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# Religion and prosocial behavior among the Indo-Fijians

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#### **ABSTRACT**

Previous research has claimed that world religions can extend the in-group beyond local and ethnic boundaries to form larger multi-ethnic groups, expanding human societies. Two experiments were run in Fiji to test religion's ability to expand group boundaries. Experiment 1 employed a religious prime to increase prosocial behavior towards co-religionists among Hindu Indo-Fijians in an economic game. There were no overall effects of priming, but gender-specific effects were found. Priming reduced the amount women biased coin allocations to favor their preferred group. Men showed no bias in either condition. Experiment 2 employed the same economic game, without a prime, in a sample of indigenous Fijian and Indo-Fijian Christians. In this game, the monetary allocations were made between different religious and ethnic groups to test if preferences for religious in-groups were stronger than preferences for ethnic in-groups. Indo-Fijian Christians showed bias against their own ethnic group if they were from a different religion (Hindus or Muslims), but allocated fairly towards Christians from a different ethnic group (indigenous Fijians). Indigenous Fijians allocated less money to Muslims, but not Hindus. This evidence suggests that religious bonds can overcome the preference for one's own ethnic group and expand in-groups to multi-ethnic religious groups.

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Evolution of cooperation; supernatural punishment; cultural evolution; parochial altruism; Indo-Fijians

#### 1. Introduction

Cooperation across large anonymous groups is one of the great puzzles of human history and evolution (Henrich & Henrich, 2007). As groups expand, interaction with anonymous strangers becomes common. The ability for individuals to benefit from cheating, stealing, or otherwise defecting against other members of society grows. Biologically evolved solutions, such as kin selection and reciprocal altruism (see de Waal, 2008), can no longer overcome this free-rider problem (Bowles, 2006). Therefore, culturally evolved mechanisms are required to explain the high level of cooperation with anonymous others seen in human societies (Chudek & Henrich, 2011; Chudek, Zhao, & Henrich, 2013). One potential mechanism has been found in religion. Religions, through the threat of supernatural punishment, have been shown to play an important role in promoting normative and cooperative behavior within a large anonymous society (Henrich et al., 2010; Norenzayan, 2013; Norenzayan et al., 2016; Purzycki et al., 2016; Watts et al., 2015).

At the same time, the cooperative behavior religions can promote is often parochial in nature (see Bernhard, Fischbacher, & Fehr, 2006) and directed only towards those who share the same religious affiliation (Ginges, Hansen, & Norenzayan, 2009; LaBouff, Rowatt, Johnson, & Finkle, 2012; Preston & Ritter, 2013). In this way, religions are much like any other human group in their preference for the in-group over the out-group (see Brewer, 1999, 2007; Hewstone, Rubin, & Willis, 2002; Tajfel, 1982).

For most of human history, religious affiliation, and the parochialism it promotes, was local in nature and only pertained to the immediate area or group (Bellah, 2011; Purzycki, 2013). With the rise of world religions, such as Christianity and Islam, the religious in-group was expanded outside the local in-group, creating cross-society group identities and groups largely made up of distant anonymous others. In this way, world religions allowed groups to expand beyond single ethnic groups and create new group boundaries (Atran & Henrich, 2010). Still, little is known about how religious and ethnic group identities interact, and if religious group identities can indeed overcome the preference for those who share the ethnic group.

The assortment of religions and ethnic groups found in Fiji make it an ideal laboratory to explore these questions empirically. The population is divided between two main ethnic groups: indigenous Fijians (see McNamara & Henrich, this volume) and a diaspora population from India (Indo-Fijians). Though the vast majority of indigenous Fijians are Christian, the Indo-Fijian population is made up of Hindus, Muslims, Sikhs, and a growing number of Christian converts. The population of Fiji is spread across numerous islands, and much of the population does not travel between them. This makes it possible to identify truly anonymous co-religionists – members of the religious group that participants will never have a chance to meet – without the confounds of other in-group preferences, such as perceived economic status or nationalism. The presence of Christians in both ethnic groups allows for the comparison between religious and ethnic identity when the two are in conflict.

In this research, I used Fiji's diversity to explore biases in resource allocation between groups using the Random Allocation Game (RAG; Purzycki et al., this volume; also see Hruschka et al., 2014; McNamara, Norenzayan, & Henrich, 2014; Purzycki et al., 2016). In the RAG, players were given a set of rules they must follow in order to divide up a pile of coins between two people. These rules, by design, could be broken, allowing participants to allocate more money to one group over another, without getting caught. In the first experiment, I examined whether increasing the salience of belief with a religious prime increased impartiality (measured by overall fairness of coin allocations) towards a distant and local co-religionist among Hindu participants. In the second experiment, I compared impartiality towards co-religionists and co-ethnics among indigenous Fijian and Indo-Fijian Christians. In this game, Indo-Fijian participants could break the game's rules to allocate more money to a same-ethnic co-religionist rather than a co-religionist from a different ethnic group or a co-ethnic from a different religion. Indigenous Fijians were used for comparison. For indigenous Fijians, all other religious groups are from a different ethnicity. These games tested two separate parts of the theory outlined above: that world religions increase the likelihood of cooperating towards anonymous others who share the same religious affiliation; and that world religions can create new group boundaries across ethnic groups.

## 1.1. Indo-Fijian origins and history

The Indo-Fijians are an Indian diaspora community that makes up 36% of the population of Fiji. Like many of the Indian diaspora communities around the world, Indo-Fijians came to their new home as indentured workers for British sugar cane plantations. Starting in 1879 and ending in 1920, indenture contracts consisted of five years of mandatory service, with the option to work an additional five years to pay for a ticket back to India (Gillion, 1962). The contracts were designed to circumvent Britain's anti-slavery laws. A total of 60,553 Indian laborers were brought over from India to work and live on the plantations. These laborers experienced extremely long hours, abusive work environments, and deplorable living conditions. Within the work camps themselves, disease, rape, and suicide were widespread problems (see Mayer, 1963). Only 5% of workers signed up for the second indenture contract that allowed them to return to India. The remaining 95% chose forced exile to Fiji, where they could never see their families or country, rather than serve another five years as indentured plantation workers.

Once the indenture system was abolished in 1920, most of the Indian laborers remained sugar cane farmers, often starting their own small sugar cane farms (Gillion, 1962). Most of the land titles

were allocated to the indigenous Fijians as their ancestral land, leaving only 8% of all of Fiji available for purchase. Most Indo-Fijians were not able to own their own farms, but rather had to lease land from indigenous Fijian owners (Lal, 1990). This system of indigenous Fijian landlords and Indo-Fijian tenants remains in place today.

By 1946, Indo-Fijians outnumbered the indigenous Fijian population. Tensions between the ethnic groups increased with the fear that the Indo-Fijians would take control of the country from the indigenous population. After Fiji gained independence in 1970, ethnic tensions led to political movements, resulting in a series of coups. An Indian elected government was prevented from taking power in 1977 and this was followed by two military coups in 1987 resulting in a law restricting Indo-Fijians to less than half of the seats in parliament (Lal, 1990; Sharma, 1973). This law was abolished with the newest constitution (2013), just after these data were collected. These events led as many as 150,000 Indo-Fijians to emigrate out of the country from 1987 onwards (Voigt-Graf, 2008), the equivalent of just over 15% of the current population of Fiji. Today, one-third of all Indo-Fijians live outside of Fiji.

An emphasis on education among Indo-Fijians resulted in their dominance in most areas of Fijian business and commerce. The Indian population owns a majority of the shops in most parts of Fiji and dominates almost every area of labor (Voigt-Graf, 2008). The police, military, and most civil service positions are still dominated by indigenous Fijians. Despite their dominance in business, Indian households still earn less on average, and have a slightly higher rate of poverty than indigenous Fijian households (Fiji Bureau of Statistics, 2011). Together, this makes the indigenous Fijians the socially and politically dominant group in Fiji.

## 1.2. Social identity and religion

The Indo-Fijian population has struggled to establish an identity over the past century. Most Indo-Fijians strongly identify with being Fijian and with being Indian, but many of the traditions that make up their Indian identity were lost or distorted during the indenture period (Kelly, 1987). Since most of the indentured workers were young, poor, and illiterate, communication with their families back in India was impossible (Jayawardena, 1968). Without the guidance of family members and communities, many of the traditions were lost. This loss of tradition was furthered by the plantation owners' strong and sometimes violent opposition to Indian religious practices on the plantations (Gillion, 1962). The mixing of populations, religions, and castes on the plantations made caste distinctions among Hindus hard to maintain, and the caste system largely disappeared (Brown, 1981; Trnka, 2012).

Though the Indo-Fijians and the indigenous Fijians get along relatively amicably in mixed communities, they tend to associate only on the fringes of their social groups. Both groups are largely gracious to each other in the public sphere. Cross-ethnic marriages happen, but are rare (less than 1% of marriages; Fiji Bureau of Statistics, 2011). The struggle between ethnic groups is more apparent in politics than on the streets and in the marketplace.

#### 1.2.1. Hinduism in Fiji

Hinduism in Fiji is primarily a bhakti or devotional practice (Kelly, 1987, 1995). Bhakti Hinduism emphasizes the feelings of love a devotee has for God, rather than specific knowledge of religion or ritual practice. Since few of the original Indo-Fijians had access to Brahminical Hinduism even when they were in India, many Hindu religious traditions became simplified once they arrived in Fiji. This paved the way for a focus on devotional practices rather than intellectual understanding of the Hindu religion (Voigt-Graf, 2002). This type of devotional practice brings in concepts of shared identity across the religious group, similar to other world religions (Kelly, 1987).

Though the caste system has disappeared, the ideas of purity and pollution that it is founded in are still a constant concern in rituals (see Boyer & Liénard, 2007; Douglas, 1996; Fuller, 2004). Women who are menstruating are not allowed to participate in these proceedings, nor are families in which a family member, even a distant one, has recently died. Eating meat, or being near meat, is an additional source of pollution, though people seem to be quite flexible on this - at least as far as their own meat consumption is concerned. Concerns about ritual pollution are lodged against others, usually women, as an indication of lack of standing in the community (Trnka, 2012).

When questioned about deities, especially when asked to list deities or claim a preference, Indo-Fijian Hindus will often, without prompting, offer the explanation that all gods are one God. Though this is a common belief in Hinduism, and especially bhakti Hinduism, the readiness of this answer may be due, in part, to living in a largely Christian country and the fact that they are speaking to a foreigner (whom they presume is a Christian). Many Indo-Fijian Hindus will follow up their claim to monotheism with the explanation that this is similar to Christian beliefs.

# 1.2.2. Islam in Fiji

Islam was also imported to Fiji with the Indo-Fijians. Seven thousand, or 11%, of the original migrants were Muslims (Gillion, 1962). Currently, Muslims make up 13% of the Indo-Fijian population. Like the Hindu population, their religion was strongly suppressed on the plantations and became a private household affair. The first public Islamic associations were established shortly after the end of indenture, and a Muslim school system was established throughout Fiji. Most Muslims in Fiji are Sunnis, though other groups do exist (Ali, 2004). Hindu and Muslim intermarriages are rare. When they do occur, they can be met with anger from the family or community. Generally, wives are expected to convert to the religion of their husband.

# 1.2.3. Christian converts among the Indo-Fijians

There is a growing number of Christian converts among the Indo-Fijians. The early attempts to convert Indians to Christianity were largely unsuccessful, with few converts and many of those converting back after a few years (Kelly, 1991). The more recent waves of enthusiastic missionaries that have flooded Fiji have had greater success. The Christian converts come primarily from the ranks of Hindus (100% in my sample, n = 30).

Within the ranks of Indo-Fijian converts there are both strong evangelists and those who convert for the perceived benefits to their health. Many of the converts in the present study converted to Christianity because they were sick and Jesus was known to heal (40%, n = 30). These participants answered an open-ended question of why they converted with responses like, "I was healed through prayer," "I was saved by Jesus when I was sick," or simply "because I suffered a stroke." It is widely accepted among the converts that rashes clear up, sores heal, and diabetes symptoms abate once Jesus is accepted into one's life. Conversion leads to the rejection of Hindu gods in favor of Jesus among the converts.

# 1.3. Gender roles among the Indo-Fijians

Males and females have very distinct roles in Indo-Fijian culture. One way that Indo-Fijians have embraced their Indian identity is by promoting traditional Indian gender roles (Derné, 2002). Since most Indo-Fijians have never been to India, concepts of what these roles should look like are gleaned from Hindu missionaries (Kelly, 1995), Bollywood movies, and Indian soap operas that are played daily on Fijian television (Miller, 2008). Women, once married, are expected to stay home and look after the household and take care of household religious rituals, while their husbands work. Outside of the males in their families, women primarily interact with other women in their neighborhoods. Even within families, socialization is often gender segregated. Women eat separately from the men and generally after the men have eaten.

In Hindu group ritual settings, women also sit separately from men and perform different tasks. Women prepare the *prasad*, or ritual food offering, and serve the food during the ritual. Women vie for the opportunity for their family to prepare the meal as a way of establishing social standing and demonstrating ritual purity. Men are much more likely than women to be involved with the ritual readings, chants, or other ritual behaviors. After rituals are over, men often sit in groups singing



kirtan and drinking kava, while women socialize and clean up. Taken together, these points suggest that male and female worlds are distinct but overlapping cultural settings and potential differences between the two should be examined.

#### 2. Current research

Two experiments were conducted to examine the role of religion in rule following and in-group preferences. The first experiment focused on Hindus and explored the effects of priming religion on preference for the local community over the broader category of "Indo-Fijian Hindu." The second game utilized the ethnic and religious diversity in Fiji to examine ethnic and religious group preferences among both indigenous and Indo-Fijian Christians. By studying Christians, the present study was able to contrast shared religion and ethnic differences with shared ethnicity and religious differences.

#### 2.1. Random Allocation Game

Both of these experiments used the Random Allocation Game (Hruschka et al., 2014). In this economic game, participants divide a pile of 30 coins between two cups using a two-colored die (three sides red, three sides white). Each cup was marked with a person (i.e., "Self" vs "Hindu from Vanua Levu"). Participants were told to pick a cup in their mind - so that no one would know which cup they picked – and roll the die. If the die came up red, they put the coin into whichever cup they had picked. If the die came up white, they put the coin in the other cup. Participants were allowed to change the cup they mentally picked between die roles. Participants got to keep the coins in the cup labeled "Self" and were told that the coins in the other cups would go to a member of that group. This game allowed individuals to freely cheat without being detected. Cheating could only be measured in aggregate by comparing the distribution of offers to a binomial distribution.

#### 3. Experiment 1: Hindus

#### 3.1. Participants

Eighty Hindus (52 female;  $M_{\text{age}} = 44.34$ , SD = 16.93) were recruited from the Lovu area, a cluster of rural villages located just outside of the city of Lautoka. Though an effort was made to recruit an equal number of men and women, this proved difficult. Men often work during the day, and even when not working would sometimes send their wives to participate in their place. Most participants were fluent in Fiji-Hindi and spoke at least some English, but many were more familiar with certain words and phrases in English than Fiji-Hindi. To get around these issues, all questions were asked in both Fiji-Hindi and English. Participants' responses were translated and recorded into English by the bilingual research assistants during the interview when they were given in Fiji-Hindi. Participants were free to answer in either language.

#### 3.2. Method

When participants arrived at the site, they were given a sheet of paper with an ID number on it and were told they could trade their number in for the F\$5.00 (Fijian dollars) show-up fee at any time. Condition was randomly assigned to subject ID numbers using a two-colored die (red for prime, white for no prime). Participants then played the Random Allocation Game (RAG). They were taken to a private area and asked to divide a stack of 30 two-coin sets worth F\$0.40 each (made up of two \$0.20 coins taped together with clear tape) into two cups by rolling a two-colored die. The total stakes of the two games were F\$24.00, which is approximately equivalent to one day's

wage. To check understanding of the game's rules, a set of questions was asked about hypothetical die rolls. All participants had to be able to answer all questions correctly to proceed. No participants failed to correctly answer these questions.

Two games were played, the Self Game (self vs distant co-religionist) and the Local Co-Religionist Game (local co-religionist vs distant co-religionist; see Purzycki et al., this volume). The distant co-religionist was designated as a Hindu from a different island in Fiji. Half of the participants were exposed to a religious prime. Measures of material insecurity and belief in God(s)' tendency to punish were included in these models. The measure of material insecurity was a composite of two sets of three questions assessing fear about not being able to pay for food and occasions (rituals or weddings) and confidence in their material security for these same items (reverse coded). The God-punish variable was a composite of two sets of three questions asking about the frequency and importance of God punishing people for stealing, lying, and murder. Other variables such as the belief that God is omniscient and the general belief that God punishes were not included due to ceiling effects (97% agreed in a yes or no question that God was omniscient, and 96% agreed that God punished bad deeds).

#### 3.3. Community and set-up

This research was conducted in a community center in the Lovu HART (Housing Assistance and Relief Trust) village over a five-day period. This location was chosen because of the suitable hall and its proximity (across the road) to Lovu Seaside, a much larger and predominantly Indo-Fijian village. Though most participants came from Lovu Seaside, some also came from the nearby villages of Koro Pita and Drasa, as well as the Lovu HART village itself.

The community hall was divided into three experimental areas and a waiting area with curtains (see Figure 1). Two areas were used for the game: one had a prime in the form of a small shrine made up of a garlanded Shiva Lingam and Shiva's trident, and the second was empty. In the middle was a curtained money-counting and payment area.<sup>2</sup>

Participants were told that the religious in-group member (Local Co-Religionist Game) was one of their Hindu neighbors living in their specific village (i.e., Lovu Seaside, Lovu HART, etc.) and that the distant co-religionist was a Hindu living on Vanua Levu. Vanua Levu is the second largest island in Fiji, known to have a large population of Hindus, but somewhere most participants had never been. All participants were told to stay quiet in the waiting area, not to discuss the game while waiting, and not to tell others about the details of the game once they were done.<sup>3</sup>

#### 3.4. Results

There was no overall mean difference between the two cups in the Self Game (t(76) = 0.35, p = 0.73,  $M_{self} = 15.12$ ,  $M_{corel} = 14.88$ , 95% CI[-1.12, 1.59]; d = 0.08), or in the Local Co-Religionist Game  $(t(76) = 0.17, p = 0.86, M_{local} = 15.05, M_{corel} = 14.95, 95\% \text{ CI}[-1.23, 1.46]; d = 0.04)$ . Similarly, there was no overall effect of the prime in the Self Game (Welch's t(75) = 0.29, p = 0.77,  $M_{self} = 15.22$ ,  $M_{corel} = 14.78, 95\%$  CI[-1.15, 1.55]; d = 0.07), and no significant effect in the Local Co-Religionist Game (Welch's t(71.34) = 1.48, p = 0.14,  $M_{local} = 15.58$ ,  $M_{corel} = 14.42$ , 95% CI[-0.34, 2.34]; d = 0.33; see Figure 2).

A binomial logistic regression was used to further examine cup allocations with an interaction between gender and treatment to test if women and men were differently affected by the treatment. No significant effects were found for the Self Game (see Table 1). For the Local Co-Religionist Game, there was a significant main effect of prime, gender, and a significant interaction between the two. This shows that women gave more than men to the in-group in the prime condition (OR = 1.36), and men gave more to the in-group than women when no prime was present (OR = 1.32), but men were less likely than women to give more in the prime condition compared to the no prime condition

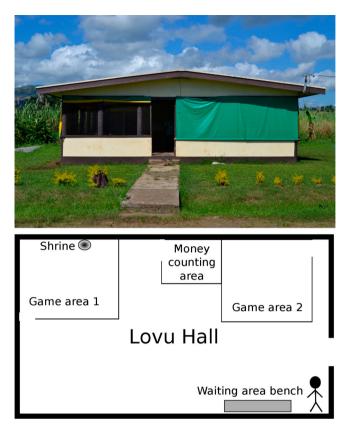


Figure 1. The Lovu Hall game set-up.

(OR = 0.55). There were no significant effects of material insecurity, or thinking that God punishes in either the Self or Local Co-Religionist games.

#### 3.5. Discussion

Results from the initial analysis suggest that there was very little bias in allocations overall, and no general effect of the prime on allocations. This finding may be due to the extremely high ratings on

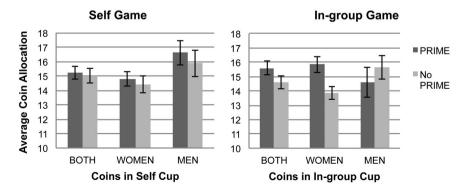


Figure 2. Coin allocation to either (A) the "Self" cup or (B) the "In-group" cup by condition for each game. Error bars are standard errors of the mean.

Table 1. Binomial regression for both games.

		Self Game		Local Co	Local Co-Religionist Game		
	B (SE)	OR	95% CI	B (SE)	OR	Lower	
Intercept	-0.05 (0.08)	0.95	[0.80-1.12]	-0.20 (0.09)*	0.82	[0.69-0.97]	
Prime	0.01 (0.11)	1.01	[0.82-1.25]	0.32 (0.11)**	1.38	[1.11–1.70]	
Male	0.15 (0.12)	1.16	[0.91-1.46]	0.28 (0.12)*	1.32	[0.04-1.67]	
Age (in decades)	-0.01 (0.03)	0.99	[0.94-1.05]	-0.04 (0.03)	0.96	[0.91-1.02]	
Mat. Insecurity	-0.07 (0.07)	0.93	[0.81-1.06]	-0.04 (0.07)	1.04	[0.83-1.11]	
God-punish	0.01 (0.07)	1.00	[0.87-1.15]	-0.04 (0.07)	0.96	[0.83-1.11]	
Game order	0.02 (0.09)	1.02	[0.86-1.22]	-0.05 (0.09)	0.95	[0.80-1.13]	
Prime*Male	0.17 (0.20)	1.18	[0.81-1.76]	-0.60 (0.20)**	0.55	[0.37-0.81]	
	Nagelkerke R <sup>2</sup> =	Nagelkerke $R^2 = 0.14$			Nagelkerke $R^2 = 0.28$		
	N = 77, mean VII	N = 77, mean VIF = 1.39			= 1.39		

Note: All continuous variables and age are centered at the mean. Sample breakdown as follows: prime: n = 36, women = 28, men = 8; no prime: n = 41, women = 24, men = 17; average age: prime = 44.2 years, no prime = 44.9 years. \*p < 0.05.

both the omniscience and punishing nature of God. Indo-Fijians are high in these beliefs compared to other cultures and therefore should be expected to have high levels of impartiality towards anonymous co-religionists (see Purzycki et al., 2016 for an analysis of this effect across cultures). The low rates of bias in these games make any effects of the prime on cheating difficult to detect. However, the regression analysis showed that the prime did have an effect in reducing biased allocations in the *Local Co-Religionist Game*, but that this effect was gender-specific. Women cheated less in the prime condition than men, and cheated comparatively more than men in the no-prime condition. Men do not appear to be cheating at all in the *Local Co-Religionist Game*, making any effects of prime undetectable.

It should be noted that although the prime reduced biases in allocation among women, the cheating was in the opposite direction of the predicted effect. Women showed a preference for an anonymous co-religionist over a member of their local in-group. The attitude of women towards their neighbors may account for this effect. There are seemingly high levels of competition among neighborhood Indo-Fijian women. The extent of local gossip and a general concern with the improprieties of others is considerable among women in these communities. Neighborhood gossip can, and does, focus on the negative and can lead to reputation damage. This phenomenon is well documented by Trnka (2012) in a female *kirtan* (devotional singing) group. In this account, a group of women were chronicled while vying for status in their group by accusing each other of violating pollution taboos and therefore being unfit to lead the group. It is possible that the bias found in the present study, against community members, is a reflection of this type of competition. Women may not have wanted their neighbors to profit too much from these games. Further research is needed to assess this possibility.

# 4. Experiment 2: Christians

In the second experiment, I examined religious group affiliation and religious out-groups. This game was designed to utilize Fiji's ethnic and religious diversity to look at religion's effects on the perceptions of ethnicity as a signal of in-group membership. The participants consisted of Indo-Fijian Christians and indigenous Fijian Christians. Including Christians from two ethnicities allowed me to compare how participants behaved towards people who share their religion but not their ethnicity, and people who share their ethnicity but not their religion (see Chuah, Fahoum, & Hoffmann, 2013; Chuah, Hoffmann, Ramasamy, & Tan, 2014).

If Indo-Fijian Christians are impartial towards indigenous Fijian Christians, but show a bias in allocating money to Hindus and Muslims, it would suggest that they feel more favorably towards

<sup>\*\*</sup>p < 0.01.

ethnic out-groups who share the same religion than religious out-groups who share the same ethnicity. This could be taken as evidence of the importance of religious group identity over ethnic identity in a place where ethnic groups are historically at odds. The predictions are less clear for indigenous Fijians since for these individuals all groups were ethnic out-groups. We should expect that indigenous Fijians would show less bias towards other Christians than any other group.

# 4.1. Participants

The sample consisted of 30 indigenous Fijian Christians (22 female;  $M_{age} = 42.97$ , SD = 20.08) and 30 Indo-Fijian Christians (20 female;  $M_{age}$  = 46.60, SD = 13.34) from in and around the Lovu area. Only four of the Indo-Fijians were born into a Christian family; the rest converted to Christianity in their lifetime. Of the converts, the average time since conversion ranged from 4 to 40 years (M = 24.46, SD = 13.83). All of the indigenous Fijians had been Christian since birth.

#### 4.2. Methods

The rules of this second set of games were the same as in the previous experiment, but participants played in their own home, no primes were used, and each participant played four games instead of two. The games consisted of a Self Game, a Hindu Game, a Muslim Game, and an Other Ethnicity Christian Game. For each game, the other cup was a co-religionist. For the Fijian Christians, the co-religionist was another Fijian Christian and the "other Christian" was an Indo-Fijian Christian. For the Indo-Fijian Christians, this was reversed. A Fijian playing the Hindu Game would have divided the money between a Hindu and a Fijian Christian. An Indo-Fijian would have divided the money between a Hindu and an Indo-Fijian Christian.

The research assistants and myself went to participants' houses, instructed them in the game, and checked their understanding of the game in the same manner as the previous experiment. They were given the set of two cups, one set at a time, in one of four randomly selected orders until all four sets had been played. After they had completed all four games, they were paid the show-up fee (F\$5.00) plus the amount allocated to the "Self" cup. The follow-up interview was conducted after the game was completed.

## 4.3. Community and location

This game was once again conducted in the Lovu area, between Lovu Seaside and Lovu HART. Some additional subjects were collected from the nearby town of Koro Pita. Participants were recruited house to house, and the game was played in participants' homes. Efforts were coordinated into two teams, one for the Indo-Fijian Christians using two Indo-Fijian Christian research assistants, and one for the indigenous Fijians using two indigenous Fijian Christian research assistants. To limit the effects of gossip, the teams tried to do all direct neighbors in one day, and move on to a new area the following day. Participants were instructed to go into a separate room (or somewhere the researchers could not see them if the house only had one room) to play the game. Conducting the study in people's homes meant that it was not possible to control for indications of agency or religion. Most participants had religious iconography in their homes.

#### 4.4. Results

## 4.4.1. Perception of groups

Participants were asked (post game) about their feelings towards the other religious and ethnic groups. The Indo-Fijians expressed almost unanimously positive views on both Indo- and indigenous Fijian Christians, but shared some negative views of Hindus (23% negative) and Muslims (13% negative). The views expressed of Hindus even when not explicitly negative were often not positive either - many people called them "idol worshipers." Of those who were coded as expressing negative views, almost half called Hindus "evil." Together, these findings suggest that Indo-Fijian Christians prefer co-religionists from a different ethnic group to other Indo-Fijians who belong to a different religion.

Of the indigenous Fijians we interviewed, 20% expressed negative views towards the Indo-Fijian Christians. Among the positive were statements like "they made the right choice" and "some of them really changed for the good." Among the negative were "some of them are two faced" and "most of them are only hoping to get something from the church." The indigenous Fijians were more critical of their own ethnic group, with 40% expressing negative opinions such as "They are only Sunday Christians" (i.e., only Christians for show) and "Some of them are not faithful in their worship." This may suggest there is not a strong religious group identity among the indigenous Fijians. The universal adoption of Christianity may account for this, or it is possible that these participants consider their religious in-group to be a specific branch of Christianity, such as Methodist or Assemblies of God. The indigenous Fijians were much more reluctant to offer opinions on Hindus and Muslims, claiming to know nothing about them. These differences in how Indo- and indigenous Fijians express views of their own and others' religious groups may be related to the tenuous position Indo-Fijian Christians hold. Defection back to Hinduism is a possibility among the Indo-Fijian Christians; their preference for other Christians and the degradation of Hindus may be a deterrent to defection for people in their small community.

# 4.4.2. Differences in belief

Both Indo-Fijian and indigenous Fijian Christians reported thinking about God and praying to God with equal frequency. Both groups thought that God punished people for bad deeds. When asked about how frequently God punished specific deeds (stealing, lying, and murder), the Indo-Fijians claimed a slightly higher frequency, but not significantly so (see Table 2). They were significantly higher in their rating of how important it was for God to punish these acts. The Indo-Fijians also claimed a higher frequency of rewards, and were more likely to think God influenced what happened after you die. Both groups claimed that you go to heaven or hell when you die.

The Indo-Fijian Christians expressed a much greater desire to justify their beliefs, and why they believe, during the interview portion of the experiment than the indigenous Fijian participants or the Hindu participants from the previous experiment. They were also much more interested in the research team's religious beliefs. The research assistants (who were all Christian) and I frequently left Indian Christian houses with pamphlets from their local church. None of the indigenous Fijian participants gave us additional reading material. This may reflect the more precarious place the Indo-Fijian Christians find themselves in in their society. They are ethnically the out-group in their religion and religiously the out-group in their ethnic group. Alternatively, it may simply reflect their relative newness to the faith.

#### 4.4.3. Economic games

Allocations in these games fell well outside of the expected distributions. There were significant mean differences for Indo-Fijian Christians playing the Hindu Game, and marginal effects for both groups playing the *Muslim Game* (Table 3 and Figure 3).

Table 2. Differences in perceptions of God in Indo- and indigenous Fijian Christians: how much God punishes (0-4), how important it is for God to punish (0-4), how much God rewards (0-4), and if God influences what happens to you after you die (yes/no).

		Fijian			
	Indo-Fijian $N = 30$	N = 30			
	mean (sd)	mean (sd)	Cohen's d	Р	95% CI of Diff.
Punish	2.28 (0.50)	2.05 (0.62)	0.43	0.10	[-0.05 to 0.54]
Punish – Important	2.71 (0.74)	2.31 (0.64)	0.58	0.03	[0.04 to 0.76]
Reward	2.40 (0.89)	1.90 (1.01)	0.53	0.05	[0.004 to 1.00]
After death	0.77 (0.43)	0.13 (0.35)	1.60	<0.001	[0.42 to 0.83]

Table 3. Mean differences across game	s in	Experiment 2.
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Game	Mean Coins (SD)	Cohen's d	95% CI of Diff.
Indo-Fijian			
Self	15.40 (3.64)	0.22	[-1.91 to 3.51]
Hindu	11.73 (4.91)*	-1.33	[-10.19 to -2.86]
Muslim	13.20 (5.23) <sup>†</sup>	-0.69	[-7.55 to 0.29]
Other Christ.	14.03 (5.13)	-0.38	[-5.76 to 1.90]
Indigenous Fijian			
Self	15.68 (3.88)	0.34	[-1.56 to 4.23]
Hindu	14.93 (2.96)	-0.09	[-2.50 to 1.96]
Muslim	13.97 (2.88) <sup>†</sup>	-0.66	[-4.01 to 0.21]
Other Christ.	14.63 (3.57)	-0.26	[-3.51 to 1.76]

Note: All comparisons are made to mean coins placed in the same ethnic co-religionist cup for each game.

A series of multilevel binomial regressions were used to compare the effects across all four games. The data were stacked by game, and random intercepts were calculated for each participant. This allowed me to make within-subject contrasts while removing the bias associated with the non-independence of data-points in the regression. Dummy codes were used for the four games with *Self* as the reference category. The *Self* reference group was coded so that each coin given to the self was a 1 and each coin given to the co-religionist was a 0. All other groups were coded so that each coin given to the co-religionist was a 1 and each coin given to the other religion or ethnic group was a 0. This means that how much participants break the rules to favor themselves was used as a baseline rule-breaking behavior, and the effects of each other game compared participants to that baseline (i.e., did they break the rules more to favor their co-religionists over other groups than they did to favor themselves over their co-religionists?).

Models were run looking at gender effects in each of the ethnic groups separately. In a separate model, ethnicity was interacted with the game dummy codes to look at differences in allocations between the two ethnic groups.

Some interactions were found between gender and game. Among the indigenous Fijians, men had a higher probability than women of giving more coins to a co-religionist than a Muslim (Table 4). There was also a significant effect of the belief that God punishes, with less rule breaking among those who rated God as more punishing, consistent with the overall effect found by Purzycki et al. (2016). Among the Indo-Fijian Christians, there was a higher rate of rule breaking for the

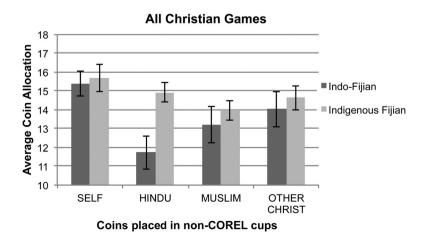


Figure 3. Coin allocation to the non-co-religionist by ethnic group for each. Error bars are standard errors of the mean.

 $<sup>^{\</sup>dagger}p < 0.10.$ 

p < 0.05.

Table 4. Gender effects across all four games in each ethnic group.

	Indi	Indigenous Fijians		Indo-Fijians		
	B (SE)	OR	95% CI	B (SE)	OR	95% CI
Intercept	0.10 (0.10)	1.10	[0.91–1.35]	-0.003 (0.12)	0.99	[0.78–1.27]
Hindu	-0.11 (0.11)	0.90	[0.72-1.12]	0.46 (0.12)***	1.59	[1.25-2.02]
Muslim	-0.06 (0.11)	0.94	[0.75-1.17]	0.37 (0.21)**	1.46	[1.14–1.85]
Oth. Christ	-0.09 (0.11)	0.92	[0.74-1.14]	0.21 (0.12) <sup>†</sup>	1.23	[0.97-1.56]
Male	-0.20 (0.20)	0.82	[0.55-1.21]	0.28 (0.21)	1.32	[0.88-1.97]
Age (decades)	-0.02 (0.03)	0.98	[0.92-1.05]	0.02 (0.06)	1.02	[0.90-1.15]
Mat. Insecurity	0.13 (0.14)	1.14	[0.85-1.52]	0.17 (0.10) <sup>†</sup>	1.19	[0.98-1.43]
God-punish	-0.22 (0.10)*	0.80	[0.65-0.98]	-0.20 (0.14)	0.82	[0.62-1.08]
Hindu*Male	0.13 (0.23)	1.13	[0.72-1.76]	-0.18 (0.20)	0.84	[0.55- 1.26]
Muslim*Male	0.45 (0.23)*	1.57	[1.01-2.45]	-0.47(0.20)*	0.62	[0.42-0.93]
Oth. Chr*Male	0.15 (0.23)	1.16	[0.74–1.80]	$-0.38 (0.20)^{\dagger}$	0.69	[0.46–1.03]

Note: Game effects are how much participants allocated to the co-religionist over the stated group. The intercept and comparison condition is how much participants allocated to themselves over the co-religionist.

For both models, number Obs: 116, individuals (groups): 29. All continuous variables and age are centered at the mean.

Hindu Game and the Muslim Game (Table 4). Again, I found that women were more likely than men to show bias in their allocation, but only in the Muslim Game. There was no difference in the Hindu Game and only marginal effects in the Other Ethnicity Christian Game. There was no effect for the perception that God punishes, suggesting that this effect was specific to the indigenous Fijians. In the model looking at differences between the ethnic groups, Indo-Fijians were significantly less likely to give to Hindus than the indigenous Fijians (see Table 5). A significant negative effect was found for the belief in God's tendency to punish. Participants who thought God punished bad behavior were less biased in their allocations. There was a positive effect of material insecurity. Participants who felt more insecure were more biased in their allocations.

#### 4.5. Discussion

These games reflect out-group tensions among the religious groups and biased allocations were present in several conditions. The effects were strongest for the Indo-Fijian Christians in the Hindu

Table 5. Ethnic group differences across all four games.

	B (SE)	OR	95% CI
Intercept	-0.06 (0.09)	1.06	[0.88–1.28]
Hindu game	-0.08 (0.10)	0.93	[0.77-1.12]
Muslim game	0.05 (0.10)	1.05	[0.86-1.27]
Oth. Christ. game	-0.05 (0.10)	0.95	[0.79–1.15]
Indo-Fijian	0.03 (0.13)	1.03	[0.79-1.34]
Male	0.01 (0.11)	1.01	[0.82-1.25]
Age (in decades)	-0.003 (0.03)	0.99	[0.94-1.06]
Mat. Insecurity	0.17 (0.08)*	1.18	[1.02-1.37]
God-punish ·	-0.21 (0.08)*	0.81	[0.69-0.96]
Hindu*Indo	0.48 (0.14)***	1.61	[1.23-2.11]
Muslim*Indo	0.17 (0.13)	1.18	[0.90-1.55]
Oth. Christ*Indo	0.13 (0.14)	1.14	[0.87–1.50]

Note: Game effects are how much participants allocated to the co-religionist over the stated group. The intercept and comparison condition is how much participants allocated to themselves over the co-religionist.

 $<sup>^{\</sup>dagger}p < 0.10.$ \*p < 0.05.

<sup>\*\*</sup>p < 0.01.

<sup>\*\*\*</sup>p < 0.001.

Number Obs: 232, individuals (groups): 58.

<sup>\*</sup>p < 0.05.

<sup>\*\*\*</sup>p < 0.001.

Game and were present for both ethnic groups in the Muslim Game (albeit only for men among the indigenous Fijian participants). The Indo-Fijians showed little bias towards their religious group when they were of a different ethnicity but gave significantly less to both Hindus and Muslims than their own religious group. The gender differences suggest that women were more biased than men in their allocations in the Muslim Game but not the Hindu Game.<sup>5</sup> Patterns of cheating among the indigenous Fijian Christians were less clear. Though men gave somewhat less to Muslims, the same bias was not observed with Hindus and Indo-Fijian Christians. This lack of preference for the same ethnic co-religionists follows from the lack of preference, and frequent negative evaluations, expressed towards this in-group in the interview portion of this study.

#### 5. General discussion

The first experiment offers some evidence that priming religion encourages prosocial behavior in Fijian Hindus, though this effect was found to affect women and men differently. Men showed little bias in allocations in the control condition, meaning that there was no bias for the prime to reduce. Women, on the other hand, tended to give more to the co-religionist when not primed than primed. Priming reduced their bias in favor of the distant co-religionist, causing them to divide the money up more evenly. The game would have made all participants aware of their religion, even in the noprime condition, since each game is played with the term "Hindu" on at least one of the cups. This may have reduced the amount of cheating detected overall (see Shariff, Willard, Anderson, & Norenzayan, 2016).

Religion was made salient in the same way in our second game, but not explicitly manipulated. In this game, the naturally occurring religious group differences were used to look at religious in-group and out-group preferences. The Indo-Fijian Christians were less likely to favor their ethnic group than their cross-ethnic religious group. A clear bias against Hindus was present in the Indo-Fijian Christian converts. Being "saved" or following the right faith is seen as being of the utmost importance, even in a place where there is a push to maintain and create a strong Indian identity in the face of the past (and sometimes current) persecution of a diaspora group.

#### 6. Conclusion

This research provides evidence that religion can increase prosocial behavior, but that this prosocial behavior is parochial in nature (see Abbink, Brandts, Herrmann, & Orzen, 2012; Bernhard et al., 2006; Ginges et al., 2009). Religion in this setting does not make its believers universally more prosocial, but rather can make people more prosocial towards members of their religious in-group. Furthermore, this research presents some evidence that the bonds of religion are able to trump the bonds of ethnicity when the two are in conflict. At least in the case of Indo-Fijian Christians, belief seems to be thicker than blood. This is evidence for the possibility of religions to extend the in-group beyond the local group and create the sort of large multi-ethnic groups we see around the world today.

#### **Notes**

- 1. All coins were distributed to members of the appropriate group, local and distant, after the games were completed.
- 2. Though attempts were made to keep the money counting and payment anonymous by presenting money only in sealed numbered envelopes, almost every participant insisted on thanking the money counter personally after the money was given and it proved difficult to stop them.
- 3. Collusion in the form of organizing to "beat" the game did not appear to be a problem, but gossip definitely presented some issues. Neither I, my research assistants, nor any of our informants overheard anyone in the villages talking about the game itself outside of the game setting, but the villagers were very interested in our presence in the village and the money we were giving to participants. I correlated co-religionist allocation with participant order to check for collusion. If collusion was present, cup allocation should change over time.



Correlations between subject number and allocation were not significant, suggesting this was not the case (Self Game: r = -0.02, 95% CI -0.24 to 0.21; Local Co-Religionist Game 2: r = 0.13, 95% CI -0.10 to 0.35). In casual interviews with participants after the game, it became clear that the main theory as to our presence was that we were from the Indian government to help the poor Hindus. Our assurances that this was not the case did little to discourage this belief. Though it is unclear if or how this affected the game, it may be the case that people behaved more fairly than they otherwise would, based on the belief that they were to act as "good Hindus" to garner favor for foreign government aid.

- 4. Adding random slopes into these equations does not meaningfully change the effects or effect sizes, but makes both of the effects for the Muslim games marginally significant in Table 4.
- 5. It is worth noting that some of this difference may be due to male participants allocating more to themselves than female participants in the Self Game. Even though this difference is non-significant, it can still have some impact on the interaction effects. The same logic applies to the interaction effect in the indigenous Fijian games, where men allocate less to themselves than women in the Self Game.

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