# Positive and negative contact and attitudes towards the religious out-group: Testing the contact hypothesis in conflict and non-conflict regions of Indonesia and the Philippines

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## A R T I C L E   I N F O

## A B S T R A C T

This study examines the relationship between interreligious contact and negative attitudes towards the religious out-group. It uses unique survey data collected by the authors among Christian and Muslim students in Maluku and Yogyakarta (Indonesia) and Mindanao and Metro Manila (the Philippines). Even after taking self-selection effects into account, interreligious friendships reduce negative attitudes towards the religious out-group. However, casual interreligious contact increases negative out-group attitudes. Also individuals who experienced interreligious violence have more negative out-group attitudes than those without such experience. The experience of interreligious violence has no influence on the effect of interreligious friendships but it further deteriorates the relationship between casual interreligious contact and out-group attitudes. Perceived group threat is an important mechanism explaining the effects of both positive and negative interreligious contact. [125].

## 1. Introduction

There has been a resurgence of religion-related conflict and religiously motivated intolerance and violence in nearly all parts of the world (PEW Research Center, 2012). For example, in the city of Ambon, Indonesia, an outbreak of sectarian violence between Christians and Muslims between 1999 and 2002 has caused the death of at least 5000 people and displaced close to 700,000 of others. Religion-related conflicts in Syria, Iraq, the West Bank, Sudan, Nigeria, and Southern Philippines are but a few other examples. Finding ways to reduce acts of religiously motivated intolerance and violence is thus of critical importance. One influential idea is to increase contact between members of religious groups, which is hypothesized to induce positive attitudes towards the religious out-group (Allport, 1954).

Although empirical research has occasionally yielded discrepant results, in general there is ample evidence that intergroup contact improves attitudes towards both specific individuals involved in contact and the out-group as a whole (Lee et al., 2004; McLaren, 2003; Pettigrew and Tropp, 2006; Powers and Ellison, 1995; Rydgren et al., 2013; Sigelman and Welch, 1993; Savelkoul et al., 2011). One explanation for the positive contact effect is that intergroup contact enables individuals to learn more about the out-group. It is argued that when learning about the out-group occurs through regular interactions

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with out-group members (such as out-group neighbors, colleagues, and friends), the acquired information is likely to be accurate and largely favorable in content (Powers and Ellison, 1995; Sigelman and Welch, 1993).

Recent meta-analytic evidence suggests that, although increased knowledge about the out-group does explain some of the relationship between intergroup contact and out-group attitudes, it is of minor importance (Pettigrew and Tropp, 2008). Two other mechanisms: empathy with the out-group and the reduction of intergroup threat and anxiety are far more important.

There has been also some evidence for the conditional effects of intergroup contact. Allport's original conditions for the positive contact effect - equal status, common goals, cooperation, and authority support — facilitate the contact effect, though they are not necessary conditions. Intergroup friendships are likely to encompass most of Allport's conditions and are particularly helpful for reducing negative attitudes towards the out-group (Davies et al., 2011; Pettigrew and Tropp, 2006; Pettigrew et al., 2011). However, previous research on the contact hypothesis to date has been limited in at least three ways.

First, most empirical studies in recent years have been conducted in Western countries, in the United States particularly, and have focused on racial or ethnic target groups (Pettigrew, 2008). For instance, among 515 studies on the intergroup contact hypothesis reviewed by Pettigrew and Tropp (2006), 71 percent of the studies focused solely on the United States and 51 percent focused on ethnic and racial groups. Thus, little is known regarding whether the same patterns equally hold in different social and religious contexts.

Second, previous empirical research has concentrated predominantly on factors that maximize the potential for contact to reduce prejudice and promote positive intergroup outcomes: negative contact experiences are absent in most research designs (Pettigrew, 2008; Pettigrew and Tropp, 2006). However, as argued by Pettigrew and Tropp (2006: 767), "factors that curb contact's ability to reduce prejudice are now the most problematic theoretically, yet the least understood. These negative factors deserve to become a major focus of future contact research." However, very few studies thus far have considered negative contact effects, as information on such contact experience is rarely available in the data (Bekhuis et al., 2011; Pettigrew et al., 2011).

The exceptions are a few recent studies among ethnic and racial groups in Australia (Barlow et al., 2012; Paolini et al., 2010), United States (Barlow et al., 2012; Paolini et al., 2010; Stephan et al., 2002), Germany (Koopmans and Veit, 2014) and the Netherlands (Bekhuis et al., 2011). However, only two of these studies have examined positive versus negative contact as predictors of negative out-group attitudes simultaneously (Barlow et al., 2012; Bekhuis et al., 2011) and none of them have considered factors explaining the relationship between positive and negative intergroup contact and out-group attitudes.

Third, although meta-analytic evidence, including results from experimental and longitudinal studies, shows that intergroup contact reduces intergroup prejudice, these studies suggest that self-selection processes are also important (e.g., Levin et al., 2003; Sidanius et al., 2004). Individuals with initially tolerant attitudes are more likely to engage in intergroup contact, while less tolerant individuals are more likely to avoid such contact. If this interpretation is accurate, the positive association between intergroup contact and out-group attitudes reported in most cross-sectional research (partly) reflects a self-selection effect. According to Pettigrew (2008), addressing self-selection processes in testing the contact hypothesis should be a central focus in future research on intergroup contact.

Our research contributes to the existing literature on the contact hypothesis by addressing these three imitations. First, it moves beyond positive contact to consider extremely negative encounters, namely experiences of interreligious violence. In addition, this research is the first to comprehensively examine mediators and moderators of the effects of positive and negative intergroup contact simultaneously. Specifically, it studies the mediating role of perceived group threat and moderating role of negative interreligious contact in the contact-attitudes relationship.

Second, it provides further evidence for the causal relationship between interreligious friendships and negative out-group attitudes. Specifically, in the absence of longitudinal data, we propose the treatment effect model (Guo and Fraser, 2010) to examine the issue of selectivity that has limited much of the previous research on the contact hypothesis.

Third, it focuses on a particularly relevant, yet understudied context, that is, ethnically and religiously diverse regions in Indonesia and the Philippines, where social cleavages are religion-based. Although many conflicts in the world occur along religious lines, there is little evidence about consequences of intergroup contact among religious groups nor in contexts where intergroup relations are influenced by intergroup discrimination and conflict. Noteworthy exceptions are studies of Protestants and Catholics in Northern Ireland (Hewstone et al., 2006; Paolini et al., 2004), Jews and Palestinian-Arabs in Israel (Maoz, 2000, 2011), Muslims and Christians in Indonesia (Kanas et al., 2015), and Muslims and Hindus in Bangladesh (Islam and Hewstone, 1993) and India (Tausch, Hewstone, and Roy, 2009). While these studies provide a more rigorous test of the contact hypothesis, they all exclusively focus on positive contact experience. This is a serious limitation given the prevalence of negative contact experience in these settings, thus limiting our understanding of the role of intergroup contact in problematic settings.

This study provides answers to the following research questions:

1. Does positive interreligious contact reduce, while negative interreligious contact induce negative attitudes towards the religious out-group?
2. Does the perception of group threat provide a valid mechanism for both positive and negative effects of interreligious contact?
3. Does positive interreligious contact reduce negative out-group attitudes when intergroup relations are tense and both groups experienced extreme conflict and violence?

## 2. Research setting

In this study, we focus on four ethnically and religiously diverse regions, i.e., Maluku and Yogyakarta (central Java) in Indonesia, the Autonomous Region in Muslim Mindanao (ARMM) and Metro Manila in the Philippines. While 87.2 percent of the population in Indonesia is Muslim, the province of Maluku is historically a mainly Christian region, albeit with a substantial Muslim population. In the Philippines, however, approximately 92.5 percent of the population is Christian (mainly Roman Catholic), while in ARMM, approximately 90 percent of the population is Muslim.[1]

Whereas Yogyakarta and Metro Manila have had relatively peaceful histories of interreligious relations, Maluku and ARMM have had serious interreligious conflicts.[2] Until 1999, Christian and Muslim communities in Ambon, the capital of Maluku province, lived in relative harmony. However, there were already strong resentments between religious groups, especially between internal migrants and the original population. Muslims were resentful of the Christians' privileged position during the Dutch colonial period. Christians, however, feared that an influx of Muslims from other parts of Indonesia would make them a vulnerable minority (Sidel, 2006). These resentments were suppressed under the authoritarian rule of former president Suharto, but after his downfall in 1998, they gave way to ethno-religious conflict.

Although Ambon has been relatively peaceful since a settlement was signed in 2002, at the time of the data collection (fall 2011), there were incidents of clashes between religious communities. Due to these events alone, over 4000 people were displaced with some having lost their homes for the fourth time in twelve years (ICG, 2011). According to the International Crisis Group (ICG, 2011: 1), contemporary Ambon is a tense, violent and divided city. The two religious communities are largely segregated. Where the two groups mix, i.e., in the public university, the government and a few large markets, there is a preoccupation with communal balance. That Ambon is one of the poorest provinces in Indonesia, with a high population density and a steady influx of economic migrants, does not help to improve the situation.

Religious segregation is also present in relatively peaceful Yogyakarta, although to a lesser extent. Religious segregation, much of which is stimulated by the Indonesian government, mainly occurs in primary education, health care and marriage. For instance, according to Indonesian marriage law, interreligious marriage is illegal, and the importance of religious studies (i.e., Islamic or Christian) in educational curriculum in all primary schools in Indonesia makes it problematic if students enroll in schools following a denomination other than their own (Steenbrink, 2004: 237—238).

The conflict in Mindanao can be described as a struggle for maximum regional autonomy between the Moro Islamic Liberation Front (MILF) and the Government of the Republic of the Philippines. Although religious differences are not the root of this conflict, religious identification together with social, economic and political inequalities triggers it. The predominantly Muslim areas of Mindanao are the country's poorest regions with the lowest per capita income and the least access to basic services such as water, sanitation, electricity and health care. This economic disadvantage serves as a symbol of government discrimination against and neglect of Muslim Mindanao and facilitates a division of Filipino society into a predominantly Christian north and a predominantly Muslim south (Concepcion et al., 2003; Zartman and Hopmann, 2011).

The signing of 'the comprehensive agreement on the Bangsamoro' on 27 March 2014 between the Philippine Government and the Moro Islamic Liberation Front (MILF) has paved the way for the creation of a new autonomous political entity to replace the Autonomous Region in Muslim Mindanao (ARMM). However, until now (September 2016) Philippine Congress has failed to pass the proposed Basic Law on the Bangsamoro Autonomous Region (BLBAR) to implement this agreement. It remains to be seen whether the establishment of the Bangsomoro Autonomous Region will transform the alternating periods of armed violence and cease-fires into an enduring peace. At present, there is a high level of religious segregation in the conflict-affected areas of Mindanao, accompanied by feelings of distrust and disappointment between Christians and Muslims (Zartman and Hopmann, 2011; ICG, 2016). Religious residential segregation also occurs in relatively peaceful Metro Manila, where Muslims are concentrated in a few neighborhoods (Watanabe, 2007: 88ff).

## 3. Interreligious contact and attitudes towards the religious out-group

It has been already recognized by Allport (1954) that not all intergroup contact will result in improved out-group attitudes. It has been suggested, for instance, that the positive contact effect particularly holds for intimate contacts, such as intergroup friendships (Davies et al., 2011; Pettigrew, 1997, 1998; Pettigrew and Tropp, 2006). Intergroup friendship is of particular importance as it involves long-term contact rather than brief encounters and it is likely to involve key conditions of the contact hypothesis, namely equal status, cooperation and common goals. In a meta-analytic review of studies on intergroup friendships, Davies et al. (2011) have shown that, despite some differences in effect sizes, intergroup friendships were associated with a reduction in negative out-group attitudes, regardless of study design (i.e., cross-sectional, longitudinal and experimental), location (i.e., Europe, United States, and Canada) and how intergroup friendships were measured. Moreover, Hewstone et al. (2006) have shown that even among those who experienced long-term sectarian conflict in Northern Ireland, interreligious friendships were related to increased positive attitudes towards the religious out-group.

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[1] The exact numbers are: Christians 60 percent and Muslims 40 percent (Ambon); Christians 8 percent and Muslims 92 percent (Yogyakarta) (Statistics Indonesia, 2010); Christians 8 percent and Muslims 90 percent (ARMM); and Christians 95 percent and Muslims 0.6 percent (Metro Manila) (NSO, 2010).

[2] For a detailed account of a situation in Ambon and Mindanao see the reports of the International Crisis Group (ICG, 2002; 2011, 2016).

Casual contact with other religious groups is also expected to improve attitudes towards the religious out-group, although we assume this effect to be smaller than that of interreligious friendships. One reason for this is that casual contact often lacks the facilitating conditions for the positive contact effect, thus making a positive effect of casual contact on out-group attitudes less likely (Hamberger and Hewstone, 1997; Powers and Ellison, 1995). Another reason is that casual interreligious contact such as neighborhood contact or contact-at-university, however frequent, may remain superficial and does not extend beyond a particular context situation (Pettigrew and Tropp, 2006; Sigelman and Welch, 1993). Based on the foregoing, we hypothesize that interreligious friendships decrease negative attitudes towards the religious out-group (*Hypothesis 1*). We also expect that casual interreligious contact decreases negative attitudes towards the religious out-group, but less so than interreligious friendships (*Hypothesis 2*).

Despite general support for the notion that intergroup contact improves out-group attitudes (Pettigrew and Tropp, 2006), studies have shown that living in ethnically diverse areas, which provide the largest opportunities for intergroup contact, increases rather than reduces out-group discrimination and prejudice (Quillian, 1995, 1996; Scheepers et al., 2002). This may be because racially diverse neighborhoods create opportunities for both negative and positive intergroup contact, and negative intergroup contact increases negative out-group attitudes more than positive contact reduces them (Barlow et al., 2012; Paolini et al., 2010).

In line with this view, Koopmans and Veit (2014) have shown that ethnic diversity was negatively related to trust in neighbors for both immigrants and natives in Germany, although for different reasons. For natives, ethnic diversity was associated with higher frequencies of negative and casual contact with immigrants, which tend to reduce trust and for immigrants ethnic diversity decreased the chances for positive contact with native neighbors, which tends to increase trust. In contrast, in a study among ethnic groups in England, Schmid et al. (2014) have shown that although ethnic diversity was associated with less out-group and neighborhood trust, most of this negative relationship was explained by positive inter-group contact and reduced out-group threat. The results from this study suggest that ethnic diversity improves out-group attitudes, albeit indirectly, by increasing opportunities for positive intergroup contact which in turn reduces the perception of out-group threat.

This study contributes to the growing evidence on this issue by focusing on both positive and negative interreligious contact. While relationships between Christians and Muslims in Yogyakarta and Metro Manila have been relatively peaceful, there has been a long and continuing history of religion-related conflict in Maluku and Mindanao. Consequently, approximately one-third of all respondents in our sample (N = 744) have experienced extremely negative contact in the past, namely events of interreligious violence. Such negative interreligious contact experiences should have an adverse effect on attitudes towards the religious out-group. Experience of interreligious violence due to which relatives and friends are hurt will provide direct information—accurate and unfavorable in content—that is likely to generalize in negative out-group perceptions. Thus, we hypothesize that the experience of negative interreligious contact increases negative attitudes towards the religious out-group (*Hypothesis 3*).

### 3.1. Mediators and moderators of the contact-attitudes relationship

According to realistic group conflict theory (RCT), competition over scarce resources and conflict between the cultural values of different groups induce perceptions of out-group threat, which in turn create hostility towards the out-group (Blalock, 1967). Supporting this hypothesis is research showing a relatively consistent relationship between perceptions of group threat and anti-immigrant attitudes and racial prejudices (Dixon, 2006; McLaren, 2003; Quillian, 1995; Scheepers et al., 2002; Schlueter and Scheepers, 2010; Semyonov et al., 2004).

In this study, we focus on perceived group threat as a mechanism explaining the relationship between both positive and negative interreligious contact and attitudes towards the religious out-group. While interreligious friendship may reduce them, experience of interreligious violence may awaken or reinforce perceptions of group threat regarding intergroup access to valued resources, i.e., land ownership, control over natural resources, and facilitate value and belief differences between religious groups. For example, in the context of White-Black relations in the U.S., Stephan et al. (2002) showed that the more negative contact White and Black students had had with members of the other group, the more threat and intergroup anxiety they reported. However, in another study in Europe, McLaren (2003) showed that having immigrant friends not only *directly* reduced anti-immigrant attitudes but also had an indirect (negative) effect on the perception of threat in the context of high immigration. Moreover, studies have shown that, depending on whether these are majority and/or high status groups versus minority and/or low status groups, different types of group threat, namely realistic threats (i.e., to the group's power, re-sources, and general welfare or symbolic to the group's way of life and culture) are important for intergroup relations (Al Ramiah et al., 2013; Stephan et al., 2000, 2002).

Taken together, these studies suggest that interreligious contact has an effect on attitudes towards the religious out-group that is (partly) mediated by the perception of group threat. Based on the foregoing, we hypothesize that perceived group threat (partly) explains the effect of interreligious contact on attitudes towards the religious out-group (*Hypothesis 4*).

Most previous research on intergroup contact has focused on positive contact effects and conditions that facilitate such effect. This study contributes to previous research by focusing on the question whether interreligious contact reduces negative attitudes towards the religious out-group when relations between religious groups are tense and both groups have experienced extreme violence. We address this question by examining whether and to what extent experiencing interreli-gious violence affects the relationship between interreligious friendships and casual interreligious contact on the one hand

**Table 1**
Four research regions.

| Indonesia | | The Philippines | |
|---|---|---|---|
| Yogyakarta | Ambon | Metro-Manila | ARMM |
| Christians: 8% | Christians: 40% | Christians: 95% | Christians: 8% |
| Muslims: 92% | Muslims: 60% | Muslims: 0.6% | Muslims: 90% |

and religious out-group attitudes on the other. Negative contact experience such as sectarian violence may preclude having interreligious friendship in the first place and then it emerges to weaken its ability to reduce negative out-group attitudes. Casual contact, one the other hand, may still occur in the form of a forced intergroup contact at university, on the street, at the market, but such contact is likely to be superficial and does not extend beyond the contact situation. Based on the foregoing, we hypothesize that interreligious friendship, and particularly casual contact, is less likely to reduce negative attitudes towards the religious out-group among those who experienced negative interreligious contact than among those without such experience (*Hypothesis 5*).

## 4. The self-selection problem in research on the contact hypothesis

One of the limitations of previous contact studies is a failure to account for self-selection of individuals with intergroup contact (Pettigrew, 2008). Interreligious friendship and attitudes towards the religious out-group likely share an overlapping set of predictors: students who choose to have interreligious friends may already be more tolerant towards members of the religious out-group. Statistical methods that fail to account for self-selection may provide biased findings of the relationship between intergroup contact and out-group attitudes. Our study incorporates the treatment effect model that accounts for this self-selection effect within our theoretical framework and therefore provides more accurate results.

In assessing the effect of interreligious contact on out-group attitudes, we assume that self-selection bias is problematic in estimating the net effect of interreligious friendship. It can be assumed that Indonesian and Filipino students have little to no influence on being exposed (or not) to incidents of interreligious violence. Likewise, because of the geographical convergence of Christians and Muslims in all research areas, except Metro Manila, it is likely that the respondents had relatively little choice to avoid having casual interreligious contact. Previous research has shown that, even in the presence of in-group preferences that engender in-group ties, interreligious contact is more likely in heterogeneous environments than in less diverse ones (Blau, 1977; Blum, 1985; Feld, 1981). Thus, our stand is that the nonrandom choice of interreligious friends and the possibly related selection bias are more problematic for this analysis.

## 5. Data and methods

### 5.1. Data

The analysis is based on the survey data "Ethno-religious Conflicts in Indonesia" (Sterkens et al., 2014a: ERCI, 2012) and "Ethno-religious Conflicts in the Philippines" (Sterkens et al., 2014b: ERCP, 2012) collected by the authors themselves in Indonesia and the Philippines between September 2011 and January 2012. The surveys were specifically designed to study individual and contextual determinants of latent conflicts, ranging from negative religious out-group attitudes to support for ethno-religious violence. To facilitate comparability between countries, we selected regions with comparable levels of economic development and living standards.[3] In these regions, there are large numbers of Christians and Muslims, alternating in majority and minority position (at both local and national levels), differing in power and status and involved in a history of intergroup conflict, allowing for a more rigorous test of the contact hypothesis. Table 1 provides an overview about the religious majority-minority ratio in each of the four research settings.

The surveys were collected among second and third year bachelor students in universities in Ambon (Maluku), Yogyakarta, Marawi, Cotabato, and Iligan (in and around ARMM), and Metro Manila. In each region, three universities were selected: a public (state) university (with a majority of Muslim or Christian students depending on the country); an Islamic university with a majority of Muslim students; and a Christian university with a majority of Christian students. We deliberately selected public and denominational universities to ensure a sufficient number of Christian and Muslim students in each region. Although students come from different socio-economic backgrounds and vary in geographical origin, the observations are not representative of the general populations of the two countries. There was an important reason for focusing on students, however. Unlike in Western countries, where students are more tolerant in their attitudes and behaviors than the general population, students in Indonesia and the Philippines have relatively conservative attitudes and actively defend the interests of their religious group (Magdalena, 1977; Montiel and Macapagal, 2006; Sidel, 2006). At the same time, limiting the sample

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[3] For instance, both countries have similar Human Development Index (HDI) values, which combines measures of life expectancy, school enrollment, literacy and income, with both conflict regions being at the bottom of the HDI (NSCB, 2009; Statistics Indonesia, 2011).

to students reduces unobserved heterogeneity of a studied population (i.e., in terms of types of interreligious contact), thereby strengthening causal inference in observational studies (Rosenbaum, 2005).

In each university, a systematic random sample of 250 students was gathered from enrollment lists, which resulted in a total of 3000 respondents. Because of the very small number of Muslim respondents in Metro Manila, an additional nonrandom sample of Muslims was added.[4] The response rate varied among countries and research regions; it was the highest in Ambon city (63.1 percent) and the lowest in Metro Manila (41.6 percent) (see Sterkens et al., 2014a, Sterkens et al. 2014b).

The analysis is restricted to male and female students who reported being either Muslim or Christian (96.7 percent of the sample). Missing observations (12.5 percent) have been imputed by multiple imputation technique using the multivariate normal model in Stata release 13. The descriptive statistics are presented for observations with complete (non-missing) data, but all subsequent analyses are based on imputed data (N = 2971).

### 5.2. Dependent variables

The attitudes variables measure (1) negative attitudes towards the religious out-group (Sterkens and Anthony, 2008) and (2) the preference for residential segregation (Semyonov et al., 2007; Tabory, 1993). These two attitudinal outcomes are in line with a distinction between cognitive and behavioral components of out-group attitudes (Sandefur and Lam, 1985).

*Negative attitudes* towards the religious out-group were measured by three negative statements with responses ranging from 1 (totally disagree) to 5 (totally agree): "Christians (Muslims) only talk about doing good deeds without practicing them", "When it comes to religion, Christians (Muslims) are less tolerant", and "Christians (Muslims) are often the cause of religious conflict."

*The preference for residential segregation* is measured by three statements with responses ranging from 1 (totally disagree) to 5 (totally agree): "I prefer to live in a neighborhood inhabited by persons of the same religion", "For the good of the city, people should reside in separate communities according to their religion", and "There should be separate neighborhoods where Muslims and Christians can live separately."

The factor analysis with oblique rotation yielded a two-factor structure representing two distinct attitudinal outcomes. The variables were, therefore, averaged to form two reliable indexes: negative attitudes (Christians: $\alpha = 0.73$; Muslims: $\alpha = 0.78$) and the preference for residential segregation (Christians: $\alpha = 0.70$; Muslims: $\alpha = 0.75$). The two indexes are moderately correlated, $r = 0.30$ and $r = 0.42$ for Christians and Muslims, respectively. A higher score indicates stronger negative attitudes/preference for residential segregation.

### 5.3. Independent variables

We distinguish between positive and negative interreligious contact: interreligious friendships and the experience of interreligious violence. *Interreligious friends* were measured by the following two variables: "How many of your close friends are Christians (Muslims)" ranging from 1 (none) to 5 (all) and "In the past year, how often did you have contact with Christians (Muslims) as close friends" ranging from 1 (never) to 6 (several times a day). Based on this information, we constructed a dichotomous variable taking the value 1 if (at least) some of the respondent's friends are from the religious out-group and the respondent had (at least) one contact with them in the last month, and 0 otherwise. A dichotomous measure of intergroup friendships is used to indicate the treatment condition, i.e., if a respondent has interreligious friends or not, and as such is required in estimation of the treatment effect model (Guo and Fraser, 2010). At the same time, a dichotomous measure of intergroup friendships has been widely used in other studies examining the contact hypothesis, which facilitates a comparison of the effect of interreligious friendships found in this study with previous research (Ellison and Powers, 1994; Powers and Ellison, 1995; Wilson, 1996).

*Negative interreligious contact experience* is measured by 9 dichotomous variables asking whether the respondents or their family members, friends or neighbors suffered any type of physical injury or death due to interreligious violence over the past 10 years. Based on this information, we constructed a dichotomous variable taking the value 1 if the respondent gave a positive response to (at least) one variable. In previous research, direct contact is commonly measured as occurring to the self vs. others. Because we measure extremely negative intergroup contact, i.e., causing death or physical injury, there are relatively few respondents in our sample who experienced such contact by themselves and survived. At the same time, having close family members and/or friends injured or killed due to interreligious violence has direct consequences for our respondents (e.g., lifetime trauma, internal displacement) and as such we consider it to be direct experience of negative interreligious contact.

In addition to the positive and negative interreligious contact, we include two additional measures of contact with the religious out-group, which are often present in the literature on the contact hypothesis: casual interreligious contacts and relative size of the religious out-group. *Casual interreligious contact* was measured by three variables with responses ranging from 1 (never) to 6 (several times a day). The first variable was "In the past year, how often did you have contact with

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[4] In total, 59 additional respondents were added to Metro Manila sample, of which 29 came from the pilot survey and 30 were contacted via religious organizations.

**Table 2**
Descriptive statistics.

| | Range | Indonesia | | | | The Philippines | | | |
| | | Muslims | | Christians | | Christians | | Muslims | |
| | | Mean | S.D. | Mean | S.D. | Mean | S.D. | Mean | S.D. |
|---|---|---|---|---|---|---|---|---|---|
| *Dependent variables* | | | | | | | | | |
| Negative attitudes | 1—5 | 2.79 | 0.88 | 2.69 | 0.88 | 2.65 | 0.73 | 2.85 | 0.77 |
| Residential segregation | 1—5 | 3.08 | 0.91 | 2.52 | 0.77 | 2.91 | 0.77 | 3.14 | 0.87 |
| *Independent variables* | | | | | | | | | |
| Interreligious friends | 0/1 | 0.50 | | 0.76 | | 0.47 | | 0.94 | |
| Negative interreligious contact | 0/1 | 0.34 | | 0.46 | | 0.17 | | 0.47 | |
| Casual interreligious contact | 1—6 | 2.56 | 1.64 | 3.68 | 1.65 | 2.44 | 1.52 | 4.41 | 1.35 |
| Percent religious out-group | 0.6—95 | 29.71 | 25.66 | 63.34 | 25.89 | 34.86 | 43.49 | 24.42 | 34.10 |
| Perceived group threat | 1—5 | 2.54 | 0.815 | 2.34 | 0.75 | 2.25 | 0.75 | 2.73 | 0.75 |
| Male | 0/1 | 0.50 | | 0.56 | | 0.35 | | 0.32 | |
| Parental education | 0—3 | 1.95 | 0.72 | 2.25 | 0.60 | 2.72 | 0.46 | 2.56 | 0.70 |
| Avoidance of interreligious friends | 1—5 | 2.52 | 1.08 | 1.95 | 0.63 | 1.93 | 0.82 | 1.86 | 0.86 |
| Importance of religious identity | 1—5 | 4.54 | 0.70 | 4.39 | 0.84 | 4.36 | 0.90 | 4.85 | 0.49 |
| Participation in religious services | 1—7 | 4.28 | 1.94 | 4.34 | 1.23 | 3.97 | 1.10 | 3.81 | 1.92 |
| Non-denominational university | 0/1 | 0.42 | | 0.25 | | 0.58 | | 0.24 | |
| N | | 733 | | 537 | | 1028 | | 302 | |

Source: ERCI 2012 and ERCP 2012.

Christians (Muslims) as neighbors?" The two other variables were identical except that they referred to contact with classmates and individuals living in the same dormitory building. The quantity of contact variables was averaged to form a reliable index (Christians: $\alpha = 0.70$; Muslims: $\alpha \geq 0.74$). A higher score on the scale indicates more frequent casual interreligious contact. To capture the heterogeneity of the environments, *the relative size of the religious out-group* was measured by the percentage of religious out-group members in the region where the respondents live. It can be argued that social context enhances or constraints opportunities for interreligious contact (Blum, 1985; Feld, 1981), and hence may influence out-group attitudes indirectly.

*Perceived group threat* was measured by nine variables ranging from 1 (totally disagree) to 5 (totally agree) such as "I am worried that job prospects for members of my group would decline due to the presence of other religious groups" and "I am afraid that customs of my group will be lost due to the presence of other religious groups" (see Appendix 1 for the full list). These variables have been successfully used in other studies to measure perceived group threat posed by ethnic minority groups (Scheepers et al., 2002; Schneider, 2008). Although in the literature a distinction is made between realistic threat and symbolic threat (Stephan et al., 2000, 2002), the results from the factor analysis with oblique rotation indicated that the variables are highly interrelated and load on a single factor. We, therefore, averaged the variables to form a reliable index ($\alpha = 0.92$ for both Christians and Muslims). A higher score indicates stronger perceived group threat.

We also control for the influence of two background factors that are established predictors of out-group attitudes (Coenders and Scheepers, 1998; Dixon, 2006; Powers and Ellison, 1995): gender (1 = male) and education (4-point scale). Since entry to university requires certain educational credentials, educational attainment does not vary across students. However, there are differences across students in terms of parental education. We therefore include a measure of parental education. Because the focus is on second and third year bachelor students and hence there is very little variation in age (Mean = 21.2, SD = 2.7 in Indonesia, Mean = 19.5 and SD = 1.9 in the Philippines), we do not include an age variable in the analyses.

Table 2 presents descriptive statistics for the independent and dependent variables separately for religious group and research location. We checked for high multicollinearity among the independent variables, but the correlations did not exceed critical levels.

## 5.4. Addressing selective interreligious friendships

Because people self-select into interreligious friendships and interreligious friendships and out-group attitudes share an overlapping set of predictors, an ordinary least square regression (OLS) would produce incorrect estimates of the effect of interreligious friends on these attitudes. To solve this problem we estimate the treatment effect model (Guo and Fraser, 2010). The treatment effect model is a variant of the classical Heckman selection model (Heckman, 1979); however, instead of modeling selection into the sample, it models selection into treatment: in this case, having interreligious friends.

The model is expressed in two equations, where the negative out-group attitude is *y*, independent variables are the vector *x*, the binary treatment membership variable is *w* in Equation (1), and independent variables are the vector *z* in Equation (2) (as in Guo and Fraser, 2010: 105—106):

$$\text{Regression equation}: \quad y_i = X_i\beta + w_i\delta + \varepsilon_i, \tag{1}$$

**Table 3**
Results from the treatment effect model predicting negative Attitudes.

| | Indonesia | | | | The Philippines | | | |
|---|---|---|---|---|---|---|---|---|
| | Muslims | | Christians | | Christians | | Muslims | |
| | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 |
| Interreligious friends | −1.236 *** (−10.98) | −0.848*** (−6.36) | −0.933*** (−4.37) | −0.435 (−1.49) | −0.977*** (−9.14) | −0.666*** (−5.07) | −0.359 (−0.86) | −0.104 (−0.25) |
| Negative interreligious contact | 0.032 (0.44) | −0.015 (−0.22) | 0.283*** (3.39) | 0.222** (2.89) | 0.108 (1.69) | 0.013 (0.21) | 0.147 (1.77) | 0.078 (0.97) |
| Casual interreligious contact | 0.149*** (4.96) | 0.112*** (3.54) | 0.091* (2.51) | 0.032 (0.74) | 0.077** (3.03) | 0.032 (1.22) | −0.057 (−1.60) | −0.063 (−1.81) |
| Percent religious out-group | 0.007*** (5.04) | 0.005*** (4.00) | 0.000 (0.08) | 0.002 (1.53) | 0.007*** (9.07) | 0.005*** (5.62) | 0.001 (1.05) | 0.002 (1.33) |
| Perceived group threat | | 0.374*** (10.06) | | 0.375*** (8.10) | | 0.344*** (11.46) | | 0.259*** (4.78) |
| Male | 0.139* (2.20) | 0.121* (2.14) | 0.131 (1.72) | 0.097 (1.38) | −0.108* (−2.21) | −0.062 (−1.39) | 0.137 (1.58) | 0.073 (0.87) |
| Parental education | −0.037 (−0.75) | −0.028 (−0.64) | 0.012 (0.18) | 0.006 (0.10) | −0.071 (−1.45) | −0.040 (−0.89) | −0.112 (−1.88) | −0.078 (−1.34) |
| Constant | 2.784*** (20.49) | 1.802*** (11.49) | 2.847*** (14.51) | 1.714*** (7.48) | 2.895*** (20.10) | 2.087*** (14.14) | 3.604*** (10.75) | 2.633*** (7.00) |
| Wald test of $rho = 0$ | $F(1, 546)$ = 84.96*** | $F(1, 545)$ = 29.40*** | $F(1, 422)$ = 15.15*** | $F(1, 433)$ = 1.51 | $F(1, 257)$ = 62.53*** | $F(1, 290)$ = 18.31*** | $F(1, 328)$ = 0.64 | $F(1, 441)$ = 0.07 |
| N | 853 | 853 | 629 | 629 | 1146 | 1146 | 343 | 343 |

Presented are unstandardized coefficients.
t-statistics in parentheses; *$p < 0.05$, **$p < 0.01$, ***$p < 0.001$, two-tailed test.
Source: ERCI 2012 and ERCP 2012.

$$\text{Selection equation}: \ w_i^* = z_i\gamma + u_i, w_i = 1 \text{ if } w_i^* > 0, \text{ and } w_i = 0 \text{ otherwise} \tag{2}$$

Prob $(w_i = 1|z_i) = \phi(z_i\gamma)$ and Prob $(w_i = 0|z_i) = 1 - \phi(z_i\gamma)$, Where $\varepsilon_j$ and $u_j$ are bivariate normal with mean zero and covariance matrix $\begin{bmatrix} \sigma_\varepsilon & \rho \\ \rho & 1 \end{bmatrix}$.

The choice of variables hypothesized to affect the self-selection into treatment (i.e., interreligious friendship) serves an essential role in the analysis. The significance of these variables included in the selection equation suggests that students with and without interreligious friendships differ. Not taking this into account may lead to biased results. Based on previous research on determinants of intergroup contact, we identified three types of characteristics: i.e., preferences, opportunities, and the influence of third parties (Blum, 1985; Kalmijn, 1991, 1998; Rydgren et al., 2013). Respondents' preferences for having interreligious friends were measured by three variables: (1) preference for (avoidance of) interreligious friends (ranging from 1 (totally accept) to 5 (totally avoid), (2) perceived group threat, and (3) importance of religious identity (ranging from 1 (not important) to 5 (very important). According to the homophily principle, people have a tendency to prefer social interaction with similar others (McPherson et al., 2001). In the context of this study, this would imply that people prefer to interact with people of the same denomination, and we expect this to be in particular true for those for whom their religious identity is very important (Brown, 2000; Kanas et al., 2016). We also assume that perception of group threat will translate to a lower preference for having contact with out-group members (McLaren, 2003).

Structural opportunities for interreligious friends are measured by three variables: (1) the frequency of casual contact with members of other religions, (2) relative out-group size (i.e., percent of religious out-group in the region), (3) a dichotomous variable, non-denominational university, equaled 1 if a respondent is enrolled in a non-denominational (i.e., public or private) vs. denominational university.[5]

The influence of third parties is measured by one variable: participation in religious services (ranging from 1 (never) to 7 (several times a day)). It can be argued that people who participate in religious services more often are more likely to be influenced by their religious communities that often set the norms of behavior regarding having contact with religious out-group members (Kalmijn, 1998; Martinovic et al., 2009). Finally, the selection equation includes controls for gender and parental education level.

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[5] While this is still rather a crude measure of religious diversity, more detailed information (e.g., percent religious group per faculty) is not available. Registering religious belonging is an extremely sensitive issue because ongoing tensions, but overall non-denominational universities are far more religiously diversified than denominational universities.

**Table 4**
Results from the treatment effect model predicting preference for segregation.

| | Indonesia | | | | Philippines | | | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| | Muslims | | Christians | | Christians | | Muslims | |
| | 1 | 2 | 1 | 2 | 1 | 2 | 1 | 2 |
| Interreligious friends | −1.408*** (−14.36) | −0.909*** (−7.29) | −1.079*** (−7.80) | −0.487* (−2.17) | −1.188*** (−11.82) | −0.865*** (−6.73) | −0.566 (−0.59) | −0.259 (−0.31) |
| Negative interreligious contact | 0.058 (0.79) | −0.002 (−0.03) | 0.091 (1.20) | 0.023 (0.35) | 0.165* (2.42) | 0.060 (0.98) | 0.077 (0.75) | 0.004 (0.04) |
| Casual interreligious contact | 0.124*** (4.39) | 0.075* (2.53) | 0.112*** (3.96) | 0.042 (1.22) | 0.115*** (4.22) | 0.069* (2.49) | −0.095 (−1.65) | −0.103 (−1.97) |
| Percent religious out-group | 0.009*** (6.22) | 0.007*** (5.21) | −0.009*** (−5.67) | −0.006*** (−4.75) | 0.008*** (8.88) | 0.005*** (5.41) | −0.001 (−0.94) | −0.001 (−0.79) |
| Perceived group threat | | 0.475*** (13.38) | | 0.417*** (10.88) | | 0.382*** (12.08) | | 0.271*** (4.23) |
| Male | 0.120 (1.86) | 0.097 (1.76) | 0.111 (1.59) | 0.071 (1.19) | −0.140** (−2.63) | −0.090 (−1.88) | 0.200 (1.95) | 0.133 (1.34) |
| Parental education | −0.026 (−0.54) | −0.016 (−0.38) | −0.009 (−0.16) | −0.015 (−0.32) | −0.035 (−0.65) | −0.001 (−0.02) | −0.027 (−0.36) | 0.009 (0.13) |
| Constant | 3.174*** (23.30) | 1.928*** (12.93) | 3.428*** (19.84) | 2.156*** (11.44) | 3.054*** (19.26) | 2.159*** (13.58) | 4.087*** (6.36) | 3.044*** (4.69) |
| Wald test of $rho = 0$ | F(1, 668) = 128.61*** | F(1, 645) = 34.23*** | F(1, 457) = 46.91*** | F(1, 509) = 4.03* | F(1, 256) = 95.84*** | F(1, 258) = 29.75*** | F(1, 13) = 0.01 | F(1, 22) = 0.04 |
| N | 853 | 853 | 629 | 629 | 1146 | 1146 | 343 | 343 |

Presented are unstandardized coefficients.
t-statistics in parentheses; *$p < 0.05$, **$p < 0.01$, ***$p < 0.001$, two-tailed test.
Source: ERCI 2012 and ERCP 2012.

The treatment effect model was estimated using a full-maximum likelihood estimator using the/*treatreg*/and/*itreatreg*/ routines in Stata (Brown and Mergoupis, 2010; Cong and Drukker, 2001).

## 6. Results

Tables 3 and 4 present the results from the treatment effect model predicting negative out-group attitudes and the preference for residential segregation. Model 1 includes all measures of interreligious contact; Model 2 adds the perceived group threat; and Model 3 includes interactions between interreligious friendships and casual interreligious contact, on the one hand, and negative interreligious contact, on the other. To see whether the same patterns emerge among religious majorities and minorities and in different research locations, the analyses are estimated separately for two religious groups and two countries.[6]

In Tables 3 and 4, Model 1 confirms the importance of interreligious friendship for out-group attitudes. As hypothesized (Hypothesis 1), interreligious friendship decreases negative attitudes towards the religious out-group and the preference for residential segregation and this is among both minority Christians and majority Muslims in Indonesia and majority Christians in the Philippines.

The effect of interreligious friendship is not only statistically significant but also socially relevant. Other things being equal, individuals who have interreligious friends have on average one unit smaller negative attitudes towards the religious out-group and a weaker preference for residential segregation than those who do not have interreligious friends, which is a substantial change on a scale ranging from one to five.

In the current analyses, interreligious friendship equals 1 when at least some of the respondent's friends are from the religious out-group and the respondent had (at least) one contact with them in the last month, and 0 otherwise. A recent meta-analysis of intergroup friendship effects by Davies et al. (2011) has shown that time spent and self-disclosure with out-group friends yielded significantly greater associations with attitudes than other friendship measures. Following this argument, we checked whether our results are sensitive to the use of alternative measures of interreligious friendship. First, we constructed an interreligious friendship variable taking the value 1 if contact with interreligious friends is frequent (at least once a week) and relatively many of the respondent's friends are from the religious out-group, and 0 otherwise. Second, we constructed a friendship variable that equals 1 if relatively many of the respondent's friends are from the religious out-group and 0 otherwise (i.e., thus using only information about the share and not frequency of interreligious friendships). Using these two alternative splitting-rules strengthens our conclusions regarding the friendship variable: interreligious friendship has a

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[6] The regressions are run separately per country and there are only two regions per country. With such a small number of clusters, inference using the cluster-robust estimator may be more often incorrect than when not adjusting for the stratified structure of data (Cameron and Miller, 2015).

strong negative effect on negative attitudes towards the religious out-group across all samples, including minority Muslims in the Philippines for whom the effect of interreligious friends was negative but not significant (see Tables 3 and 4, Model 1).

Contrary to Hypothesis 2, we find that casual interreligious contact increases rather than decreases negative attitudes towards the religious out-group (Table 3) and the preference for residential segregation (Table 4). Again this positive relationship between casual contact and negative attitudes can be found among both minority Christians and majority Muslims in Indonesia and majority Christians in the Philippines.

It was next hypothesized (Hypothesis 3) that negative interreligious contact has a detrimental effect on out-group attitudes. We find some support for this hypothesis, however, only among religious minorities but not among majorities (Table 3). Religious minorities, i.e., Christians in Indonesia, who had experienced interreligious violence have significantly more negative attitudes towards the religious out-group than those who did not have such an experience. There is also evidence that negative contact affects the preference for residential segregation among majority Christians in the Philippines (Table 4). Equally important, the significant effect of negative contact is much smaller than that of positive contact, i.e., interreligious friends (Table 3, Model 1: $b = 0.283$, $p = <0.001$ vs. $b = -0.933$, $p < 0.001$ for Christians in Indonesia and Table 4, Model 1: $b = 0.165$, $p = 0.016$ vs. $b = -1.188$, $p < 0.001$ for Christians in the Philippines).

In Tables 3 and 4, Model 1 also shows that the percentage of the religious out-group is associated with an increase in negative attitudes towards this religious out-group and the preference for residential segregation particularly among religious majorities, but not minorities in both countries. These results suggest that majority group members have more negative attitudes and a stronger preference for residential segregation in conflict regions, where religious minorities are highly concentrated.

We next hypothesized (Hypothesis 4) that the effect of interreligious contact on attitudes towards the religious out-group is (partly) explained by perceived group threat. In estimating the indirect effect of interreligious contact on negative out-group attitudes, through perceived group threat, we employ Sobel (1982) test of mediation.[7] In Tables 3 and 4, Model 2 provides clear evidence that the perception of group threat mediates the effect of interreligious friends on attitudes towards the religious out-group and the preference for residential segregation, particularly among minority Christians in Indonesia. Specifically, the perception of group threat fully mediates the effect of interreligious friends on attitudes towards the religious out-group among minority Christians in Indonesia (Table 3, Model 1 and 2: $b = -0.933$, $p < 0.001$ vs. $b = -0.435$, $p = 0.136$). Likewise, the effect of interreligious friends on the preference for residential segregation among Christian minority is much smaller (Table 4, Model 1: $b = -1.079$, $p < 0.001$) when the perception of threat is included in the model (Model 2: $b = -0.487$, $p = 0.030$), which we consider to be evidence for partial mediation. Further, the Sobel test revealed that the mediation effects are significant (at $p < 0.001$) across all remaining subsamples, implying that perceived group threat partially mediates effects of interreligious friends on negative attitudes and preference for segregation in these subsamples.

Tables 3 and 4, Model 2 further show that the effect of negative contact on out-group attitudes and preference for residential segregation is also (partly) explained by the perception of group threat. Specifically, the effect of negative contact on out-group attitudes among minority Christians and minority Muslims significantly decreases when the perception of threat is included in the model (Sobel test: $z = 1.99$, $p = 0.047$ and Sobel test: $z = 2.63$, $p = 0.009$, respectively). Likewise, the effect of negative contact on the preference for residential segregation among majority Christians is fully mediated by the perception of group threat (Sobel test: $z = 4.16$, $p < 0.001$).

Finally, the relationship between casual interreligious contact and out-group attitudes/preference for residential segregation is significantly reduced after including the perception of group threat in the model (Sobel's tests indicated that the mediation effects are significant (at $p < 0.05$) across all but Filipino Muslims subsamples).

In sum, our results suggest that perceived group threat provides a valid mechanism for explaining the effects of both positive and negative interreligious contact and among both religious majorities and minorities. Interreligious friendship is negatively related to perceived group threat and because of that reduces negative attitudes towards the religious out-group and preference for residential segregation. In contrast, respondents who experienced interreligious violence in the past and who are exposed to interreligious casual contact are more likely to perceive out-group threat, which in turn increases negative attitudes towards the religious out-group and preference for residential segregation.

Our final hypothesis (Hypothesis 5) stated that interreligious friendship and, particularly, casual interreligious contact are less likely to reduce negative attitudes towards the religious out-group among those who experienced negative interreligious contact than among those without such experiences. Contrary to this hypothesis, all interaction terms do not reach statistical significance and this is equally so for religious majorities and minorities (results available upon request). An exception is an interaction between negative and casual contact on the preference for residential segregation among Muslims in Indonesia which is positive and significant ($b = 0.088$, $p = 0.034$). All in all, our findings suggest that interreligious friends have a potential to reduce negative out-group attitudes and preference for residential segregation among religious majorities and minority Christians in Indonesia, even if they take place in a hostile and competitive environment. Casual interreligious contact, on the other hand, has limited ability to improve intergroup attitudes, and this is particularly in adverse environment.

In all estimated models, the results for Filipino Muslims diverged. In contrast to other groups, interreligious friendship had no significant effect on negative out-group attitudes, and casual contact was negatively (though non-significantly) related to

negative out-group attitudes and preference for residential segregation among Filipino Muslims. There are two reasons why these results should be interpreted with caution. First, the majority of Muslims in our sample comes from the conflict region, where only few respondents reported having no interreligious contact, including interreligious friends (see Table 2). Thus, it could be that our findings for Filipino Muslims are affected by very little variation in interreligious contact variables. Second, the results from the treatment effect model provide further evidence that the estimate of interreligious friendship in this subsample should be interpreted with caution. Most of the variables included in the selection equation and a direct test of the endogeneity of interreligious friendship (Wald test for *rho* = 0 at the bottom of Tables 3 and 4) are not significant suggesting that the estimated treatment effect model may not be adequate for this subsample.

### 6.1. Sensitivity analyses

An important caveat of the treatment effects model is its sensitivity to the inclusion of the right variables in both the selection and regression equations. The results of the treatment effects model may be biased when important variables are incorrect or omitted, particularly when important variables causing selection bias are not included in the selection equation (Guo and Fraser, 2010: 127). We, therefore, re-run the models with two alternative specifications, but the results remained robust to different specifications. First, we re-estimated the models without the variable *preference for avoidance of interreligious friends* (Tables 3 and 4, Model 1). Strong preference for interreligious friends is not only related to interreligious friendship but also to negative attitudes towards the religious out-group and so we wanted to see whether our results are sensitive to an inclusion of this variable. Second, we re-estimated the models with an additional variable that predicts interreligious friendship but is unrelated to negative out-group attitudes. For an instrument variable in this analysis, we include a categorical variable *length of stay* in the region with three possible answer categories: (1) less than one year; (2) one to three years; (3) and more than three years. Length of stay is a good measure for instrumenting interreligious friendships because it is strongly related to having interreligious friends (Martinovic et al., 2009), yet unrelated to negative out-group attitudes. We ran the ordinary least squares (OLS) regression models to verify that there is no significant relationship between length of stay and negative out-group attitudes in our data. Again, we did not include *preference for avoidance of interreligious friendship*. We also excluded *participation in religious services* because of its insignificant effect in the selection equation across the subsamples (see Table A2). Our results (available upon request) remained robust to these alternative specifications. Interreligious friendship strongly reduces negative attitudes and preference for residential segregation, while negative contact experience and casual contact increase them. The only exceptions are the coefficients of interreligious friendship and casual contact on preference for residential segregation among Christians in the Philippines which reversed in sign. A likely explanation is that preference for avoidance of interreligious friends is negatively related to having interreligious contact but positively related to preference for residential segregation. When not taken into account, these opposing relationships result in suppression effects of interreligious contact variables.

To consider how the self-selection of respondents into interreligious friendships affects our results, we compare the results from the treatment effect model (Tables 3 and 4, Model 1) with the results from the OLS regression (Table 5). The principal difference from the OLS regression lies in the effects of interreligious friends and casual interreligious contact. Specifically, the OLS results, which ignore selectivity, yielded a relatively weak, and in case of religious minorities mostly insignificant, relationship between interreligious friends and negative attitudes towards the religious out-group and the preference for residential segregation. The effects of interreligious friendships among both religious groups in Indonesia and among Christian majority in the Philippines are much larger when the model is estimated "free" of selection bias, however. Based on the OLS estimates, we would also conclude that interreligious friends are associated with a weaker preference for residential segregation among Muslim minority in the Philippines as compared to an insignificant effect of interreligious friends in the treatment effect model.

Table 5 also shows that our conclusions regarding the relationship between casual contact and negative attitudes would differ substantially if based on the OLS regression analyses. Specifically, while the OLS estimates indicate that casual contact is either negatively or insignificantly related to negative attitudes towards the religious out-group, for all but Filipino Muslims, casual contact is positively related to negative attitudes and preference for residential segregation in the treatment effect model.

## 7. Conclusions

This study has contributed to our understanding of the causes, processes and consequences of interreligious contact by (1) focusing on a particularly relevant but understudied context, that is, ethnically and religiously diverse regions of Indonesia and the Philippines, where social cleavages occur along religious lines and relations between religious groups are tense; (2) demonstrating that the effects of interreligious contact depend on whether it is a positive or a negative contact and whether it is studied from a majority or a minority perspective; and (3) examining one of the key causal assumptions underlying the effect of interreligious friendships, i.e., self-selection bias.

Our first research question was: Does positive interreligious contact reduce, while negative interreligious contact induces negative attitudes towards the religious out-group? The evidence from our study indicates a positive answer to this question. The negative effect of interreligious friendships on negative attitudes towards the religious out-group is both in the predicted direction and quite robust. Most previous research on the contact hypothesis has relied on cross-sectional data, where the

**Table 5**

Results from the OLS regression predicting negative Attitudes and residential segregation.

| | Negative attitudes | | | | Residential segregation | | | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| | Indonesia | | The Philippines | | Indonesia | | The Philippines | |
| | Muslims | Christians | Christians | Muslims | Muslims | Christians | Christians | Muslims |
| Interreligious friends | −0.246** (−3.23) | −0.109 (−1.14) | −0.143* (−2.37) | −0.036 (−0.20) | −0.309*** (−4.19) | −0.061 (−0.73) | −0.183** (−2.93) | −0.456* (−2.31) |
| Negative interreligious contact | 0.006 (0.09) | 0.264*** (3.34) | 0.065 (1.09) | 0.138 (1.67) | 0.029 (0.44) | 0.068 (1.00) | 0.113 (1.84) | 0.074 (0.78) |
| Casual interreligious contact | −0.046 (−1.91) | −0.016 (−0.62) | −0.046* (−2.25) | −0.073* (−2.31) | −0.093*** (−3.95) | −0.019 (−0.85) | −0.032 (−1.44) | −0.100** (−2.83) |
| Percent religious out-group | 0.007*** (5.13) | 0.001 (0.45) | 0.005*** (6.58) | 0.001 (0.88) | 0.009*** (6.50) | −0.008*** (−5.75) | 0.004*** (5.68) | −0.001 (−1.08) |
| Male | 0.081 (1.41) | 0.082 (1.15) | −0.057 (−1.28) | 0.139 (1.61) | 0.056 (0.96) | 0.051 (0.80) | −0.079 (−1.64) | 0.200* (2.00) |
| Parental education | −0.063 (−1.42) | 0.014 (0.23) | −0.061 (−1.33) | −0.122* (−2.06) | −0.056 (−1.27) | −0.006 (−0.11) | −0.023 (−0.47) | −0.028 (−0.41) |
| Constant | 2.895*** (23.45) | 2.593*** (14.18) | 2.851*** (21.31) | 3.403*** (14.21) | 3.298*** (27.19) | 3.115*** (20.27) | 3.001*** (20.88) | 4.013*** (14.83) |
| R squared (average) | 0.119 | 0.029 | 0.049 | 0.050 | 0.206 | 0.095 | 0.038 | 0.075 |
| Number | 853 | 629 | 1146 | 343 | 853 | 629 | 1146 | 343 |

Presented are unstandardized coefficients.
t-statistics in parentheses; *p < 0.05, **p < 0.01, ***p < 0.001, two-tailed test.
Source: ERCI 2012 and ERCP 2012.

self-selection of individuals into intergroup friendships may result in biased estimates of contact effect. The results from the treatment effect model indicate that self-selection processes indeed play a role: the negative effects of interreligious friends on negative out-group attitudes are much *larger* than their OLS counterparts. This is in line with findings from Pettigrew and Tropp (2006: Table 3), who showed that experimental studies, which randomly assign participants into intergroup contact, yield significantly larger effects of contact on out-group attitudes than quasi-experimental or survey studies.

Casual interreligious contact appears to be much less beneficial for out-group attitudes, however. Although the OLS results suggest that casual interreligious contact has a potential to reduce negative attitudes towards the religious out-group, the results from the treatment effect model indicate rather a positive relationship between casual contact and negative out-group attitudes. Casual interreligious contact is less likely than interreligious friendships to be voluntary and of equal status, conditions that facilitate the positive effect of contact (Allport, 1954). Living in regions with a large proportion of members of other religious groups may facilitate interreligious contact, but such contact may be superficial and involuntary and hence fail to generalize beyond contact situations (Allport, 1954; Sigelman and Welch, 1993). In addition, a long history of religious violence in both countries could severely limit the quality of casual contact.

Powers and Ellison (1995) found that, while interracial friendships enabled many African Americans in the U.S. to encounter negative stereotypes of whites, casual interracial contact had little bearing on the attitudes towards the white out-group. Likewise, Hamberger and Hewstone (1997), in a study on four Western European countries, showed that only inter-ethnic friendships reduced negative attitudes towards immigrants, while other types of interethnic contact (i.e., at work and in the neighborhood) had negligible impacts on anti-immigrant attitudes. Our results contribute to previous research in peaceful Western countries and show that in contexts where contemporary intergroup relations are shaped by conflict, casual contact such as neighborhood contact is often related to increased negative attitudes towards the out-group.

Although researchers have generally recognized that not all forms of intergroup contact improve intergroup attitudes, there has been limited evidence on the potentially destructive effects of intergroup contact (Pettigrew, 2008). This study contributes to previous research by considering the impact of extremely negative interreligious contact on out-group attitudes, i.e., interreligious violence. Because the survey inquired about experiences of interreligious violence over the last ten years, the respondents likely referred to historical negative contact experiences. Our findings suggest that a historical memory of negative interreligious contact is still an important determinant of contemporary attitudes towards the religious out-group. Individuals who experienced interreligious violence have more negative attitudes towards the religious out-group than those lacking such experience. However, the negative effect of experiencing interreligious violence seems to have smaller effect than having interreligious friends. It is also less consistent as it does not reach statistical significance in most of the subsamples.

The fact that our study focuses on extremely negative contact experience does seem to suggest that less negative contact should have an even smaller negative impact on out-group attitudes. Unfortunately, the effect of less negative interreligious contact cannot be addressed with the data available in this study. We can only assume that some of the casual encounters with, e.g., other-religion neighbors include some of the characteristics of negative contact (Hamberger and Hewstone, 1997). Future work should strive for also other measures of negative contact, e.g., insult or harassment, and compare their effects on

out-group attitudes with other types of contact. This would include addressing such questions as what factors are responsible for the emergence of positive and negative contact and whether the mechanisms explaining the negative contact effect are simply the reverse of those explaining the positive contact effect (Barlow et al., 2012).

Responding to a recent critique (Barlow et al., 2012), we addressed the question whether the perception of group threat provides a valid mechanism for both positive and negative effect of interreligious contact. Our results suggest that perceived group threat is indeed an important mechanism for both positive and negative interreligious contact. While interreligious friendships reduce out-group threat, negative and casual intergroup contact induces the perception of out-group threat, which in turn facilitates negative attitudes towards the religious out-group. However, the causal direction between intergroup contact and the perception of group threat, on the one hand, and out-group attitudes on the other, remains undecided, given our use of cross-sectional data. Despite our use of the treatment effect model to address self-selection into interreligious friendships, the lack of longitudinal data makes it difficult to examine the causal direction of contact-attitude relationships. The issue of reversed causality is less problematic for the presumed effects of negative contact and (some) casual contact, which occurred in the past and were involuntary.

Our third research question was: Does positive interreligious contact reduce negative out-group attitudes when intergroup relations are tense and both groups experienced extreme conflict and violence? Once again our results provide a positive answer to this question. Interreligious friendships strongly reduce negative attitudes and preference for residential segregation and this regardless of past experiences of violence. In contrast, there is some evidence that casual contact increases preference for residential segregation particularly among those who experienced interreligious violence. This result is only found among Muslims in Indonesia. Conflicts between Christians and Muslims have been more widespread and have resulted in more victims in Indonesia than in the Philippines. For instance, in the city of Ambon where much of interreligious violence took place, unremitting and strict residential segregation is likely to contribute to ongoing polarization between groups and further strengthens intergroup boundaries.

Previous research has shown that the positive effect of interreligious contact is particularly strong among religious majorities, rather than minorities (Tropp and Pettigrew, 2005). Because of differences in relative group size, minority members are more likely to engage in interreligious contact that is involuntary in nature and therefore less likely to include Allport (1954)'s conditions for an optimal contact effect. It could be argued that such interreligious contact is less likely to reduce out-group negativity, directly or indirectly, for example, through decreased perception of group threat. Kanas et al. (2015) have shown that while the relationship between frequency of interreligious contact and out-group attitudes is indeed significantly stronger among majority Muslims than minority Christians in Indonesia, the mediation by perceived group threat does not vary between majority and minority group members. Moreover, high-quality contact is equally beneficial for both groups regardless of differences in relative group size. In line with these findings, our results show that interreligious friendship has a strong negative effect on negative attitudes among both minorities and majorities and that perceived group threat is an important mechanisms explaining the effect of interreligious contact among both groups.

This study also contributes to our knowledge by revealing factors that are associated with interreligious friendships (Table A2, Appendix 2). Interreligious friendships are more common among those who have casual contact with neighbors, classmates and dorm mates of other religions and among religious majorities for those who live in regions with a sizable out-group population. Interreligious friends are less common among those who feel threatened by the religious out-group and who prefer to avoid such contacts. Consistent with previous findings, these results suggest that both preferences and opportunities determine interreligious friendships (Kalmijn, 1991, 1998; Martinovic et al., 2009; Sigelman et al., 1996). These results also reveal the importance of the social context in which interreligious contacts occur. Taken together with previous findings, our results point to a rather complex role of living in a conflict region in affecting intergroup relations. On the one hand, students who live in a conflict region are more likely to report negative contact experiences which in turn increase negative attitudes towards the out-group, either directly or indirectly via increased perception of group threat or through strengthening the negative effects of casual contacts. On the other hand, living in a conflict region increases opportunities for interreligious contact among religious majorities, including having interreligious friends and through this improves attitudes towards the religious out-group.

This study makes an important attempt to examine the effect of intergroup contact in a real-world setting and in a context where research on the contact hypothesis is most needed. It shows that even in the context of interreligious conflict and violence, intergroup contact in the form of interreligious friendship reduces negative attitudes towards the religious out-group. Interreligious friends have relatively large impact on out-group attitudes, far more important than the impact of negative and casual interreligious contact. Equally important, interreligious friends seem to be beneficial for both religious minorities and majorities. However, our results also show that negative interreligious contact experience, even when it occurred in the past, lingers in intergroup relations as expressed by both its direct and indirect effects on out-group attitudes.

## Appendix 1

Perceived group threat is measured by 9 variables ranging from 1 (totally disagree) to 5 (totally agree).

1. I am worried that job prospects for members of my group would decline due to the presence of other religious groups.
2. I am worried that study grant opportunities will decline due to the presence of other religious groups.
3. I am worried that security in my university will decline due to the presence of students of other religious groups.
4. I am worried that the security in my neighborhood will decline due to the presence of other religious groups.
5. I am afraid of increasing violence in my neighborhood due to the presence of other religious groups.
6. The chances of getting space in a boarding house will decline due to the presence of other religious groups.
7. The migration of people of different religious groups to my community is a threat to my own religious group.
8. The religious practices of people from other religious groups threaten our own way of life.
9. I am afraid that customs of my group will be lost due to the presence of other religious groups.

## Appendix 2

**Table A2**
Results from the Treatment Effect Model Predicting Interreligious Friendships (see Tables 3 and 4, Model 1).

| | Negative attitudes | | | | Preference for segregation | | | |
|---|---|---|---|---|---|---|---|---|
| | Indonesia | | The Philippines | | Indonesia | | The Philippines | |
| | Muslims | Christians | Christians | Muslims | Muslims | Christians | Christians | Muslims |
| Negative interreligious contact | 0.143 (1.15) | 0.094 (0.65) | 0.300* (2.31) | 0.380 (1.27) | 0.183 (1.55) | 0.118 (0.87) | 0.148 (1.17) | 0.297 (1.13) |
| Casual interreligious contact | 0.614*** (11.90) | 0.523*** (9.60) | 0.575*** (11.49) | 0.321*** (3.35) | 0.561*** (11.68) | 0.477*** (9.13) | 0.531*** (10.75) | 0.328* (2.98) |
| Percent religious out-group | 0.005* (2.01) | −0.004 (−1.26) | 0.012*** (8.36) | 0.002 (0.22) | 0.007** (2.77) | −0.004 (−1.22) | 0.012*** (8.61) | 0.002 (0.18) |
| Perceived group threat | −0.283*** (−4.11) | −0.222* (−2.34) | −0.184** (−2.62) | −0.040 (−0.17) | −0.345*** (−5.44) | −0.366*** (−4.55) | −0.207*** (−3.44) | 0.069 (0.36) |
| Male | 0.148 (1.38) | 0.332* (2.51) | −0.294** (−2.96) | 0.114 (0.34) | 0.144 (1.33) | 0.368** (2.95) | −0.314** (−3.22) | 0.027 (0.08) |
| Parental education | −0.064 (−0.77) | −0.063 (−0.59) | −0.148 (−1.46) | 0.251 (1.28) | −0.057 (−0.71) | −0.051 (−0.50) | −0.121 (−1.16) | 0.251 (0.89) |
| Avoidance of interreligious friends | −0.371*** (−7.08) | −0.265** (−2.62) | −0.398*** (−6.36) | −0.505*** (−3.81) | −0.355*** (−7.30) | −0.241** (−2.74) | −0.436*** (−7.78) | −0.462** (−3.17) |
| Importance of religious identity | −0.092 (−1.49) | −0.116 (−1.48) | −0.035 (−0.74) | −0.286 (−0.72) | −0.114 (−1.93) | −0.084 (−1.22) | −0.121* (−2.50) | −0.397 (−0.82) |
| Participation in religious services | −0.045 (−1.78) | 0.068 (1.33) | −0.056 (−1.40) | 0.072 (0.88) | −0.012 (−0.53) | 0.034 (0.71) | −0.019 (−0.53) | 0.093 (1.06) |
| Non-denominational university | 0.197 (1.65) | 0.354* (2.15) | −0.024 (−0.27) | 0.524 (0.62) | 0.210 (1.88) | 0.369* (2.43) | −0.063 (−0.73) | 0.628 (0.74) |
| Constant | 0.518 (1.28) | 0.457 (0.70) | 0.306 (0.72) | 1.674 (0.83) | 0.654 (1.71) | 0.779 (1.43) | 0.705 (1.67) | 1.740 (0.56) |

Presented are unstandardized coefficients.
t-statistics in parentheses; *p < 0.05, **p < 0.01, ***p < 0.001, two-tailed test.
Source: ERCI 2012 and ERCP 2012.

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