et al., 1996; Leider et al., 2010; List, 2007). Studies have found strong effects of earned endowments on dictator giving where dictators are significantly less likely to share earned endowments, particularly with undeserving recipients (Cherry et al., 2002; Cherry and Shogren, 2008; List and Cherry, 2008; Oxoby and Spraggon, 2008). However, Cherry and Shogren (2008) find that dictators with earned endowments are generous toward recipients who lacked an opportunity to earn an endowment. In other earned endowment field studies, Jakiela (2015) finds that in rural Kenya, dictators are more generous in giving than university students, however, dictators from rural areas do not appear to distinguish between recipients on the basis of recipient earning opportunities. Cappelen et al. (2013) find that students in lower income countries gave away a larger share of earned income in a dictator game compared to students in higher income countries, but the recipient’s nationality did not influence distribution choices. Similarly, in a modified 4-person dictator game with earned endowments, Barr et al. (2015) find, that the earned endowment effect is greater for higher income individuals relative to those with lower incomes.

As discussed in Kimbrough and Vostroknutov (2016), there are two varied yet complementary approaches that have been used to explain prosocial behavior in dictator games. Models that emphasize self-signaling (e.g. Andreoni and Bernheim 2009), in which subjects use prosocial behavior in the dictator game to signal something positive about themselves to others, and models that emphasize prosocial behavior, where outcomes are explained in light of a desire to adhere to social norms (e.g. Krupka and Weber 2013). There are also situations in which an

action can have both a self-signaling property and be consistent with a social norm, as will be discussed.

In this paper, we highlight how dictator giving varies by social context and worthiness of the recipient, underscoring the importance of social norms. Using a standard dictator game in which subjects use their own earnings, we vary social distance across dictator treatments and compare outcomes across three regions with unique sharing norms. Similar to previous studies, we find that characteristics of the recipient matter and that giving differences in the lab and field align with differences in social norms. Experiments were conducted in rural, Indigenous communities in Kamchatka, Russia and Western Alaska, with strong sharing norms, and in an urban area with university students.

In many remote communities, jobs are scarce, incomes are highly variable, and many transactions occur through personal networks (Collins et al., 2009). Households in such settings, where formal markets are underdeveloped, are often interdependent and rely on neighbors to adapt to unforeseen shocks (Fafchamps and Gubert, 2006; Udry, 2009). Consequently, there are strong social norms that develop related to sharing and cooperation. For instance, prior research highlights that sharing norms make up an important part of a broader portfolio of informal insurance in remote communities (Collins et al., 2009; Fafchamps and Lund, 2003; Kremer et al., 2019; Townsend, 1994; Udry, 1994). Related field experiments have also highlighted the role of social and cultural norms in standard experiments (Ensminger and Henrich, 2014). For instance, Jang and Lynham (2015) show that ultimatum game offers in remote fishing communities are closely related to the different sharing norms used in the different fisheries. In this paper we investigate whether and to what extent sharing differs by social context, what motivates individuals to share, and whether offers from a dictator game tell us something more fundamental about giving and risk pooling.

Our experiment manipulations suggest behaviors that one might expect. We observe high rates of sharing by Indigenous rural residents with strong sharing norms. In Yup'ik and Cup'ik communities in Alaska, sharing was particularly directed toward those in need, including recipients from one's own community and neighboring communities. In Koryak communities in Kamchatka, sharing was also directed toward those in need, but primarily to recipients in one's own community. Among all Indigenous communities, family relations and financial need were prioritized in giving decisions. We suggest that these patterns align with local norms related to sharing.¹

¹ Since the experiments were framed as a sharing decision, we use the terms “dictator giving” and “dictator sharing” interchangeably.

2. Model

As highlighted above, in related literature we find that an array of factors leads to sharing, including other-regarding preferences, reciprocity, and signaling (both to boost one's ego and to enhance one's reputation or social standing). These motivations are, in turn, influenced by the social and cultural norms prevalent within societies. To better explain the interaction between these factors, we focus on the role of perceived need, worthiness, and social distance in shaping dictator giving decisions.

To achieve this, we offer a simple modification to the general utility model proposed by Levitt and List (2007), using it as a conceptual framework for analyzing the impact of group norms on dictator giving. In our model, individual utility is a function of wealth (W) and a nonpecuniary moral cost and benefit (M) resulting from a particular action (a), where wealth is a function of an action and the size of the incentive stakes, ($W(a,v)$). Moral costs and benefits (M) also depend on the action (a) and are influenced by local injunctive norms (n) (i.e. what should be done).

Within the context of our analysis, norms related to sharing and cooperation are particularly powerful in Koryak, Cup'ik and Yup'ik communities. As a result, moral costs and benefits can be characterized as a function of actions, norms, the importance of norms (v) and observability (s), that is $M(a,n,v,s)$, as also defined in Levitt and List (2007). Generally, an action may increase both W and M simultaneously, but often these two variables may move in opposite directions due to the consequences of a particular action. For example, an action that enhances one's wealth but detracts from another's wealth may yield greater moral costs than benefits. On the other hand, giving away a portion of one's surplus may reduce one's personal wealth but can also produce a moral benefit; for instance, sharing wild foods that have been harvested and processed. It is in this sense that an action can be both self-signaling (e.g. Andreoni and Bernheim 2009), where one is seeking to improve one's reputation, and consistent with a social norm (e.g. Krupka and Weber 2013).²

Furthermore, an action (a) influences W through the size of the incentive stakes (v). A larger stake amplifies the action's effect on W . Similarly, incentive stakes affect M in the moral domain, and the size of the moral cost or benefit spillover affects this non-pecuniary component of utility. The strength of an injunctive norm (n) against an action (a) is determined by the incentive stake (v), where a higher value of n is associated with a stronger norm against a certain

² Self-signaling is also used in the literature to describe one's effort to improve one's self-esteem (Prelec and Bodner, 2003). Here we consider self-signaling as more of an effort to signal norm-compliant behavior, consistent with Adam Smith's (1976) discussion around motivations for praiseworthy behavior in his Theory of Moral Sentiments.

action (a). The magnitude of this externality is a function of local norms or institutions that govern a particular society.³

For instance, local norms in Kamchatka and Western Alaska include giving away the season's first catch, sharing food with elders, the needy, and extended family, and respecting animals and plants during harvesting and processing; this includes avoiding all waste and disposing of bones respectfully (Argetsinger and West, 2009; Fienup-Riordan, 1986a; Gerkey, 2016). A breach of these norms, such as refusing to share a successful seal hunt with a needy elder, would not diminish wealth (W) but would infringe on a social norm (n) with a high incentive stakes (v), imposing a considerable moral cost.

The extent to which an action (a) is observed also affects the degree of moral costs and benefits. The observability or "scrutiny" of the act can be denoted by (s). In small, geographically isolated Indigenous communities, s can be quite high, whereas in larger urban areas, where transactions are more impersonal, s may be quite low for many transactions. In the seal hunting example above, the seal harvest would be observable to most of the community, whereas berry harvesting, for instance, is less observable. In our dictator game, we minimize the extent to which giving could be observed by the experimenter, other subjects, or recipients. But we recognize that s may be more prominent in Indigenous communities, and that this might influence how subjects think about the game.

We build upon the framework developed by Levitt and List (2007) by introducing the notion that the moral cost or benefit of dictator giving is also contingent on the "worthiness" of the recipient. Although worthiness of the recipient may be interpreted as a distinct social norm, it is perhaps better to examine it independently. Individual givers evaluate worthiness differently, but we assume worthiness (w) is influenced by the characteristics of a recipient (c), such as financial need, one's moral reputation, and by the social distance between the giver and the recipient (d), and can therefore be expressed as $w(c, d)$. A larger social distance diminishes worthiness, whereas greater financial need or a positive moral reputation enhances it. Worthiness is primarily determined by social norms in communities; in the next section we discuss Yup'ik, Cup'ik and Koryak norms that might influence one's perception of worthiness as it relates to sharing. The moral domain of individual utility could be rewritten as $M_i(a, v, n, s, w(c, d))$, and utility in a giving decision can therefore be represented by

$$U_i(a, v, n, s, w(c, d)) = M_i(a, v, n, s, w(c, d)) + W_i(a, v).$$

Levitt and List (2007) acknowledge that the idea of incorporating a moral component into utility traces its origins back to classical economists like Adam Smith. As Smith (1976) observes

³ This is noted in multiple disciplines including law (Posner, 1980), economics (North, 1990), and political science (Ostrom, 2006).

in his Theory of Moral Sentiments, the “love of praise” and the “fear of disapprobation” are central to understanding economic decisions. This motivation involves not just a desire for social approval but a motivation to do and to be what “ought to be approved of.”⁴ One’s right actions, therefore, influence one’s perceived worthiness and social standing in the eyes of others leading to praise and/or praiseworthy behavior. Cultivating a reputation for fulfilling moral “duties” is, in and of itself, praiseworthy and therefore worthy of pursuit.⁵ It is in this sense that prosocial behavior can result from both conforming to an injunctive social norm and be self-signaling.

Worthiness in our model links one’s giving decision to Adam Smith’s (1976) notion of praiseworthy behavior. If positive dictator giving is deemed “praiseworthy” by the dictator, it embodies an action that “ought to be approved of” and is thus worth pursuing for its own sake. Moreover, if positive giving is considered praiseworthy, the giving decision could elicit praise from others if there is an expectation of sufficient scrutiny. The dictator experiment design, in conjunction with social norm differences across study sites, allow us to examine the role of social distance and need in the current study. In the following section, we highlight social norms in Alaska and Kamchatka relevant to our study.

3. Cooperative behavior in Koryak, Yup’ik and Cup’ik communities

We conducted our experiments in communities in Western Alaska, Kamchatka Russia, and with students at the University of Alaska Anchorage. Study communities in Western Alaska were predominantly Indigenous Yup’ik and Cup’ik communities and study communities in Russia were predominantly Indigenous Koryak. Communities in Russia and Western Alaska were small, remote and accessible by small aircraft, boat, or a Russian vezdekhod (an all-terrain vehicle converted for public transportation). As in other remote contexts, in rural Koryak communities of Kamchatka as well as in Yup’ik communities of Western Alaska, households are more interdependent and rely on a dense network of personal relationships. Vernon Smith (1998) aptly distinguishes between formal markets, where exchange is “impersonal,” and the “personal exchange” that characterizes a large share of transactions that occur in small communities, such as those in our study.

Because of the tight network of personal relationships, giving in the small communities of Alaska and Kamchatka is both praiseworthy and expected (Fienup-Riordan and Rearden, 2020; Gerkey, 2010). Indeed, in Yup’ik culture, sharing, distribution and exchange of what one produces establishes one’s position in the cultural hierarchy (Fienup-Riordan, 1986a). Because sharing is deeply embedded in the culture, there is a constant circulation of giving and

⁴ See for instance Smith (1976) part 3., ch. 2, pp. 113-117.

⁵ See for instance Smith (1976) part 3., ch. 2, p. 127.

receiving throughout the community of both large and small gifts. It is the act of sharing that is important, in and of itself, and the amount or type of sharing “is not as significant as the fact of exchange” (Fienup-Riordan, 1986a, p. 311). Similar cultural norms were documented in Koryak communities by early ethnographers, including Jochelson, who noted “People in need of food may lay claim [...] to the game obtained by the successful hunter or fisherman. The social union among separate families is based on this” (Jochelson, 1908, p. 746). Nearly 100 years later, Koryak communities continue to emphasize the importance of sharing generously with those in need (Gerkey, 2013).

The emphasis on sharing is due in part to cultural beliefs related to the harvests of subsistence resources. In Yup’ik and Cup’ik culture there is great respect for the animal and a belief in reciprocal exchange; that is, the salmon, moose, caribou give themselves to the hunter. In exchange, the hunter and extended family honors the animal by not wasting any part of the animal, by sharing the animal with others, and through generous community celebrations of the animal’s gift to the hunter (Fienup-Riordan, 1995, 1986b). A traditional goal of Yup’ik communities was to provide for and share within an extended family network, and then, to distribute goods beyond the extended family network to others within or outside of the community (Fienup-Riordan, 1986a). This system also aligns with the Yup’ik and Cup’ik ideal that establishes the community as primary, wherein the individual derives meaning and purpose through close connections to other people and animals (Fienup-Riordan, 1986b). Although the details differ, Koryak culture also places great importance on practices that demonstrate respect and establish reciprocity among humans and animals. Traditional salmon fishing practices emphasize processing and using nearly every part of the fish, and the reciprocal relationship between people and salmon is a core theme of the annual holiday, “Day of the First Fish,” held each summer to welcome the salmon returning to their natal stream and giving themselves to the people awaiting them there (Kasten, 2012).

In Yup’ik and Koryak cultures, the opposite of being a giving person is to be stingy (the Yup’ik word is *qunuyug* and in Russian the word is *skupoi*) or greedy (in Yup’ik *cingkissaag* and in Russian *jadnyi*). Withholding food from someone deserving, such as an elder or someone in an extended family network, is stingy. A widely-held cultural belief is that one who is stingy or greedy or hoards, will, in the end, be left with nothing because animals will not return and allow themselves to be taken (Fienup-Riordan, 1995; Fienup-Riordan and Rearden, 2020). Similar to the animals, other people will not share with a greedy person. However, social obligations for sharing subsistence equipment are less defined (Fienup-Riordan, 1986a); cash is understood to be a means to an end and social rules for sharing of cash are therefore less defined (Fienup-Riordan, 1995). Unlike an animal who gives itself to the hunter, and should therefore be shared with others, equipment or cash is acquired through other means and withholding it for productive purposes may not be considered “stingy.” However, even with cash there is an expectation that

one is not greedy or a hoarder. It is when one loses sight of reciprocity, between one's extended family, other people and animals, and pursues individual gratification that "their downfall was assured" (Fienup-Riordan, 1986b, p. 267).

Related to sharing, is the Yup'ik idea of helping (*kusgua*) someone in need. One should help because it is the compassionate thing to do and help is likely to be returned, in greater magnitude during the giver's time of need (Fienup-Riordan and Rearden, 2020). Consequently, there is an emphasis not only of sharing with those in one's extended family network and community but with everyone in need. In terms of worthiness, as described in our model, Yup'ik and Cup'ik people traditionally prioritize the needs of one's extended family network; once those needs are met, one moves to those outside of one's network and finally to strangers. These sharing patterns echo those found in research on food sharing practices in contemporary Koryak communities, where sharing is most common among relatives and friends but also occurs among strangers, particularly driven by the need of the recipient (Gerkey 2010).

In light of these differences in social norms between Indigenous, rural communities and students in urban areas, we expect outcomes to vary between locations. For instance, cultural norms related to the constant "circulation" of giving and receiving, irrespective of the amount, suggest that we should observe more positive giving in Yup'ik, Cup'ik, and Koryak communities relative to student populations. Similarly, in Indigenous communities, there is a clear priority of giving to extended family networks and to those in need. One would expect to see higher giving within networks and to those in need in one's home community compared to students in Anchorage. Finally, for Indigenous communities, people outside of the community are less likely to be a part of one's extended family network, so one would expect to see relatively lower rates of giving to outsiders vis-a-vis other treatments.

4. Experiment design and procedures

The experiments were conducted in five communities in Western Alaska (Chevak, Tuntutuliak, Nunapitchuk, Lower Kalskag, and Kalskag), three communities in Kamchatka, Russia (Karaga, Ossora and Tymlat) and at the University of Alaska Anchorage (UAA). Of those who participated at UAA, 97% were students. Each session consisted of ten individuals divided into two independent five-person groups. Sessions lasted between 2.5 and 3 hours. Total earnings averaged just under a day's wage in Western Alaska (\$76.68) and Kamchatka Russia (813.75 RUB);⁶ average earnings in Anchorage were equivalent to about three hours of work (\$27.59). This included a \$5 (or 200 RUB) show up payment.

⁶ The exchange rate at the time of the experiment was approximately 30 rubles to \$1.

Sessions in Western Alaska and in Anchorage were conducted in English and sessions in Kamchatka were conducted in subjects' native language, Russian. To ensure consistency in the instructions across languages, a native Russian speaker translated the English instructions into Russian. Another native Russian speaker translated the instructions back into English. Finally, any differences were resolved by a group of both native Russian speakers fluent in English and native English speakers fluent in Russian.⁷

Each session contained two experiments. The first experiment was a social dilemma experiment which is described in more detail in Howe et al. (2016). After completing the social dilemma experiment and a post-experiment survey, subjects were then given an opportunity to share some of their experimental earnings with another person who was not present and did not participate in the social dilemma experiment. The treatments in the dictator game experiment, which is the focus of this paper, varied the characteristics of the recipient. Before discussing the dictator game, we first provide a brief description of the social dilemma experiment.

In the social dilemma experiment, subjects made a public good investment decision that was framed around effort allocated to subsistence activities. Initially, subjects played 5 rounds of a standard public goods game. Then, for the next 8 rounds, we added a second component to the social dilemma. Each round, following the public good decision, a die was rolled and one participant in each group was selected to receive a “shock” that involved the loss of all earnings from the private and public account. After this idiosyncratic shock was realized, subjects made a sharing decision, in which money could be given to any of the four other players in the group. Treatments varied in terms of the amount of information available to players before making their sharing decision, but the player letter of the person receiving the shock was always identified. However, player letters were rotated between each round so that player decisions could not be identified with specific individuals. Besides the show-up payment, the only earnings retained by subjects receiving the idiosyncratic shock were the voluntary anonymous “sharing” received from other players. One of the 13 rounds was selected at random to count for final earnings.

While subjects were waiting for payment, they completed a short survey that included basic demographics and some questions related to food security and sharing (see Table 1). In both Western Alaska and Kamchatka, participants reported lower household incomes, compared to regional averages. Average monthly household income in other parts of Russia was roughly 3.3 times higher than reported incomes from subjects in our experiments (Murashov and Ratnikova, 2016). Similarly, in Western Alaska, median household incomes in Anchorage (\$72,575) were roughly 2.6 times greater than in our study communities (American Community Survey, 2012). Related to this, we asked participants some questions about challenges they may have faced with respect to food and financial security over the past year. In response to the

⁷ Both the English and Russian instructions are provided in the online supplement.

question asking “How easy was it to make ends meet last year?” roughly 43% of respondents in both Western Alaska and Kamchatka indicated it was very difficult or fairly difficult. Similarly, in response to the question “How easy was it to get enough cash to pay bills or cover emergencies?” 55% of respondents in Western Alaska indicated it was very difficult or fairly difficult, as did 46% of respondents in Kamchatka. In contrast, in response to a similar question, only about 15% of students indicated they had difficulty making “ends meet” frequently or very frequently over the last year.

Participants were also given a set of instructions describing the dictator game. After they received their earnings in cash, each subject entered a separate room to make a private dictator decision before exiting the building. Participants were given an envelope and were instructed to insert the dictator game instructions into the envelope along with any cash they wished to share. The instructions explained that these gifts would be anonymous, the recipients would only know that the money was from someone who participated in the experiment. Dictator decisions were framed as sharing decisions, using the same language that was used in the social dilemma. Dictator game instructions were titled “one last sharing opportunity,” and subjects were asked if they wanted “to share some of their earnings with another person who is not in this room.”

Dictator game instructions included the player number (1-5) and a request for players to write down their total earnings from the social dilemma on the instructions sheet. Player names were not written on the dictator decision sheets. After returning from the field, a member of the research team linked dictator giving with social dilemma decisions. Subjects were aware of these “almost” double-blind procedures (Gächter and Herrmann, 2011).⁸

Similar to the protocol in Ligon and Schechter (2012), contributions were doubled to incentivize giving through the dictator game. Subjects were told “we will open the envelopes, double the amount you decided to share, reseal the envelope, and deliver the money to the randomly selected recipient.” Subjects were reminded that sharing was completely optional and they could choose to give nothing. We doubled giving because we were more interested in giving differences across treatments rather than absolute giving levels; also, we thought that dictator giving with own-earnings in our context might need an incentive.⁹

⁸ We use “almost double-blind” similar to Gächter and Herrmann (2011). That is, experimenters could not directly observe a participant’s decision and dictator decisions were only linked to social dilemma decisions by researchers weeks later in another location. No one in the community knew amounts given by any participant. Even though it was not possible to observe individual giving decisions, subjects might have reasoned other community members could have inferred giving decisions or that researchers could have scrutinized their individual dictator giving and made judgements about their generosity as a person.

⁹ We followed the Ligon and Schechter (2012) protocol because we were concerned that rural subjects (living in low-income communities) might reason that, if they wanted to give away some earnings, they could do so outside of the experiment. In combination with the significant time investment subjects made to the social dilemma game (over

Experiment sessions consisted of ten subjects who were randomly assigned to one of five dictator treatments (two individuals per dictator treatment, per session) that varied the characteristics of the recipient. These five treatments varied the “worthiness” of recipients by manipulating the social distance within one’s own community, geographic proximity to individuals in a neighboring community, or the perceived need of the recipient. Participants were randomly assigned to one of the following five dictator treatments:

1. One of Three Own Community: Dictators provided the names of any three people from their own community and a reason for the giving decision. Researchers randomly picked one of the 3 names to be the recipient.
2. Needy Own Community: Dictators provided the names of up to three individuals in their own community that they considered to be needy. Names listed could include anyone from the community. The names provided were combined into a single meta-list that was used after all experiments in the community were completed. One name from this meta-list was selected at random (without replacement) for each giving decision. Consequently, a dictator’s giving could go to anyone on the list and not necessarily to a person they identified. For the students at UAA, “own community” was defined as other students at UAA.
3. Random Own Community: One member of the dictator’s community was selected at random to receive the cash gift.
4. Needy Other Community: The experiments in both Western Alaska and Kamchatka Russia were conducted in multiple neighboring communities. Dictator gifts were given to needy individuals in a neighboring community using the meta-lists compiled in the Needy Own Community treatment. For the students at UAA, we used students at the University of Alaska Fairbanks (UAF), a sister university located in Fairbanks, Alaska.
5. Random Other Community: Dictator giving is randomly allocated to a person living in another participating community from the same region.

Hoffman et al. (1996) define social distance as “the degree of reciprocity subjects believe exists with a social interaction.” Consistent with this definition, social distance is the smallest in our “One of Three Own Community” treatment, followed by “Needy Own Community,” and “Random Own Community.” Social distance is greatest in the two “Other Community” treatments, in which giving was directed toward those outside of one’s community. This classification is also consistent with the Yup’ik, Cup’ik, and Koryak sharing norms discussed earlier.

2 hours), we were concerned dictator giving would be minimal without this incentive. The protocol is consistent across all treatments.

5. Results

In total, 592 participants from three distinct regions participated in the experiments. This included 279 subjects from five communities in Western Alaska, 136 subjects from three communities in Kamchatka Russia, and 177 student subjects from the University of Alaska Anchorage. Table 2 consists of three panels, one for each region, and provides summary statistics for dictator sharing in each treatment. The table presents the average amount of money shared (US\$ in Western Alaska and UAA, and rubles in Kamchatka). To account for exchange rate differences and facilitate cross-region comparisons, our analysis of the amount shared focuses on the percent of earnings shared, rather than monetary amount. Percent of earnings shared is equal to the amount shared in the dictator game relative to total earnings. Total earnings include both the earnings from the social dilemma and the show up payment. Table 2 also presents the percent of subjects who shared anything above zero (Positive Amount Shared), and includes the summary statistics conditional on sharing. Figure 1 presents the mean percent of total earnings that dictators shared by region and treatment, and Figure 2 presents the mean rates of positive sharing. To facilitate hypothesis tests for treatment effects, Table 3 presents a linear regression model for the percent of earnings shared, and Table 4 contains a linear probability model in which the dependent variable is a binary variable indicating whether the dictator shared at least some of their earnings.

In Western Alaska, between 54 and 62% of participants shared at least some of their earnings (Table 2 and Figure 2, panel a) and there are no statistically significant differences between dictators who gave and didn't give across the treatments (Table 4). Conditional on sharing, the average amount shared was 5-12% of total earnings (about US\$5-10). In the two treatments in which the recipient was needy, the amount shared was higher than when sharing was directed towards someone at random. This holds both within one's community and with someone from another community (Table 3, model 1).

The overall rates of sharing in Kamchatka (42-75% of participants shared at least something, depending upon the treatment) were comparable to Western Alaska, and we again observe no statistically significant treatment effects—with one exception. In Kamchatka, dictators were less likely to share something with a random person from another community (i.e., the treatment with the highest degree of social distance) (Table 4.). On the other hand, the treatment with the lowest degree of social distance (One of Three) had the highest rate of sharing, but the differences with the other treatments were not statistically significant (except for Random Other). When all data from Kamchatka is included, there are no treatment effects for the percent of earnings shared (Table 3, model 2). However, there are two instances in which a dictator shared all their earnings, and if we exclude these two outliers (Table 3, model 3), then

the average amount shared with individuals from one's own community is greater than the amount shared with recipients from another community.

As in the two Indigenous regions, we find no significant treatment effects for the probability of sharing a positive amount (Table 4) among UAA students. However, the percent of earnings shared is lower when the recipient is randomly selected compared to when the recipient is needy or on a list of 3 individuals provided by the dictator (Table 3, models 4 and 5).

Across all treatments combined, only 43% of UAA students shared a positive amount in the dictator game, which is significantly lower than in the Indigenous communities (about 58% for both countries and all treatments combined). On the other hand, conditional on giving, UAA students shared more (26% of total earnings for all treatments combined) than in Western Alaska (9%) or Kamchatka (20%). While average sharing as a percent of earnings was greater for UAA students, giving within Indigenous communities was sizable considering the income constraints faced by study participants. Participants in rural areas, many of whom indicated facing financial hardship over the last year, earned the equivalent of a day's wage in the experiment. And, on average, the absolute amount of money shared was higher in Indigenous communities compared to students (Table 2). The lower sharing as a percent of earnings is correlated with lower household incomes and greater incidence of poverty for participants living in rural areas. Also, giving even a small amount, rather than nothing, is aligned with general cultural norms related to sharing.

In summary, with respect to giving and social distance, UAA students and those in Western Alaska, gave significantly less to random recipients. That is, in Alaska, those in need are prioritized over those selected at random. In contrast, the share of earnings given to those outside of the community in Kamchatka, whether in need (T4) or random (T5), is significantly less than the share of earnings given away toward those who are from the same community (i.e. the 1 of 3 treatment). However, this result is sensitive to the omission of two 100% giving decisions in Kamchatka.

6. Discussion

In a dictator game, we find that Indigenous subjects in remote subsistence-dependent communities with strong sharing norms are more likely to share at least some of their own experiment earnings compared to students. After spending 2.5 to 3 hours in a social dilemma game, almost 60% of participants from Indigenous communities give away some of their own earnings, significantly greater than the 42% of students who give away some positive amount. This pattern is similar to findings from Jakiela (2015) who reports a greater share of subjects in

rural Kenya give a positive amount compared to US students.¹⁰ Our findings in Western Alaska and Kamchatka are also similar to the 63.9% non-zero dictator giving average reported by Engel (2011b) in his meta-study; however this finding includes experiments with earned and unearned income. Nevertheless, this study does replicate some important findings in a unique, cross-cultural, field setting.

For comparison it should be pointed out that, as part of the Henrich et al. (2001) series of cross-cultural field experiments, Ziker (2014) conducted dictator games with Indigenous communities in central Siberia. Ziker (2014) found mean dictator giving to be only 37.3% of the unearned endowment, with 20% of subjects giving less than 10%.

Broadly speaking, the giving pattern observed in our experiments is consistent with social norms of giving. In light of the high rates of overall giving, the pattern is consistent with the Yup'ik, Cup'ik and Koryak sharing norms, which generally reinforce the idea that it is not always the type or amount of giving that is important but rather the principle of passing something along to someone else. In Western Alaska and in Kamchatka about 60% of participants gave away something whereas about 43% of student participants gave away a positive amount. Indeed, median giving for UAA students was zero in every treatment except for the “Random Own Community” treatment (Table 1.). In contrast, for rural Alaska and Kamchatka, median giving was positive in every treatment except for the “Random Other Community” treatment in Kamchatka.

At the same time, however, students who shared a positive amount, gave away a larger share of total earnings (26%) compared to subjects in Western Alaska (9%) and an equivalent amount as subjects in Kamchatka (20%).¹¹ Note, however, that relative to students, the absolute amount given in Western Alaska, of those who gave away a positive amount, was (\$6.98), which was roughly equal to the average given by students (\$6.82). Similarly, across all treatments, in Western Alaska overall average giving was \$4.08, greater than the \$3.01 given by students. The fact that students gave away a higher share of total earnings might be explained in part by differences financial hardship. As mentioned earlier, both Kamchatka and Western Alaska have high rates of income levels of poverty. As indicated in Table 1., 43% of participants in Western Alaska and Kamchatka indicated difficulty in making ends meet, compared to only 15% of

¹⁰ Zero giving for the Jakiela (2015) study is reported in Jakiela (2009), an earlier draft of the paper. Kenyan participants in the own earnings give treatment gave away on average 22.2% of earnings. An important difference with our study, however, is that dictators in the Jakiela (2015) study, reported their dictator decision orally, to the experimenter, who recorded the information in a private area. In our study dictator decisions were “almost” double-blind. Also, earnings were generated through a short real effort task where subject earnings were piece rate in Jakiela (2015). In contrast, earnings in our experiment were generated from participation in prior experiment.

¹¹ Treatment differences between the three locations are highlighted in Table 2.

students. Similarly, 56% of participants in Western Alaska and 46% in Kamchatka indicated they were “short on cash” (this question was not asked of students).

Differences in average giving between students and Indigenous communities might also be due in part to signaling differences, either to improve one’s self-esteem or to signal norm-compliant behavior. Relative to the social distance between the researchers and participants in Kamchatka or rural Alaska, there was less social distance between students and project researchers, and that may have positively influenced student willingness to give. Students knew researchers conducting experiments were UAA faculty and some may have had them as instructors. Also, some UAA subjects participated regularly in experiments, and they might have more clearly understood that their giving decisions could be identified by the researchers. Although most students did not give anything, there were 6 UAA students who gave away all earnings; and among UAA students high giving rates were concentrated among a few students.

Related to this point, it is also worth noting that in related lab and field dictator games where subjects earn endowments (e.g. Jakiela 2015; Barr et al. 2015; Cappelen et al. 2013), the earned endowment activity is much shorter and the average earned endowment is much less than a day’s wage. As noted earlier, average earnings in the social dilemma in our game were roughly equivalent to a day’s wage for participants in Kamchatka and Western Alaska. In contrast, student earnings were roughly equivalent to 3 hours of work.

Also consistent with the ethnography, is that participants in Indigenous communities give at greater rates in the “One of Three Own Community” treatment (T1) compared to students. On the decision card for this treatment, we asked “why” dictators selected a particular recipient. Responses were consistent with what might be expected in light of cultural norms; in particular, Indigenous participants indicated giving more in T1 based on family, need, or general worthiness. For Yup’ik and Cup’ik participants who indicated a reason for sharing, in about 46% of the cases, participants selected individuals who were denoted as family, about 22% indicated a selection based on the need of the recipient (e.g. “having a hard time”), 26% of selections were due to the fact the recipient was considered worthy in some other capacity (e.g. “shares food and time with others that need it”), and 4% indicated other reasons. In Kamchatka, 17% of decisions in T1 indicated selecting a recipient based on family considerations; 41% indicated giving based on “need” of the recipient (e.g. “disabled”), 31% based on worthiness of the recipient (e.g. “always helps”), and 10% selected a recipient for other reasons. For students, only 3.5% of responses indicated a selection based on family considerations, 14% indicated giving based on the need of a recipient (e.g. “needs gas money”), 25% were based on worthiness of the recipient (e.g. “always helps out when needed”), and 57% were for other reasons. In the “other reasons” category for students, 21% of the “other” responses indicated a strategic motivation since researchers doubled any dictator giving, i.e. participants noted that, ‘the recipient and I “can share the money” outside of the experiment.’

Last, we find that all Alaska participants are significantly less likely to give to those selected at random, from their home community or an outside community, and more likely to give to those in need. Again, this finding is consistent with the idea of prioritizing recipients closest to one's social network and to those in need. In contrast, in Kamchatka the share of earnings given to those from another community, whether the recipient is in need or selected at random, is less than the share of earnings given toward those who are from the dictator's home community, but statistical significance is sensitive to the omission of 100% giving decisions (Table 3.). A greater sample size could accentuate these differences, potentially suggesting that country differences are related to sociological factors.¹²

While not reported in detail in this paper, a puzzle from our baseline social dilemma experiments (where dictator endowments are earned), is that extremely high "sharing" occurs in the modified social dilemma game while, at the same time, subjects maintain standard rates of "contributions" to the public good (Cherry et al., 2015; Howe et al., 2016). In this previous research we observe high voluntary sharing toward other participants who receive a negative exogenous shock in the social dilemma. However, these high rates of conditional sharing toward a shock recipient do not translate into greater cooperation in the social dilemma. In other words, subjects view the prosocial "giving" decision differently than they view the prosocial "investment" decision in the social dilemma.

Findings in this dictator game are consistent with results from the modified social dilemma game; that is, participants are particularly "prosocial" when it comes to "giving" to someone in need (Howe et al., 2016). We also find in our social dilemma experiment that subjects condition the amount of sharing on the worthiness of the recipient. That is, players who freeride in the social dilemma do not receive as much voluntary sharing from other participants when receiving a large idiosyncratic shock compared to the sharing received by relatively cooperative subjects. Here, we find consistent evidence; dictators give at greater rates toward those who are worthy in some respect and in close social proximity. Dictator giving patterns are consistent with social norms observed in the Indigenous study communities of Western Alaska and Kamchatka.

¹² In Gächter and Herrmann (2011) they highlight sociological changes in Russia that include perceptions of "ubiquitous unfairness" in economic opportunities and a lack of confidence in the rule of law, they base these observations on the findings of Hoff and Stiglitz (2004) and Kluegel and Mason (2004). This general distrust in the larger economic and social institutions could foster increased engagement in local civic organizations and greater trust in local authorities and organizations (Petrova, 2011).

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Table 1. Demographic Characteristics of Participants by Region

| | Western Alaska | Kamchatka | UAA |
|--|----------------|----------------------|-------------------|
| Average Age | 35.4 | 36.8 | 23.8 |
| % Female | 49.1 | 67.1 | 44.8 |
| Avg. Annual HH Income | \$26,793 | \$4,310 ^a | - |
| Avg. HH Size | 5.6 | 4.1 | - |
| Avg. Years Education | 11.8 | 10.6 | 14.5 |
| % Indigenous | 98.6 | 84.5 | - |
| Avg. Years in Community | 27.5 | 25.6 | 9 |
| Difficulties Making Ends Meet ^b | 42.8 | 43.0 | 14.8 ^c |
| Short on Cash ^b | 54.8 | 46.0 | - |
| ^a or 129,290 rubles, dollars converted using an exchange rate of 30 rubles per dollar | | | |
| ^b share of respondents indicating “very difficult” or “fairly difficult” | | | |
| ^c responses “very frequently” or somewhat frequently | | | |

Table 2. Summary Statistics by Region and Treatment

(a) Western Alaska

| | Treatment | | | | |
|---|--------------------------------|-------------------------------|--------------------------------|---------------------------------|----------------------------------|
| | T1: 1 of 3 Own Community | T2: Needy Own Community | T3: Random Own Community | T4: Needy Other Community | T5: Random Other Community |
| <u>All Data (both positive & zero sharing)</u> | | | | | |
| Amount Shared US\$ (Mean) | 6.09 | 4.75 | 2.54 | 3.64 | 3.43 |
| Amount Shared US\$ (Std Error) | 7.52 | 6.72 | 3.32 | 4.42 | 6.67 |
| Amount Shared US\$ (Median) | 3.00 | 2.00 | 1.00 | 3.00 | 1.00 |
| Pct of Total Earnings Shared (Mean) | 7.79 | 6.25 | 3.07 | 6.00 | 4.21 |
| Pct of Total Earnings Shared (Std Error) | 9.34 | 8.03 | 4.22 | 9.58 | 7.13 |
| Pct of Total Earnings Shared (Median) | 4.95 | 3.64 | 1.27 | 3.53 | 1.27 |
| Positive Amount Shared | 34/55 (62%) | 33/56 (59%) | 32/57 (56%) | 34/55 (62%) | 30/56 (54%) |
| <u>Conditional on sharing (excludes zero sharing)</u> | | | | | |
| Amount Shared US\$ (Mean) | 9.85 | 8.06 | 4.53 | 5.88 | 6.40 |
| Amount Shared US\$ (Std Error) | 7.37 | 7.08 | 3.25 | 4.29 | 8.05 |
| Amount Shared US\$ (Median) | 7.00 | 5.00 | 5.00 | 5.00 | 5.00 |
| Pct of Total Earnings Shared (Mean) | 12.60 | 10.61 | 5.47 | 9.70 | 7.85 |
| Pct of Total Earnings Shared (Std Error) | 8.96 | 7.95 | 4.31 | 10.64 | 8.17 |
| Pct of Total Earnings Shared (Median) | 9.91 | 7.16 | 4.97 | 6.03 | 5.33 |

Table 2. Summary Statistics by Region and Treatment (continued)

(b) Kamchatka, Russia

| | Treatment | | | | |
|---|--------------------------------|-------------------------------|--------------------------------|---------------------------------|----------------------------------|
| | T1: 1 of 3 Own Community | T2: Needy Own Community | T3: Random Own Community | T4: Needy Other Community | T5: Random Other Community |
| <u>All Data (both positive & zero sharing)</u> | | | | | |
| Amount Shared Rubles (Mean) | 85.36 | 86.43 | 99.29 | 82.31 | 64.23 |
| Amount Shared Rubles (Std Error) | 75.70 | 108.29 | 166.13 | 166.33 | 137.21 |
| Amount Shared Rubles (Median) | 90.00 | 40.00 | 30.00 | 25.00 | 0.00 |
| Pct of Total Earnings Shared (Mean) | 12.11 | 12.79 | 13.40 | 9.63 | 8.39 |
| Pct of Total Earnings Shared (Std Error) | 9.15 | 16.65 | 21.68 | 19.81 | 19.98 |
| Pct of Total Earnings Shared (Median) | 14.13 | 4.87 | 3.90 | 2.93 | 0.00 |
| Positive Amount Shared | 21/28 (75%) | 16/28 (57%) | 15/28 (54%) | 15/26 (58%) | 11/26 (42%) |
| <u>Conditional on sharing (excludes zero sharing)</u> | | | | | |
| Amount Shared Rubles (Mean) | 113.81 | 151.25 | 185.33 | 142.67 | 151.82 |
| Amount Shared Rubles (Std Error) | 65.91 | 103.21 | 190.11 | 200.44 | 180.10 |
| Amount Shared Rubles (Median) | 100.00 | 125.00 | 100.00 | 100.00 | 100.00 |
| Pct of Total Earnings Shared (Mean) | 16.15 | 22.38 | 25.01 | 16.70 | 19.83 |
| Pct of Total Earnings Shared (Std Error) | 6.67 | 16.44 | 24.40 | 23.96 | 27.36 |
| Pct of Total Earnings Shared (Median) | 15.38 | 18.86 | 10.53 | 11.63 | 10.53 |

Table 2. Summary Statistics by Region and Treatment (continued)

(c) University of Alaska Anchorage

| | Treatment | | | | |
|---|--------------------------------|-------------------------------|--------------------------------|---------------------------------|----------------------------------|
| | T1: 1 of 3 Own Community | T2: Needy Own Community | T3: Random Own Community | T4: Needy Other Community | T5: Random Other Community |
| <u>All Data (both positive & zero sharing)</u> | | | | | |
| Amount Shared US\$ (Mean) | 3.86 | 4.16 | 2.30 | 3.15 | 1.50 |
| Amount Shared US\$ (Std Error) | 8.50 | 7.91 | 3.71 | 5.60 | 2.64 |
| Amount Shared US\$ (Median) | 0.00 | 0.00 | 1.00 | 0.00 | 0.00 |
| Pct of Total Earnings Shared (Mean) | 13.04 | 14.62 | 8.23 | 14.75 | 5.68 |
| Pct of Total Earnings Shared (Std Error) | 26.82 | 25.44 | 12.86 | 28.26 | 10.01 |
| Pct of Total Earnings Shared (Median) | 0.00 | 0.00 | 3.21 | 0.00 | 0.00 |
| Positive Amount Shared | 11/35 (31%) | 18/37 (49%) | 20/37 (54%) | 14/34 (41%) | 15/34 (44%) |
| <u>Conditional on sharing (excludes zero sharing)</u> | | | | | |
| Amount Shared US\$ (Mean) | 12.27 | 8.56 | 4.25 | 7.64 | 3.40 |
| Amount Shared US\$ (Std Error) | 11.59 | 9.63 | 4.17 | 6.52 | 3.09 |
| Amount Shared US\$ (Median) | 5.00 | 5.00 | 3.00 | 4.50 | 2.00 |
| Pct of Total Earnings Shared (Mean) | 41.48 | 30.05 | 15.23 | 35.83 | 12.88 |
| Pct of Total Earnings Shared (Std Error) | 33.88 | 29.66 | 14.18 | 34.84 | 11.70 |
| Pct of Total Earnings Shared (Median) | 26.79 | 18.50 | 9.95 | 15.17 | 7.64 |

Table 3. Percent of earnings shared (conditional on sharing)

| | (1) W.AK(all) | (2) Kam.(all) | (3) Kam.(no outliers) | (4) UAA(all) | (5) UAA(no outliers) |
|---|--------------------|--------------------|--------------------------|----------------------|-------------------------|
| T1. 1 of 3 (Own) | omitted | omitted | omitted | omitted | omitted |
| T2. Needy (Own) | -1.99 (2.07) | 6.23 (4.37) | 6.23 (4.37) | -11.44 (12.28) | -7.18 (7.60) |
| T3. Random (Own) | -7.13*** (1.72) | 8.86 (6.46) | 8.86 (6.47) | -26.25** (10.56) | -13.25* (7.18) |
| T4. Needy (Other) | -2.89 (2.39) | 0.55 (6.35) | -5.40** (2.34) | -5.65 (13.69) | -3.34 (9.34) |
| T5. Random (Other) | -4.75** (2.14) | 3.68 (8.26) | -4.34* (2.57) | -28.60*** (10.51) | -15.60** (7.10) |
| Constant | 12.60*** (1.54) | 16.15*** (1.47) | 16.15*** (1.47) | 41.48*** (10.07) | 28.48*** (6.42) |
| N | 163 | 78 | 76 | 78 | 72 |
| Hypothesis tests for treatment effects | | | | | |
| T1=T2 | 0.338 | 0.158 | 0.158 | 0.354 | 0.348 |
| T1=T3 | 0.000*** | 0.174 | 0.175 | 0.015** | 0.069* |
| T1=T4 | 0.227 | 0.931 | 0.024** | 0.681 | 0.722 |
| T1=T5 | 0.028** | 0.657 | 0.095* | 0.008*** | 0.031** |
| T2=T3 | 0.001*** | 0.727 | 0.728 | 0.059* | 0.245 |
| T2=T4 | 0.693 | 0.446 | 0.012** | 0.620 | 0.629 |
| T2=T5 | 0.177 | 0.780 | 0.025** | 0.028** | 0.101 |
| T3=T4 | 0.034** | 0.349 | 0.033** | 0.039** | 0.191 |
| T3=T5 | 0.157 | 0.616 | 0.051* | 0.595 | 0.596 |
| T4=T5 | 0.433 | 0.760 | 0.703 | 0.021** | 0.104 |

Robust standard errors are clustered at the group-level. Models with no outliers exclude instances in which an individual shared 100% of their experiment earnings (2 individuals in Kamchatka and 6 individuals at UAA. There were no instances of a dictator sharing all of their earnings in Western Alaska).

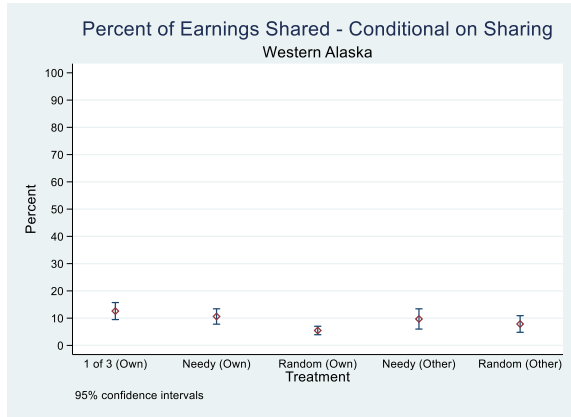
Table 4. Positive Amount Shared (linear probability model)

| | (1) W.AK | (2) Kam. | (3) UAA |
|---|-------------------|-------------------|-------------------|
| T1. 1 of 3 (Own) | omitted | omitted | omitted |
| T2. Needy (Own) | -0.03 (0.09) | -0.18 (0.13) | 0.17 (0.12) |
| T3. Random (Own) | -0.06 (0.09) | -0.21* (0.13) | 0.23* (0.12) |
| T4. Needy (Other) | -0.00 (0.09) | -0.17 (0.13) | 0.10 (0.12) |
| T5. Random (Other) | -0.08 (0.09) | -0.33** (0.13) | 0.13 (0.12) |
| Constant | 0.62*** (0.07) | 0.75*** (0.08) | 0.31*** (0.08) |
| N | 279 | 136 | 177 |
| Hypothesis tests for treatment effects | | | |
| T1=T2 | 0.758 | 0.161 | 0.137 |
| T1=T3 | 0.545 | 0.094* | 0.051* |
| T1=T4 | 1.000 | 0.183 | 0.406 |
| T1=T5 | 0.383 | 0.013** | 0.282 |
| T2=T3 | 0.767 | 0.792 | 0.647 |
| T2=T4 | 0.758 | 0.968 | 0.533 |
| T2=T5 | 0.571 | 0.282 | 0.706 |
| T3=T4 | 0.545 | 0.765 | 0.282 |
| T3=T5 | 0.786 | 0.415 | 0.408 |
| T4=T5 | 0.383 | 0.273 | 0.809 |

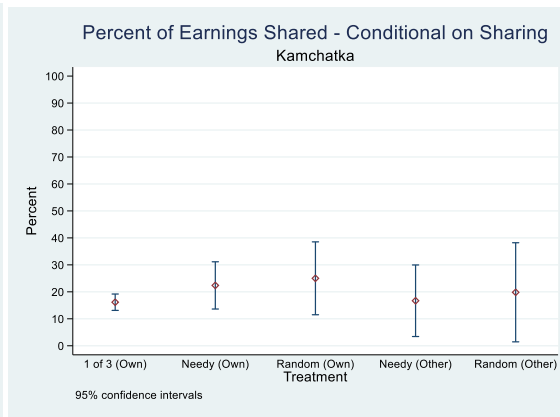
Robust standard errors are clustered at the group-level.

Figure 1. Percent of Total Earnings Shared by Region and Treatment (conditional on sharing)

(a) Western Alaska



(b) Kamchatka



(c) UAA

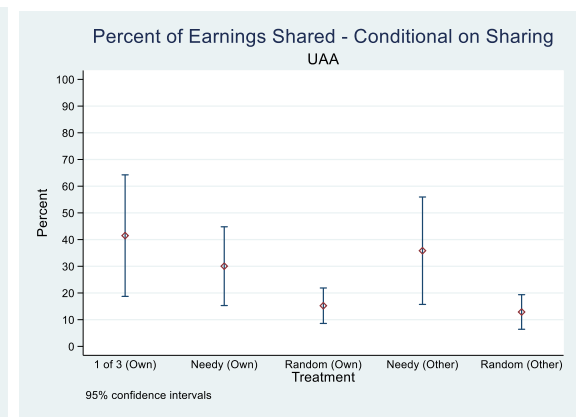
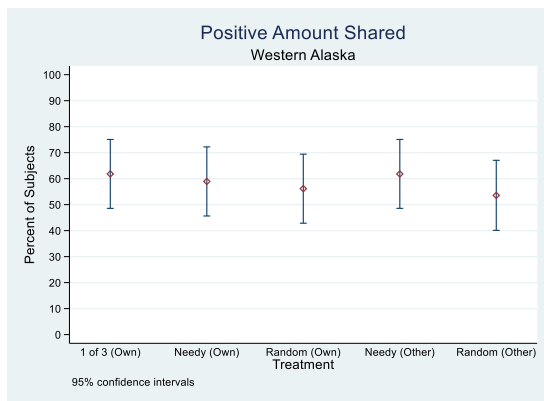
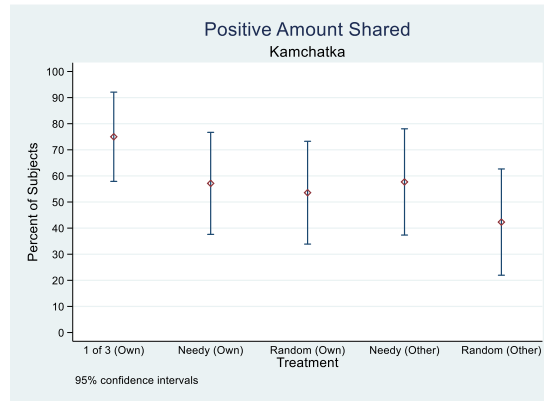


Figure 2. Rates of Positive Amount Shared by Region and Treatment

(a) Western Alaska



(b) Kamchatka



(c) UAA

