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**Antecedents and Consequences
of Negative Relationships
for Muslim Youth in Germany**

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A chi ha sognato, sogna o sognerà una società più giusta.

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Chapter 1. Introduction

1.1. Muslims in Germany

On 30 October 1961, just after the completion of the Berlin Wall, a bilateral treaty for supplies of foreign workers, or *Gastarbeiter* (Guest workers), between the Federal Republic of Germany and Turkey, was signed (Akgündüz, 2021). Since then, large-scale immigration of laborers, family formation and reunification, and more recent refugee movements in 2015 and 2016, mainly from Middle Eastern and North African (MENA) countries, have fueled the growth of Muslim populations into an important religious minority in Germany (Kalter & Foroutan, 2021).

According to the Report “*Muslimisches Leben in Deutschland 2020: Studie im Auftrag der Deutschen Islam Konferenz*” (Pfündel, Stichs, and Tanis, 2021), elaborated by the Federal Office for Migration and Refugees (*Bundesamt für Migration und Flüchtlinge*), between 5.3 and 5.6 million of people affiliated with Islam live in Germany. Muslims currently represent a share between 6.4% and 6.7% of the total population and are relatively more distributed in West Germany (96.5%), particularly in the regions of Baden-Württemberg (17.1%) and North Rhine-Westphalia (31.8%), than in East Germany (3.5%). Prevalently of the male gender (52%), Muslims are on average younger (31.6 years) than the native population (44.3 years) and the population with a migration background (35.6 years). On average, the proportion of children, adolescents, and young adults under the age of 25 years is 19% higher, while the proportion of over 64-year-olds is 16% lower, than the rest of the population. Almost the half of Muslims has the German nationality (47%). This percentage increases to 68% for those under the age of 18 years.

Muslims of Turkish origin continue to form the largest group (45%), but no longer represent the absolute majority. Figure 1.1 shows how the Muslim population in Germany has progressively become more ethnically diverse from 2008 to 2019.

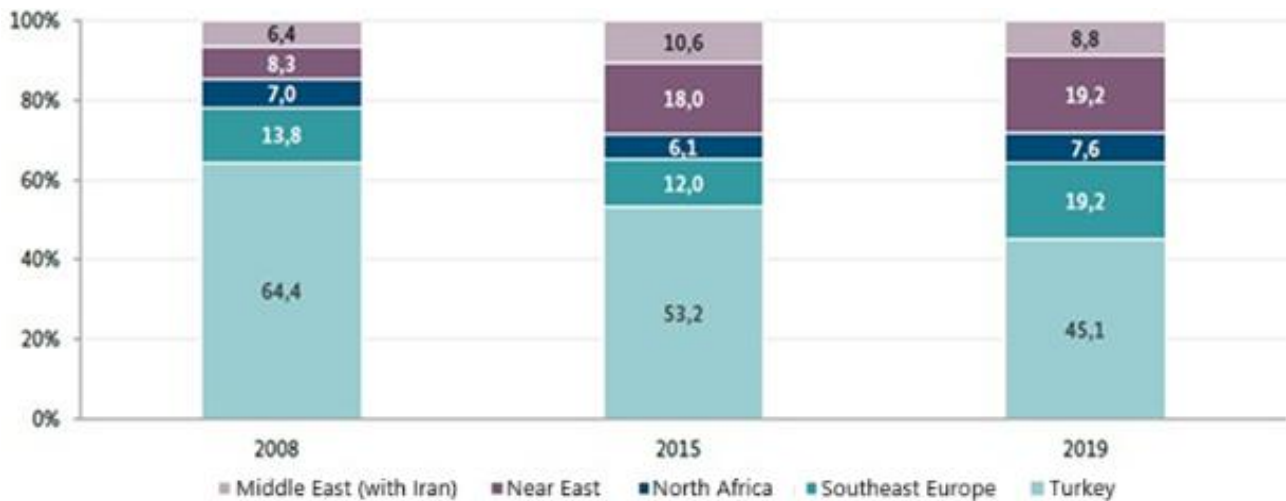


Figure 1.1. (Pfündel, Sticks, & Tanis, 2021, p. 44, Figure 2-5). Countries of origin of the Muslim population in Germany in 2008, 2015 and 2019 (in percent and mean value).

In 2019, 35.6% of Muslims are originally from an Arabic-speaking countries in the Near East (19.2%; Iraq, Yemen, Jordan, Lebanon, Saudi Arabia, Syria, United Arab Emirates), in the Middle East (8.8%; Afghanistan, Bangladesh, Iran, Pakistan), or in North Africa (7.6%; Egypt, Algeria, Libya, Morocco, Tunisia). Another 19.2% is originally from countries of the former Yugoslavia in South-eastern Europe (Albania, Bosnia-Herzegovina, Kosovo, Montenegro, North Macedonia, Serbia).

In terms of schools of Islam, Figure 1.2 illustrates how the representation of Islamic Faiths (Schimmel, 1992) observes an opposite homogeneous tendency. The largest group of Sunni believers represents a share of 73.7%, 7.9% belong to Alevism (almost all from Turkey), and 4% are Shi'ites. Ahmadis (a minority Muslim community from Pakistan) and other denominations each account for one percent.

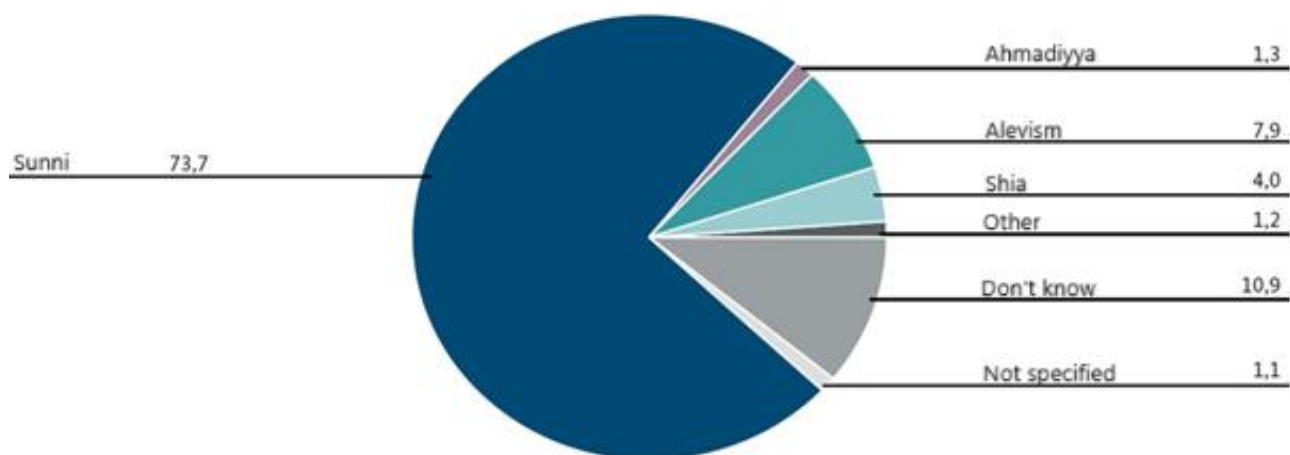


Figure 1.2. (Pfündel, Stichs, & Tanis, 2021, p. 47, Figure 2-7). Islamic Faiths of the Muslim population in Germany in 2020 (in percent and mean value).

With such a diverse Muslim community, Germany is home to approximately 2,800 mosques and masjids (houses of prayer). Beyond their religious functions, these religious places act as cultural hubs where community members gather for educational programs, social events, and cultural celebrations. They offer language classes, legal aid, and counselling services, playing a crucial role in the social integration of Muslims into German society (Yükleyen, 2012).

1.2. The Relevance for Looking at Muslim Adolescents

The now 60-year history of Muslim immigration has altered the demographic makeup, where Muslim immigrants and their children constitute a non-neglectable part of the German population (Alba & Foner, 2015). This large immigrant group has continued to produce scholarly attention, specifically focused on the integration trajectories of Muslim youth (Drouhot, 2021; Drouhot & Nee, 2019; Voas & Fleischmann, 2012). Since religion is often of profound importance to young Muslim immigrants (e.g., Jacob & Kalter, 2013), understanding the driving forces of their processes of integration is indispensable for at least five reasons.

First, Islam is the fastest growing non-Christian religion in Western European countries, with roughly about 4.9% of the European population being Muslim in 2016 (Pew Research Center, 2017). According to some predictions, this population share of Muslims is expected to rapidly increase within

the next decades. Figure 1.3 provides the predicted percentages of Muslims in Western Europe by 2050, according to three scenarios that vary depending on three different levels of future migration: Zero, medium, and high.

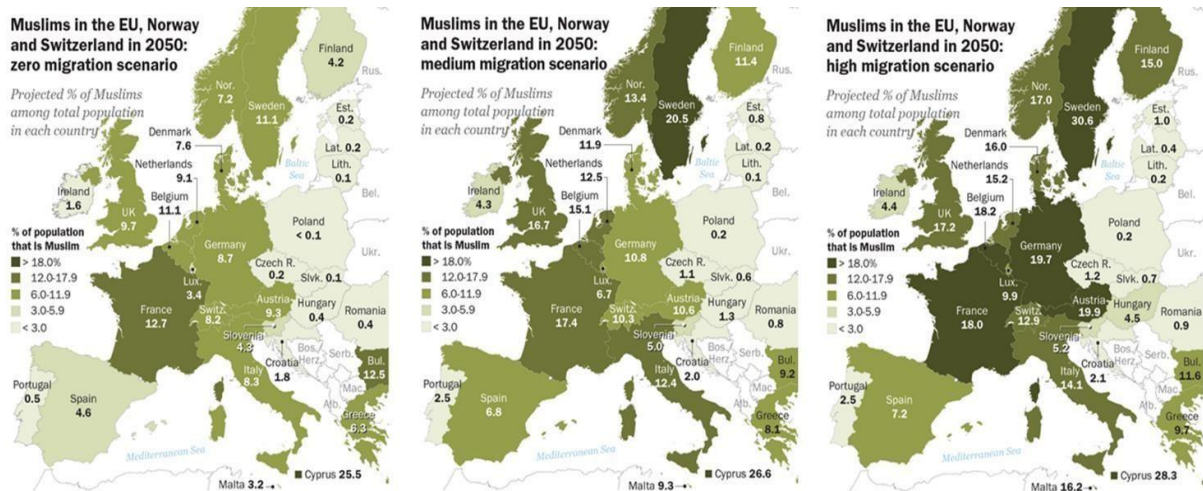


Figure 1.3. Predicted Muslim population growth in Western Europe by the year 2050. (Source: Pew Research Center, 2017).

According to these previsions, by 2050, Germany will report a percentage of the entire population being Muslim between 8.7 (in the “zero migration scenario”) and 19.7 (in the “high migration scenario”).

Second, given the rising prevalence of strong stigmas and prejudice against Muslims, which are widespread among a considerable degree of Western Europeans (e.g., Strabac, Aalberg, & Valenta, 2014), Islam often establishes a clear boundary between the Christian or secular majority and the Muslim minority populations (Alba, 2005). Muslims are also likely to be perceived more negatively than other immigrant groups (Helbling & Traunmüller, 2020). The prevalent negative public and political discourses in the western media (Ahmed & Matthes, 2017) repeatedly frame Muslim immigrants as reluctant to integrate and accuse them of creating and living in parallel societies (Foner, 2015; Norris & Inglehart, 2012). For example, following high-impact events such as terrorist attacks by Islamic extremists, right-wing leading politicians have frequently promoted the idea of insurmountable cultural differences, stigmatizing Muslims as the prototypical “Other” and

Islam as a “backward religion” that seriously threatens society (e.g., Verkuyten and Yildiz, 2007). This representation exists not only in public debates but also in the minds of everyday people who often categorize all Muslims to be “radical Islamists and Terrorists” (Helbling, 2014). This distinction as “Other” takes some of the fuel from the belief that Islam supposedly clashes with key Western European *modus vivendi*, since it involves clearly delineated rules of conduct, including those related to eating practices, dress code, and rituals (Koopmans, 2015). Prominent examples are gender roles, the wearing of a *hijab*, and the building of Islamic mosques, all of which are regularly said to conflict with the contemporary Western European way of life (see also Hansen, 2011). In Germany, empirical evidence demonstrates that such anti-Muslim attitudes are also embraced by non-Muslim adolescents and therefore lead young Muslims to experience hostile school environments (Simsek, van Tubergen, & Fleischmann, 2022; Kretschmer & Leszczensky, 2022).

Third, the need to understand the role of Islam in immigrants’ integration is further amplified by the strength of religiosity which vastly differs between Muslims and non-Muslims (Voas & Fleischmann, 2012). While Western European populations are characterized by a dominant secular ideology and low levels of religious participation (Voas, 2009), some groups of immigrants affiliating with Islam tend to be more religious than non-Muslim immigrants, reporting the sacred belief system and the profound significance of the membership with Islam to be a salient component of their social identity (Van Tubergen & Sindradóttir, 2011; Ysseldyk, Matheson, & Anisman, 2010). This pattern of relatively high religiosity also applies to their children and, for some communities, is remarkably stable across generations (Guveli & Platt, 2023; Simsek, Fleischmann, & van Tubergen, 2019; Soehl, 2017; Jacob & Kalter, 2013). Moreover, for a significant share of Western Muslim youth, religion is a more important source of identity than ethnicity (Platt, 2016), probably because their racial, ethnic, and national identities are more difficult to claim in an authentic way (Chen, 2008). Yet, many of them are even more devoted than their parents, experiencing a sort of religious revival (Guveli & Platt, 2023; Jacob & Kalter, 2013).

Fourth, immigrants’ Muslim identity can potentially affect various *dimensions* of

integration through several mechanisms of social closure simultaneously at work (Beek & Fleischmann, 2020). Restricted *structural integration* results in reduced educational achievement (Ohlendorf, Koenig, & Diehl, 2017) and attainment (Fleischmann & Phalet, 2012), and limited labor market performance (Roth, 2020; Connor & Koenig, 2015). Similarly, some scholars argue that affiliating with Islam in some communities affects *cultural integration*, regarding more conservative sexual orientation (Kogan & Weißmann, 2020), gender role attitudes (Glas, 2023; Maliepaard & Alba, 2016), and worse host-language proficiency (Güveli & Platt, 2011). Sociocultural distance can also hamper *social integration* into interreligious social networks (Kretschmer & Leszczensky, 2022; Leszczensky & Pink, 2017) and interreligious marriages (Carol, 2016). Additionally, several studies find that Muslim religious commitment eventually influences the strength of Muslim immigrants' *emotional integration* through lower levels of national identification with their European country of settlement (Leszczensky, Maxwell, & Bleich, 2020; Fleischmann & Phalet, 2018; Maliepaard & Verkuyten, 2018; Verkuyten & Yildiz 2007) and shortened civic engagement (McAndrew & Voas, 2014).

Fifth, understanding what drives the integration of Muslim immigrants is particularly important in early adolescence. Advances in emotional maturity and brain development make adolescence a cognitive developmental period where religion becomes a salient *identity maker* and *marker* (Umaña-Taylor et al., 2014). Due to increasing social knowledge in many domains, during this life stage young Muslims become able to negotiate and explore the processes of integration in greater depth (Umaña-Taylor et al., 2016). Moreover, their emerging levels of integration are quite stable and likely to have a lasting impact on a series of self-reinforcing and cumulative socioeconomic conditions (Foner & Alba, 2018; Alba & Foner, 2015; Foner & Alba, 2008).

Therefore, the growing focus of scholars on Muslim immigrant youth and the factors influencing their integration processes is comprehensible. The next section introduces *Social Identity Theory* (Tajfel & Turner, 1979) and *Attribution Theory* (Heider, 1958). These theories help explain the emergence of the religious divide between Muslim and non-Muslim youth in Western Europe,

and how negative relationships might increase their perception of salient religious boundaries, thereby reducing their integration consequently.

1.3. Ingroup and Outgroup Biases

Social Identity Theory originally formulated by Tajfel and Turner (1979), maintains that an individual's self-concept is significantly shaped by their membership in social groups. The theory emphasizes the importance of social identity, which arises from an individual's awareness of belonging to a particular group and the emotional significance attached to that membership. Central to *Social Identity Theory* is the idea that individuals derive self-esteem not only from their personal identity but also from their group identity. This results in a cognitive shift where the individual begins to think in terms of "we" rather than "I", merging their identity with that of the group (Ellemers, Kortekaas, & Ouwerkerk, 1999). A critical implication of this theory is the tendency for individuals to exhibit ingroup favoritism, i.e., evaluating their own group more positively than outgroups to maintain or enhance their self-esteem (Brown, 2000). This favoritism can lead to social divisions, where individuals prefer to associate with those within their own group. The division between "us" and "them" often reinforces the creation of group boundaries, perpetuating segregation and ingroup biases in various positive social evaluations (Turner & Reynolds, 2003).

Attribution Theory, developed by Heider (1958) and further expanded by Fiske and Taylor (1991), aligns with the principles of *Social Identity Theory*, by explaining how individuals interpret and associate the causes of behavior, both their own and others'. The theory suggests that people attribute behaviors to either internal factors, such as personal traits and intentions, or external factors, like situational influences. This process is closely tied to self-esteem, as individuals tend to engage in self-serving biases, attributing successes to internal factors while blaming failures on external circumstances (Larson, 1977; Kelley, 1967). This bias extends to group dynamics, where ingroup members' positive behaviors are often attributed to their inherent qualities, while their negative behaviors are dismissed as situationally induced. Conversely, outgroup members' negative behaviors are more likely to be seen as a reflection of their character, while

positive actions are attributed to external factors (Miller & Ross, 1975). These outgroup biases in negative attributions serve to maintain a positive image of the ingroup and, consequently, high self-esteem for its members. The tendency to attribute negative traits to outgroups can lead to strained intergroup relations and reinforce stereotypes, particularly in contexts where group identities are highly salient, such as religious or ethnic divides (Kenworthy & Miller, 2002; Taylor & Jaggi, 1974).

1.4. Integrating Structural Balance Theory with Social Identity Theory

Other micro-level mechanisms might provide successful information exchanges which might have broad influence effects for how positive and negative ties coevolve and create macro-level structures. Indeed, such ties are not formed in isolation, but rather are embedded in triadic network processes, in which three people in a network are connected with each other (Rambaran et al., 2015). Particularly, a network configuration where pupils have outgoing friendship ties, and the recipients of those ties also have outgoing ties to third persons, can be relevant as contagion or diffusion effect (Valente & Vega Yon, 2020). Indeed, friendships arguably give rise to flow-type processes that transfer information about the ties friends have to third persons (Galvan, Spatzier, & Juvonen, 2011). Conversely, dislike or bullying ties are likely to generate avoidance, which is very similar to not being connected at all (Harrigan & Yap, 2017).

Regarding positive and negative relationship experiences, applying Heider's ideas of balance (Heider, 1946) to co-evolving positive and negative networks (i.e., signed networks), *Structural Balance Theory* (Cartwright & Harary, 1956; Hummon & Doreian, 2003) explains how students can adjust their opinions and behaviors by hearing and trusting friends' views. This theory assumes a tendency to adjust positive and negative ties to avoid cognitive dissonance and to achieve structural balance in triadic relationships, i.e., relationship structures consisting of three people. Hence, it explains how the need of balanced relations directly changes the valence of positive and negative relationships in established triads, so that the multiplication of signs turns positive. Therefore, while balanced triads tend to be stable, imbalanced triads generate relational tensions which activate

network mechanisms to reduce them (Rawlings & Friedkin, 2017). Over time, the dynamic interplay of “triadic closure” endogenous and “triadic balance” structural mechanisms harmoniously forms balanced triads, which progressively become more frequent and persistent than imbalanced ones.

In a school environment, such endogenous and structural mechanisms might guide students to align friendship and dislike ties toward friends’ relations (Stark, 2015; Rambaran et al., 2015). According to *Social Identity Theory*, religious identity might better explicate how youth construct these triadic dynamics, as religious membership should result in favouring opinions of ingroup over outgroup members (Brown, 2000). Particularly, when the third person belongs to the outgroup, individuals should position themselves and rely more on the opinions of friends who belong to the same group (Stark, 2020). Given Muslim and non-Muslim children build a sense of identity around salient ingroup-outgroup relational distinction (Drouhot & Nee, 2019), they might primarily hear fellow ingroup, rather than outgroup, friends and, specially, learn from the first-hand experiences those friends have with outgroup pupils (Bracegirdle et al., 2022). In this case, religious homophily might provide information which is perceived as particularly credible and trustworthy in creating, maintaining, or dissolving interreligious friendship and dislike ties.¹

1.5. Identity Formation and Religious Boundaries between Muslim and non-Muslim Students

As a result of migration in the past decades, adolescents in Western societies increasingly attend ethnically and religiously diverse schools (Voas and Fleischmann, 2012). Although other contexts such as home (e.g., Soehl, 2017) or neighborhood (e.g., Kretschmer and Kruse, 2020) environments are clearly relevant as well, pupils spend a significant amount of their time in schools

¹ While the original aim of this Doctoral Dissertation was to explore hypotheses derived from this theoretical framework—particularly to test the influence of in-group friends in shaping the social divide between Muslim and non-Muslim pupils—attempts to model these dynamics encountered methodological challenges. Specifically, introducing lower-order and higher-order monadic covariate triadic effects (Ripley et al., 2024, pp. 181–191) in SAOMs, designed to examine the co-evolution of friendship and dislike networks over time, resulted in repeated non-converged estimations and severe multicollinearity issues. These complications ultimately rendered such tests unfeasible.

interacting with peers who hold different religious norms, attitudes, and beliefs. In this regard, schools, wherein lasting socialization processes are generated (Coleman, 1994), arguably represent an important setting to study the integration paths of Muslim and non-Muslim youth (Verkuyten, 2016). Within a school context, because of the strong stigmas and prejudice against Muslims which are widespread among a considerable degree of Europeans (Helbling, 2014), Islam provides an important classificatory difference that draws a powerful social cue for marking and making identity along *religious boundaries* (Verkuyten and Yildiz, 2007; Alba, 2005).

However, the nature of such *religious boundaries* is dynamically disclosed as the outcome of daily social interactions within or between group members (Wimmer, 2008). It does not appear objective and consistently applied in every situation, but rather subjective and contextualized, either *bright* or *blurred* (Alba, 2005). Consequently, the social-psychological mechanisms underlying the formation of religious identification dynamics and the extent to which students clearly perceive as belonging to a particular religious group might also vary (Alba, 2005). Depending on this perception pupils face different pressures to develop group-level responses and to gather around their faith (Verkuyten & Yildiz, 2007). In other words, the *brighter religious boundaries* are perceived to be, the more Muslim and non-Muslim students should be motivated to engage in exclusive collective action, through mechanisms of social closure among significant others who follow the same beliefs and norms (Need & De Graaf, 1996; Te Grotenhuis & Scheepers, 2001). By contrast, *blurred religious boundaries* evoke more ambiguous religious group memberships. In this case, a derived sense of fuzzy intergroup differentiation is then likely to establish an inclusive perception of compatibility between Islamic and Western values (Phalet et al., 2013).

This theoretical reasoning suggests that interreligious negative relationships, such as dislike and bullying, might be meaningful in explaining the observed salient social distinction between Muslim and non-Muslim pupils which recent empirical research has repeatedly found in Western European and German schools (Kretschmer & Leszczensky, 2022; Simsek, van Tubergen, & Fleischmann, 2022; Leszczensky & Pink, 2017; Windzio & Wingens, 2014).

1.6. Positive and Negative Ties: Friendship, Dislike, and Bullying

Friendship is a significant aspect of adolescent development, particularly within the school context. It is characterized by a positive affective connection, marked by mutual liking, acceptance, and favorable attitudes towards one another. This bond manifests through behaviors such as self-disclosure, intimacy, spending time together, offering support, and fostering trust (Turner, 1991; Fischer, 1982). The formation of friendships is influenced by individual attributes, especially visible or identity-related characteristics, which play a crucial role in establishing and maintaining these connections (de Klepper et al., 2017). Positive affect-based relationships like friendships contrast with negative relational cognitions such as dislike, which involve adverse emotional evaluations and attitudes toward others (Card & Hodges, 2007; Buhs et al., 2006).

According to Allport's *Intergroup Contact Theory* (1954) and subsequent research (Pettigrew & Tropp, 2006), positive interactions between members of different groups can effectively reduce prejudice and improve intergroup relations. This theory suggests that for contact to diminish biases, it must include an affective component, with friendships being particularly powerful due to their strong emotional ties. Positive affect-based relationships foster openness to diverse ideas, values, and behaviors (Meeussen et al., 2018; Mercken et al., 2009), while also promoting empathy and perspective-taking, which help to counteract negative stereotypes (Hewstone & Swart, 2011; Turner, Hewstone, & Voci, 2007). Then, interreligious friendships between Muslim and non-Muslim students can challenge negative preconceptions, leading to greater appreciation of cultural diversity and reducing intergroup tensions (Hodson et al., 2018; Brown et al., 2000).

Negative ties in social networks encompass harmful relations which are generally detrimental to individuals and groups (Offer, 2021). Although theoretical arguments and empirical evidence suggest that negative ties might have a more profound and lasting impact than positive ones due to greater arousal and cognitive processing (Labianca & Brass, 2006), research in this area remains limited (Everett & Borgatti, 2014). This scarcity is attributed to difficulties in data collection and the

absence of a coherent framework for studying negative ties (Agneessens & Labianca, 2022). Unlike positive ties, negative ties involve distinct emotional, behavioral, cognitive, and role-related dimensions, necessitating unique analytical approaches (Agneessens, 2023).

Dislike, defined as negative feelings and attitudes toward another person, represents a significant type of negative relational tie, particularly in childhood and adolescent social networks (Buhs et al., 2006). Dislike ties are linked to various adverse outcomes, including social rejection, low academic performance, and mental health issues (Card, 2010). These relationships can be classified as relational cognitions characterized by negative emotions, cognitive judgments, or behavioral intentions directed toward others, often due to persistent aversive interactions (Parkhurst & Asher, 1992). Unlike positive ties, dislike network typically reflects a complexity of nonreciprocal and unbalanced interactions, where negative sentiments outweigh positive ones, possibly leading to noncooperative behaviors and the absence of resource sharing or support (Harrigan & Yap, 2017). This dynamic can significantly influence social behavior within groups, as children and adolescents avoid or bully those they dislike (Kisfalusi et al., 2022; Buhs et al., 2006), which can lead to enduring and pervasive consequences.

School bullying is characterized by aggressive, intentional, and repetitive behaviors aimed at harming peers (Volk, Dane, & Marini, 2014; Olweus, 1994). Bullying takes place in and around school settings, especially in the classroom context and where adult supervision is minimal (Wolke et al., 2001). Bullying can manifest in various forms, including physical (hitting, kicking), verbal (insults, name-calling), material (theft, property damage), relational (exclusion, gossiping), and cyberbullying (through digital platforms) (Salmivalli & Pöyhönen, 2012; Card et al., 2008; Björkqvist et al., 1992). A growing empirical literature has documented four main categories of dire consequences of bullying victimization during adolescence: 1) psychosocial, 2) physical health, 3) risk behavior, and 4) school-related consequences. Bullied students experience many negative psychosocial outcomes, such as increased anxiety (Craig, 1998), depression (Seals & Young, 2003), lower self-esteem (Esbensen & Carson, 2009), and self-injurious behavior (Claes et al., 2015).

Examples of negative physical health outcomes linked to bullying victimization include headache (Due et al., 2005), feeling dizzy (Natvig, Albrektsen, & Qvarnstrøm, 2001), abdominal pain (Fekkes et al., 2004), bedwetting (Fekkes et al., 2006), and poor appetite (Wolke et al., 2001). Bullying victimization is also associated with engagement in several types of risk behavior, such as substance and alcohol use (Tharp-Taylor, Haviland, & D'Amico, 2009). Finally, poorer school-related outcomes among bullied young people entail more frequent school absences (Woods & Wolke, 2004), higher rates of suspensions (Gastic, 2008), and lower academic achievement (Juvonen, Wang, & Espinoza, 2011). Despite the serious consequences, teachers are often unaware of bullying incidents, while peers, although present, rarely intervene (Atlas & Pepler, 1998). Given the extensive negative impact of bullying, especially in school settings where it is most prevalent, there is a pressing need for understanding and addressing this behavior (Salmivalli, Kärnä, & Poskiparta, 2012).

1.7. Interreligious Negative Ties Between Muslim and Non-Muslim Youth

Given the empirical support for a prevalence of interreligious negative attitudes (Verkuyten and Thijs, 2010) and unfavorable relationships (Simsek, van Tubergen, & Fleischmann, 2022) among Muslim and non-Muslim Western European adolescents, it is reasonable to argue that most of the negative ties between members of these religious groups might be perceived as based on religious grounds (e.g., Sapouna et al., 2023; Schihalejev et al., 2020; Pan & Spittal, 2013; Eslea & Mukhtar, 2000). For example, when Muslim students wear religious symbols, engaging in prayer, or observe distinct drinking and eating cultures, this might create an opportunity for religiously motivated negative ties by the non-Muslim peers. At the same time, non-Muslim students who openly challenge or disregard these religious practices, such as by making derogatory comments about religious symbols, questioning Islamic practices, or promoting behaviors that conflict with Islamic values, might activate negative ties from their Muslim peers, who might perceive these actions as attacks on their religious identity and values.

Following the logic of *Social Identity Theory*, interreligious negative ties can generate an

identity threat, leading to a process of social categorization between “us” and “them” in daily school interactions and activities (Phalet et al., 2013). From a boundary-making framework perspective (Wimmer, 2013, 2008), this theoretical argument suggests that such negative ties might accentuate the salience of already existing religious boundaries. Consequently, the distinctiveness of group memberships becomes more pronounced, resulting in higher attraction to the ingroup and greater rejection of the outgroup. An increased commitment to one's ingroup can potentially influence the individual strategies of Muslim and non-Muslim youth regarding various dimensions of integration (Fleischmann, 2022; Phalet, Fleischmann, & Hillekens, 2018).

Previous research on Western European youth indicates that Muslims are disadvantaged compared to non-Muslims in many domains and that a religious divide exists between these two groups (Drouhot & Nee, 2019). However, prior studies do not provide answers on *whether* and *how* interreligious negative ties affect their integration dynamics, failing to fully capture how interreligious interactions—both positive and negative—shape integration patterns. Understanding the integration dynamics of Muslim and non-Muslim youth in Western European societies requires a nuanced approach that captures both micro-level interaction mechanisms and macro-level societal structures.

This Doctoral Dissertation addresses this critical gap by systematically integrating both positive and negative network dynamics, an approach that has been repeatedly emphasized but rarely implemented (Stadtfeld, Takács, & Vörös, 2020). Leveraging empirical social network data analysis and Stochastic Actor-Oriented Models (SAOMs), it examines the co-evolution of friendships and negative ties, providing a more accurate depiction of how religious segregation and intergroup dynamics unfold in school settings. By filling this gap, this methodological approach enables the identification of causal mechanisms underlying homophilous friendship selection, interreligious disliking behaviors, and bridge individual micro-level social interactions with broader students' macro-level positive and negative networks. Applying this insight to religious integration, focusing on early adolescents in Germany, this Doctoral Dissertation thus explores three general research questions regarding the *antecedents* and *consequences* of interreligious negative ties for the

integration processes of Muslim and non-Muslim youth.

1.8. Research Questions and Three Related Studies

Here are three pressing research questions that form the basis for three distinct but related studies.

Even in diverse schools that provide opportunities for interreligious friendships, previous research has found a Muslim and non-Muslim students' tendency to be friends with same-religion rather than different-religion peers (Simsek, van Tubergen, & Fleischmann, 2022; Leszczensky & Pink, 2017). This general preference of religious friendship segregation, i.e., *religious homophily*, does not appear to be related to Muslim students' individual level of religiosity (Leszczensky & Pink, 2020). Nevertheless, friendship formation should not be considered in a social *vacuum*, but embedded in broader group dynamics, where dislike relationships between Muslims and non-Muslims might contribute to such *religious homophily* (Stadtfeld, Takács, & Vörös, 2020). Therefore, related to a *social dimension* of integration, the first research question investigates whether and how Muslim and non-Muslim students' propensity to form homophilous friendship ties and to dislike dissimilar others might be impacted by their prior interreligious connections. The first research question is:

Research Question 1: Do existing friendship and dislike ties impact future friendship and dislike networks among Muslim and non-Muslim students?

The second Study explores Islamic affiliation and gender differences in dislike ties. Then, it focuses on dislike networks as the dependent variable and examines whether *religion* might be a relevant factor in Muslim and non-Muslim students' dislike behaviors, particularly their diverse tendencies towards intra- and interreligious dislike. Furthermore, consistent with recent findings linking religious friendship homophily to Muslim girls' gender identity development (Kretschmer, Lämmermann, & Leszczensky, 2024; Kretschmer & Leszczensky, 2023, 2022), the second study

addresses the question of whether and how *gender* moderate such intra- and interreligious dislike. Therefore, the second research question is:

Research Question 2: What is the relevance of Islam for the disliking behavior and do gender differences moderate interreligious dislike between Muslim and non-Muslim students?

Previous research has shown that bullying impacts the academic achievement of victims (e.g., Juvonen et al., 2011). However, there might also be reverse causality, meaning that the causal relationship between bullying and academic achievement could also operate in the opposite direction: Academic achievement might be a basis for being bullied (e.g., Glew et al., 2005). Thus, the first aim of the third Study is to explore how bullying at a specific time point is related to a victim's academic achievement at a later time point. Additionally, this study aims to investigate whether (1) bullying behavior between students of different religious backgrounds is more detrimental to its victims' academic achievement than when it occurs between students of the same religion, and in particular, (2) when it occurs between Muslim and non-Muslim students. Hence, by adopting a network perspective and focusing on "who-is-bullying-whom" (Tolsma et al., 2013), addressing the effect of interreligious bullying on Muslim and non-Muslim victims' *structural dimension* of integration, i.e., their academic achievement, is the goal of the third research question:

Research Question 3: How does interreligious school bullying at a specific time point impact the academic achievement of Muslim and non-Muslim victims at a later time point?

The following three chapters attempt to answer the three research questions posed above. The final chapter summarizes the main results and discusses their implications.

Chapter 2. Mechanisms reinforcing and countering religious segregation in schools: How existing friendship and dislike ties impact friendship homophily and dislike heterophily among Muslim and non-Muslim students in Germany.²

Abstract

Homophily is an important social force in many social networks. This paper explores how the homophilous tendencies in friendship and the heterophilous tendencies in dislike networks help explain the segregation between non-Muslim and Muslim students in schools. We specifically focus on how an individual's overall propensity to form homophilous friendship ties and to dislike dissimilar others might be impacted by their prior positive or negative connections with outgroup members. We argue that if students already hold positive connections with the outgroup, this will reduce their inclination to dislike outgroup members and increase their chances of having outgroup friendships. On the other hand, existing negative connections with the outgroup are likely to foster more negative stereotypes about outgroup members, thereby amplifying the tendency for heterophily in the dislike network and increasing the preference for ingroup friendship. To test these hypotheses, we analyze the friendship and dislike networks among 1,678 Muslim and non-Muslim students (FIS data) across 17 different German school settings, where this religious divide was found to be particularly relevant. Results from Stochastic Actor-Oriented Models (SAOMs) indicate that students with more prior interreligious dislike ties have a higher tendency for heterophily in the dislike network, but this does not affect their tendency for homophily in friendship choices. At the same time, we found that prior interreligious friendships had a marginally significant effect in reducing a pupil's tendency for heterophily in the dislike network but did not impact their inclination for homophily in the friendship network. These insights suggest that existing positive and negative outgroup ties can both strengthen and weaken religious segregation in schools.

² I am currently preparing a slightly different version of this chapter, together with Filip Agneessens, for submission to a peer-reviewed journal.

2.1. Introduction

Adolescents spend a significant portion of their formative years at school, a setting where the social relations they forge with peers play a pivotal role in shaping their identity (Kornienko & Rivas-Drake, 2022). These contacts have also been shown to be associated with a wide range of outcomes including well-being (Benner et al., 2018), mental health (Mood et al., 2016), educational expectations (Lorenz et al., 2021) and academic achievement (Wölfer et al., 2019). As a result, scholars and practitioners have paid extensive attention to understanding the emergence and the network structure of various social relations in schools and school classes, including friendships (Leszczensky & Kretschmer, 2022) and romantic relationships (Van Zantvliet et al., 2020), but also various types of negative ties, such as avoidance (Simsek, van Tubergen, & Fleischmann, 2022), social exclusion (Plenty & Jonsson, 2017), dislike and physical violence (Wittek, Kroneberg, & Lämmermann, 2020), antipathy and aggression (Kros, Jaspers, & van Zalk, 2021), and bullying (Hooijsma et al., 2020).

Friendship with peers has been found to play a particularly important role in adolescence. Beyond their interactions with immediate family, these relationships are among the most important that adolescents maintain during this period of their life (Kitts & Leal, 2022). Friendship encompasses a range of aspects, including having positive feelings towards each other, spending a significant amount of time together, maintaining a certain level of closeness, trust and openness in sharing personal information, and providing support and help to one another (Turner, 1991; Fischer, 1982).

Given the importance of such social contacts, one particularly concerning finding is that friendship networks in many schools exhibit significant levels of segregation (Stadtfeld, Takács, & Vörös, 2020), which often reflects social divides among students based on characteristics such as ethnicity (Boda & Néray, 2015; Leszczensky & Pink, 2015) and religion (Windzio & Wingens, 2014; Cheadle & Schwadel, 2012). Recent studies have found evidence for an important division between

Muslim and non-Muslim in schools in both the United States (Bozorgmehr & Ketcham, 2018) and many Western European countries (Simsek, van Tubergen, & Fleischmann, 2022). Homophily, the tendency of individuals to form connections with others who are similar to themselves (McPherson, Smith-Lovin, & Cook, 2001), is often put forward as a core micro-level force driving this “key relational divide” between young Muslims and non-Muslims pupils (Drouhot & Nee, 2019; Leszczensky & Pink, 2020). There is overwhelming empirical evidence indicating that students tend to develop friendships with peers who are similar to themselves on salient characteristics. Factors such as gender, age, socio-economic status and educational level of parents, music taste, ethnicity, and religion all have been found to relate to the decision of forming friendship connections (Cook, Schwadel, & Cheadle, 2017; Friemel, 2012; Wimmer & Lewis 2010; Mouw & Entwisle 2006; Moody 2001).

While there exists overwhelming evidence that students exhibit homophilous inclinations in friendship (Jugert & Leszczensky, 2023), another potential source of division between social categories involves negative relationships emerging in school settings, such as dislike, bullying, and rejection. In general, results regarding the relevance of specific social categories in negative ties have been inconsistent. Some studies find evidence for a tendency to form negative relationships with those who are dissimilar (e.g., Rubineau, Lim, Neblo, 2019), while others find no such effect (e.g., Toroslu & Jaspers 2022). In a school context, existing research provides only partial evidence that negative relationships tend to emerge between students from different social categories (Boda, Néray, & Snijders, 2020; Harrigan & Yap, 2017; Boda & Néray, 2015).³ The tendency of having negative ties with dissimilar peers could be considered the opposite of homophily and, therefore, might be labeled “heterophily”. However, when dealing with negative ties (Agneessens, 2023; Harrigan et al., 2020), more precise terms to call this tendency are “heterophobia” (e.g., Wittek, Kroneberg, Lämmermann, 2020) or heteromisos (Kros, Jaspers, & van Zalk, 2021), because negative ties generally evoke “fear”

³ These inconsistencies might partly be due to different studies considering different types of negative relationships. For example, avoidance might differ significantly from bullying or disliking a person.

(*phobia*) or “dislike”, “antipathy”, “avoidance”, and “hate” (*misos*) rather than “liking” (*philos*) for those who are different. We prefer to use the term heterophily here, as it accurately expresses the preference for forming dislike relations in heterogeneous dyads compared to homogeneous dyads.

While network scholars have extensively studied homophilous tendencies in positive ties and recently explored propensities for heterophily in negative ties (Boda, Néray, & Snijders, 2020; Boda & Néray, 2015), few studies have focused on how such tendencies might be influenced by existing connections. Using a network approach, we develop and test two general arguments about how these tendencies might be strengthened or weakened. On the one hand, we argue that existing positive interreligious interactions might weaken a student’s inclination for religious homophily and heterophily by diminishing negative perceptions of outgroup members and thereby reducing intergroup anxiety over time (Pettigrew & Tropp, 2008, 2006). Drawing on extensive findings that positive contacts with outgroup members foster inclusive attitudes (Pettigrew, 2008), our research explores how interreligious friendships can counteract such social divisions. On the other hand, we propose that existing negative interactions with outgroup members might exacerbate homophilous and heterophilous tendencies, possibly leading to an increase in religious segregation. Understanding the relational mechanisms that might strengthen or weaken “intergroup tensions” can help foster social cohesion.

To test these arguments, we use data capturing the evolution of friendship and disliking relationships among 1,678 Muslim and non-Muslim pupils across 17 grade-level networks (i.e., all pupils in the same academic year). The schools were located in Northwest Germany, a country where Muslims represent between 6.4% and 6.7% of the total population (Pfündel, Sticks, & Tanis, 2021). Affiliation with Islam has been identified as a particularly relevant source of division in several Western European schools, with strong evidence showing the existence of negative feelings between Muslim and non-Muslim students (e.g., Verkuyten & Thijs, 2010). This division is further exacerbated by widespread anti-Muslim attitudes in many West European societies (Simonsen & Bonikowski, 2020). We apply longitudinal statistical analysis for network data, specifically

Stochastic Actor-Oriented Models (SAOMs), to model the coevolution of friendship and dislike ties and to test whether existing interreligious ties contribute to strengthening or weakening the religious divide between Muslim and non-Muslim groups.

By focusing on micro-level processes of homophily and heterophily, our study aims to provide deeper insights into the role of interreligious negative and positive social relationships for the division and cohesion of school networks among Muslim and non-Muslim youth (Snijders & Kalter, 2020). Our results show that such micro-level mechanisms can, respectively, help reinforce and weaken social segregation.

2.2. Theory and Hypotheses

2.2.1. General Homophilous and Heterophilous Tendencies

Individual attributes play a crucial role in network formation. Research has shown that, alongside opportunities and relational mechanisms, people's preference for others who are similar to themselves is a primary driver for many types of social relationships. The tendency of individuals to form connections to those who have similar characteristics, attitudes, values, or behaviors is known as homophily (Wimmer & Lewis, 2010). This idea that "birds of a feather flock together" has been widely studied by network scholars (McPherson et al., 2001), and the general conclusion is that the tendency to connect to similar others is especially strong in social ties which "incorporate" an emotional component, such as friendships (Rivera, Soderstrom, & Uzzi, 2010). In a school context, homophily in friendships has been extensively documented across several social categories (see Jugert & Leszczensky, 2023, for a review).

According to the literature, similarity in characteristics can reduce the cognitive and physical costs associated with developing and maintaining ties, such as friendships (Block & Grund, 2014). It is often easier to understand the reasoning of similar others, which enhances the ability to establish reciprocal expectations and facilitates the coordination of activities (Kossinets & Watts, 2009).

People who share salient characteristics often have common interests, which promotes mutual understanding and provides greater emotional support (Lazarsfeld & Merton, 1954).

One recurring explanation for the prevalence of homophily is that socially constructed categories can create a division between “us” (the ingroup) and “them” (the outgroup), where individuals tend to evaluate their own group more favorably, often at the expense of the other group(s) (Iyengar et al., 2019). According to *Social Identity Theory* (Tajfel & Turner, 1979), one’s social identity arises from the awareness of being part of a broader collection of individuals who share membership of the same social group. Central to *Social Identity Theory* is the idea that individuals derive their basic need for self-esteem not only from feeling good about their personal identity but also from their social identity. This perspective implies thinking in terms of “we” and “us”, leading to a merging of self and group (Ellemers, Kortekaas, & Ouwerkerk, 1999). In essence, *Social Identity Theory* suggests that people tend to make more favorable evaluations of their own group than of other groups (i.e., ingroup favoritism) in order to satisfy their basic psychological need for self-esteem (Turner & Reynolds, 2003; Brown, 2000).

The mechanism by which people form a more positive evaluation of themselves relies on *Attribution Theory* (Heider, 1958; Fiske & Taylor, 1991). This theory posits that to make sense of one’s own behavior and that of others, individuals can attribute it either to internal factors, such as hard work and the desire to do well, meaning the behavior is seen as intentional, or to external factors, such as the context, meaning the behavior is seen as unintentional. Self-serving biases in attributions are a means of protecting and enhancing one’s self-esteem (Larson, 1977). Particularly, individuals tend to cope with failures by attributing their causes to external factors, while taking credit for successes by attributing them to internal characteristics (Kelley, 1967).

Such self-serving attributions can not only be applied to personal actions, but also can help explain the positive attributions for the actions of ingroup members (Taylor & Jaggi, 1974). In line with *Social Identity Theory*, making attributions that favor one’s own group over other groups is a psychological strategy aimed at maintaining a positive perception of the ingroup and, therefore, a

high level of self-esteem. Group-serving biases involve attributing positive behaviors to internal characteristics (e.g., positive values), and negative behaviors to external factors (e.g., unfavorable conditions), while the opposite occurs for outgroup members (Miller & Ross, 1975).

2.2.1.1. Religious Homophily in Friendship Networks

Because behavior of ingroup members is evaluated in a more positive way than that of outgroup members, students in school settings can be expected to favor building more positive ties with their own group members. The consequence is a level of segregation in schools, which mirrors the social categories of the groups.

Here, we specifically focus on the division between Muslim and non-Muslim students, given the empirical relevance found about this “dimension” in both school and society as a whole. In Western European schools, religion has been found to be a particularly important “identity maker”, with a clear separation between Muslims and non-Muslims (Voas & Fleischmann, 2012). Although affiliation with Islam might not be immediately visible to students, practices such as wearing religious symbols (e.g., headscarves), engaging in prayer, or observing distinct drinking and eating restrictions act as significant signals through which Muslim and non-Muslim students might be seen as different from each other. Supporting this, empirical research has found that a considerable proportion of Christian and non-religious students hold negative feelings towards Muslim pupils, while Muslim students tend to express significantly more negative sentiments towards Christians and non-religious peers, than towards members of their own religious group (Verkuyten & Thijs, 2010). This might be further exacerbated by anti-Muslim attitudes in Europe (e.g., Bell, Valenta, & Strabac, 2021).

When it comes to friendship, earlier studies have consistently shown that religion significantly influences the friendship dynamics among Muslim and non-Muslim youth in Western Europe (Simsek, van Tubergen, & Fleischmann, 2022). Specifically, Muslim students often exhibit a preference for friendships with peers of the same religious group, while non-Muslim youth generally express hesitancy in forming friendships with Muslim rather than non-Muslim peers (Kretschmer &

Leszczensky, 2022; Leszczensky & Pink, 2017). These patterns persist across gender (Kretschmer, Lämmermann, & Leszczensky, 2024; Kretschmer & Leszczensky, 2023, 2022), levels of individual religiosity (Leszczensky & Pink, 2017, 2020), and the relative size of the Muslim group within the classroom (Leszczensky & Kretschmer, 2022; Snijders & Kalter, 2020).

Building upon the previous arguments and in line with these earlier empirical findings, our first hypothesis states:

Hyp. 1.1. Both Muslim and non-Muslim students are more likely to form (and maintain) a friendship tie to a student with the same religion (D) compared to forming a friendship tie with a different-religion student (C).

2.2.1.2. Religious Heterophily in Dislike Networks

Previous studies have not only built on *Social Identity Theory* to explain homophily in friendships, but also to support the argument for heterophily tendencies among adolescents in dislike ties (Boda, Néray, & Snijders, 2020; Boda & Néray, 2015). According to *Attribution Theory*, people not only underestimate situational factors and overestimate personal factors when evaluating their ingroup, but they also tend to attribute negative intent to outgroup behavior. When a (perceived) harmful action or unpleasant behavior is committed by an outgroup member, the group boundary becomes cognitively salient (Kenworthy & Miller, 2002). Consequently, such events may be explained through certain stereotyped views (Pettigrew, 1979). For example, behaviors like unfriendly looks, disrespectful treatment, or avoidance by outgroup members might be judged as intentional and attributed to negative, stable traits more readily than if the same behaviors were committed by ingroup members (Ross, 1977). These negative interpretations might be perceived as hostile, leading to negative relations toward outgroup members (Crick & Dodge, 1996) and viewing them as a threat (Kenworthy & Miller, 2002; Campbell & Sedikides, 1999).

In the context of Western European schools, empirical evidence reveals a religious divide between Muslim and non-Muslim youth, characterized by a prevalence of negative views (Verkuyten & Thijs, 2010). These negative views might create a fertile ground for interreligious attribution biases and strained relations between the two groups. Supporting this argument, Simsek, van Tubergen, and Fleischmann (2022) found that Dutch and Swedish Muslim and non-Muslim pupils tend to avoid sitting next to each other. Drawing on *Attribution Theory* and considering the findings that highlight a salient boundary separating Muslims and non-Muslims in Western European societies (Drouhout & Nee, 2019), we formulate the second general hypothesis:

Hyp. 1.2. A Muslim or non-Muslim student (A) is more likely to form (and maintain) a dislike tie to a different-religion student (C), compared to a student with the same religion (D).

2.2.2. Prior Contacts and its Impact on Homophilous and Heterophilous Tendencies

Having argued the general logic for homophily in friendship and heterophily in dislike between Muslim and non-Muslim youth, we now turn to the impact prior contacts might have.

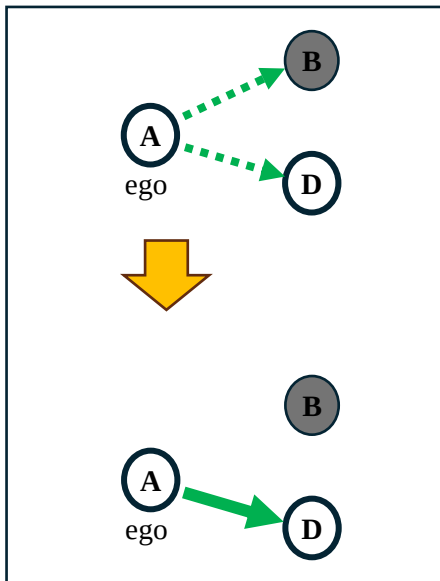
Social Identity Theory postulates that people are inclined to divide between ingroup and outgroup members. According to *Self-Categorization Theory* (Turner et al., 1987), the self-categorization of people into group memberships is inherently grounded in meaningful situations and experiences where individual attributes acquire social relevance. The central insight is that the meaning assigned to self-categories is not externally fixed, but rests on socio-cognitive processes which are deeply variable and fluid, shaped by individual interactions with others (Hornsey, 2008). A self-category becomes cognitively activated (i.e., salient) when individuals, during interpersonal contacts, perceive this social categorization as distinguishing the context into an ingroup (a collection of similar individuals) and outgroups (collections of dissimilar individuals) (Hornsey, 2008). As awareness of group boundaries intensifies, an individual's membership in the ingroup also becomes more salient (Brown & Hewstone, 2005).

These perceptions can aggregate into processes of individual-to-group generalization, where outgroup members are seen as typical representatives of their groups, shaping expectations and attitudes towards other outgroup members (Paolini, Harwood, & Rubin, 2010). Research on stereotype change has shown that students are prone to generalize both positive and negative interactions with individual outgroup classmates to the entire outgroup, influencing their overall evaluation of the outgroup members in terms of interpersonal liking and disliking (Stark, Flache, & Veenstra, 2013). Specifically, positive intergroup contacts tend to reduce anxiety about intergroup interactions, potentially leading to more favorable attitudes and increased contact (Mazziotta et al., 2015). Conversely, negative contacts heighten anxiety and can lead to more negative attitudes and reduced contact. As a result, individuals' histories of both positive and negative intergroup interactions affect categorization processes and can influence future intergroup contacts (Schäfer et al., 2022; Paolini, Harwood, & Rubin, 2014). Based on these findings, we propose four hypotheses about how existing intergroup interactions might strengthen or weaken homophilous and heterophilous tendencies. In the next section we discuss the impact of existing negative intergroup interactions, while in the subsequent section we focus on the influence of existing positive intergroup interactions. The four different hypotheses are illustrated in Figure 2.1.⁴

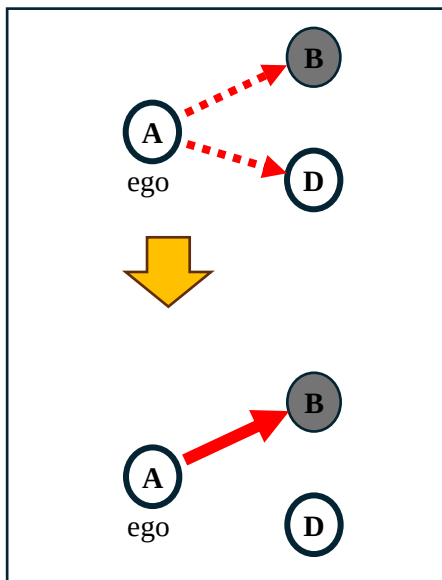
⁴ From a network perspective then, intergroup affective relations among individuals, such as friendship and dislike networks, need to be primarily understood as from an ego to its alters (i.e., outgoing) rather than from these alters to ego (i.e., incoming ties) (Toroslu & Jaspers, 2022). Indeed, those who are the objects of such affective ties might not be aware that such relationships exist and might not respond to them.

Figure 2.1. Overview of hypotheses

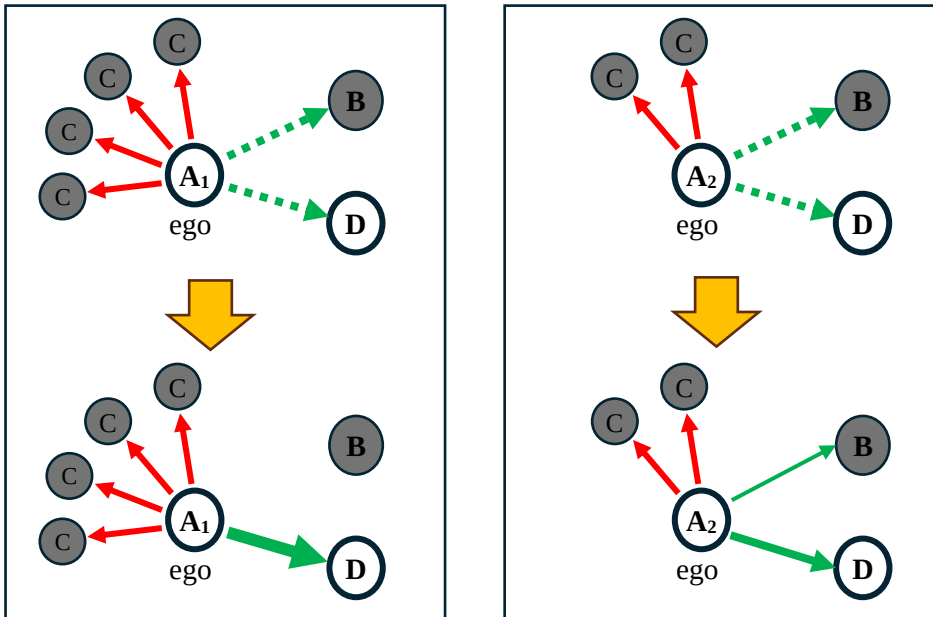
Hypothesis 1.1: An ego (A) is more likely to build (and maintain) a positive tie to an ingroup member (D) than to an outgroup member (B)



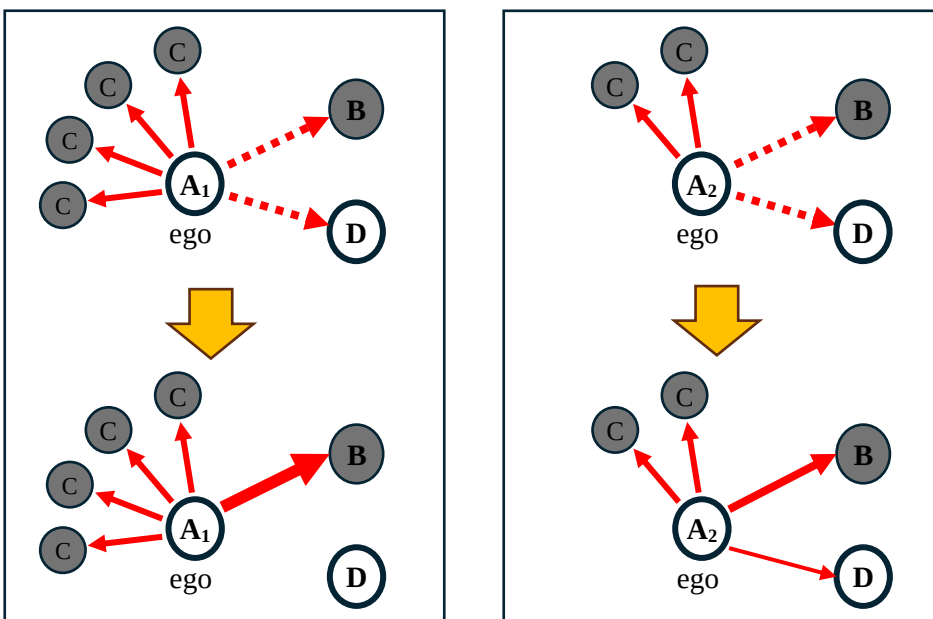
Hypothesis 1.2: An ego (A) is more likely to build (and maintain) a negative tie to an outgroup member (B) than to an ingroup member (D)



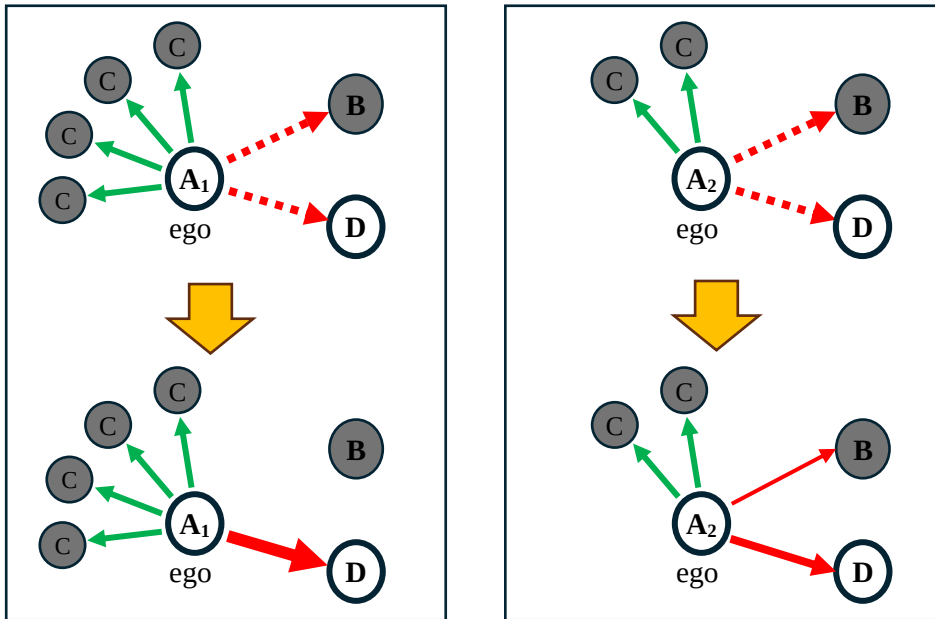
Hypothesis 2.1: An ego (A_1) with a high number of dislike ties to outgroup members (Cs) is more likely to build (and maintain) a positive tie to an ingroup member (D) than to an outgroup member (B), while an ego (A_2) with few dislike ties to outgroup members (Cs) is only a little bit more likely to build (and maintain) a positive tie to an ingroup member (D) than to an outgroup member (B).



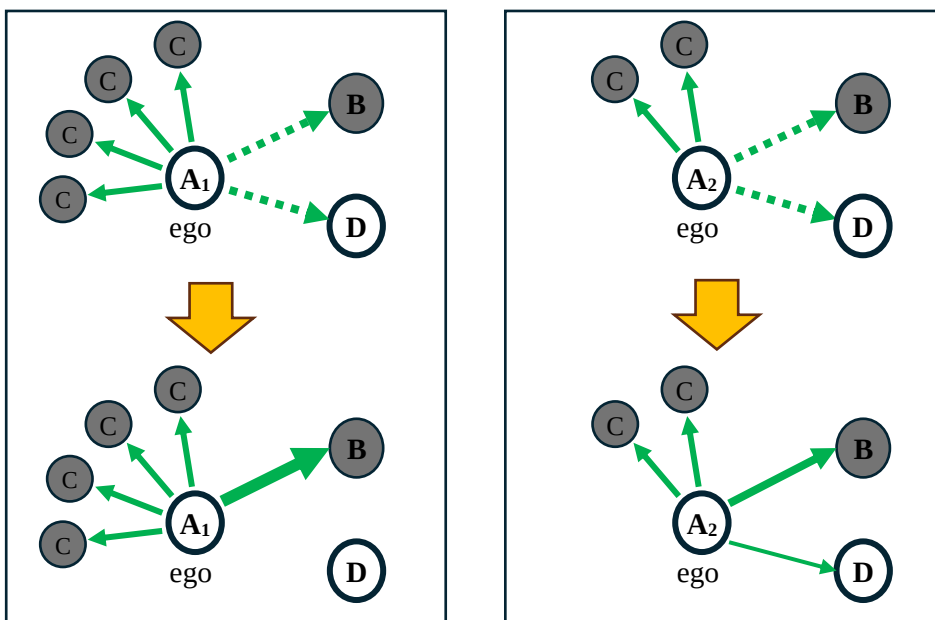
Hypothesis 2.2: An ego (A_1) with a high number of dislike ties to outgroup members (Cs) is more likely to build (and maintain) a negative tie to an outgroup member (B) than to an ingroup member (D), while an ego (A_2) with few dislike ties to outgroup members (Cs) is only a little bit more likely to build (and maintain) a negative tie to an outgroup member (B) than to an ingroup member (D).



Hypothesis 3.1: An ego (A_1) with a high number of friendship ties to outgroup members (Cs) is less likely to build (and maintain) a negative tie to an outgroup member (B) than to an ingroup member (D), while an ego (A_2) with few friendship ties to outgroup members (Cs) is only a little bit less likely to build (and maintain) a negative tie to an outgroup member (B) than to an ingroup member (D).



Hypotheses 3.2: An ego (A_1) with a high number of friendship ties to outgroup members (Cs) is less likely to build (and maintain) a positive tie to an ingroup member (D) than to an outgroup member (B), while an ego (A_2) with few friendship ties to outgroup members (Cs) is only a little bit less likely to build (and maintain) a positive tie to an ingroup member (D) than to an outgroup member (B).



2.2.2.1. Interreligious dislike ties strengthening the interreligious divide

Following the above argument, and in line with the general argument of *Social Identity Theory*, negative prior experiences with outgroup members can be expected to lead individuals to generalize their negative perceptions to the entire outgroup, resulting in broader intergroup prejudice (Techakesari et al., 2015). This generalizing tendency not only evokes repulsion, but also contributes to broader dislike and prejudice towards the outgroup as a whole (Stark, Flache, & Veenstra, 2013). Negative intergroup contact intensifies perception of threat and negative anxiety, thereby reinforcing expectations of negative consequences from intergroup contact and making group membership more salient (Paolini et al., 2014; Paolini, Harwood, & Rubin, 2010). Such negative intergroup ties contribute to increased social distance, with prejudiced individuals often avoiding friendships with outgroup members (Wölfer et al., 2017; Stark, 2015; Binder et al., 2009).

For adolescents in school, if a Muslim or non-Muslim student dislikes an outgroup member, this can result in heightened anxiety about interreligious interactions. This anxiety might reinforce perceptions of rigid group boundaries and foster generalized negative prejudices towards other students from the same outgroup (Vedder, Wenink, & van Geel, 2017). Such biased perceptions are likely to lead the student to actively avoid future interactions with outgroup members (Meleady & Forder, 2019), thereby decreasing the likelihood of maintaining or forming interreligious friendships. This leads us to postulate the following hypothesis:

Hyp. 2.1. The more a Muslim or non-Muslim student (A) has prior interreligious dislike ties with peers of a different religion (Bs), the higher that student's (A) homophilous tendency in the friendship network, i.e., the more likely that student (A) is to form (and maintain) a friendship tie with a same-religion student (C) compared to forming (or maintaining) a friendship tie with a student with a different religion (D).

In addition to reducing heterophilous friendship ties, individual perceptions of interreligious

threat might exacerbate the misinterpretation of outgroup members' behavior as hostile (Campbell & Sedikides, 1999). According to *Attribution Theory*, this can lead to interreligious attribution biases, contributing to the confirmation or development of dislike ties towards additional outgroup members. These negative intergroup dynamics are associated with feelings of intergroup anxiety and unfavorable interactions (Mazziotta et al., 2015). *Integrated Threat Theory* (Stephan & Stephan, 2013) suggests that differences in values and worldviews can be particularly conducive to symbolic threats, creating a perception that one's own identity is under threat. This perception can lead to increased anxiety with the outgroup.

Based on this theoretical reasoning and empirical evidence, we hypothesize that there is a *cascading effect*, whereby Muslim and non-Muslim students with many existing interreligious dislike ties are more likely to build and maintain dislike ties with other different-religion students:

Hyp. 2.2. The more a Muslim or non-Muslim student (A) has prior interreligious dislike ties with peers of a different religion (Bs), the higher that student's (A) heterophilous tendency in the dislike network, i.e., the more likely that student (A) is to form (and maintain) a dislike tie with a different-religion student (C) compared to forming (or maintaining) a friendship tie with a student with the same religion (D).

2.2.2.2. Interreligious friendship ties weakening the interreligious divide

Central to the arguments discussed in *Social Identity Theory* and *Attribution Theory* is the notion that the behavior of outgroup members is often subject to negative stereotyping and is evaluated more negatively compared to the behaviors of ingroup members. This can be partly driven by the principle of “unknown makes unloved” (a literal translation of the Dutch saying: “onbekend is onbemind”), which suggests that people tend to have negative conceptions of things they do not know. In line with the earlier discussed *Self-Categorization Theory*, Allport's *Intergroup Contact Theory* (Allport, 1954; Pettigrew & Tropp, 2006) posits that positive interactions with individual outgroup

members can reduce prejudice toward the outgroup as a whole. The core idea is that such interactions provide insights that challenge and correct negative views about the outgroup.

However, for contact to effectively reduce intergroup biases, the interactions have been argued to require an affective component. Strong positive affect-based contacts, such as friendship or manifestations of liking, are expected to be particularly conducive to more positive orientations toward the outgroup in general (Pettigrew & Tropp, 2008). Positive affective ties are known to make people more open to different ideas, values and behaviors (Meeussen et al., 2018; Mercken et al., 2009). They have also been shown to promote perspective-taking and empathy toward the outgroup, leading to a reduction in negative prejudices against outgroup members (Hewstone & Swart, 2011; Turner, Hewstone, & Voci, 2007).

Following this logic, Muslim and non-Muslim students with existing interreligious friendships are likely to recognize the value of their friends' culture, which challenges existing negative stereotypes and leads to a more favorable appraisal of outgroup customs, norms, and values (Hodson et al., 2018; Brown, Vivian, & Hewstone, 1999). This process might help reduce negative affect and alleviate preconceived fears or threats, counteracting interreligious negative perceptions and stereotypes related to the heterophilous tendencies in the dislike network. Therefore, we hypothesize that:

Hyp. 3.1. The more a Muslim or non-Muslim student (A) has prior interreligious friendship ties with peers of a different religion (Bs), the lower that student's (A) heterophilous tendency in the dislike network, i.e., the less likely that student (A) is to form (and maintain) a dislike tie with a different-religion student (C) over forming (or maintaining) a dislike tie with a student with the same religion (D).

While positive intergroup contacts might reduce stereotyping and thus diminish heterophilous tendencies in the dislike network, this does not necessarily imply that individuals with positive

intergroup ties will be less inclined to choose similar others, over dissimilar ones, as friends. They might still exhibit a preference for homophily in their friendship network, favoring peers who belong to the same social groups. For intergroup ties to promote further intergroup friendship formation, individuals have to develop positive outgroup feelings, which involves broadening group boundaries to view ingroup norms and customs as not superior to others (Pettigrew, 2008). This shift emphasizes respect for the outgroup's ways of life and foster inclusive attitudes (Verkuyten, Voci, & Pettigrew, 2022).

Recent network research has studied how positive attitudes toward outgroup members significantly enhance youths' ability to form and sustain positive intergroup relationships. For instance, Rivas-Drake et al. (2019) demonstrated that youth who held more positive attitudes towards intergroup contact were less likely to restrict their friendships to those of the same ethnic group. In line with these findings, we expect that interreligious friendships among Muslim and non-Muslim students might increase their motivation to engage in and maintain other interreligious friendships.

Hyp. 3.2. The more a Muslim or non-Muslim student (A) has prior interreligious friendship ties with peers of a different religion (Bs), the lower that student's (A) homophilous tendency in the friendship network, i.e., the less likely that student (A) is to form (and maintain) a friendship tie with a same-religion student (C) over forming (or maintaining) a friendship tie with a student with a different religion (D).

2.3. Methods

2.3.1. Data

Hypotheses were tested using data from the second and third waves of the *Friendship and Identity in School* (FIS) project (Leszczensky et al., 2022). FIS is a longitudinal study of adolescents' social networks in nine schools in the German federal state of North Rhine-Westphalia. About two-

thirds of the students had a migration background, meaning they or at least one of their parents or grandparents were born outside of Germany. Among these minority students, 15% were first-generation immigrants, 69% second-generation immigrants, and 16% third-generation immigrants. The sample consists of 30.6% Muslim students and is specifically designed to study the hypothesized mechanisms of interreligious relations. Moreover, Leszczensky and Pink (2020, 2017) have already found that homophilous tendencies in friendship among Muslim and non-Muslim youth in the FIS data, although they did not incorporate the coevolution with dislike.

In each of the schools, a network panel survey was conducted on all students from all classes belonging to the fifth, sixth, and seventh grades (i.e., academic year), starting in April and May 2013, when students were 11 to 14 years old. The intervals between the subsequent waves were each around 9 months long. This survey was administered using paper-and-pencil questionnaires under the supervision of research assistants. Participation by students was voluntary, and written parental approval was obtained beforehand. Ties among students were collected at the grade level, meaning students could indicate relationships with all peers from their academic year. This approach resulted in 26 large networks, most of which consisted of three or four classrooms, which were necessary for estimating the complex models required to test our hypotheses.

For the analysis, we selected the second period (i.e., waves 2 and 3), as it provided the highest number of grades with participation rates of at least 75% in any wave. This threshold is conventionally accepted for handling unit non-response in social network analysis (e.g., Huisman & Steglich, 2008). As a result, 19 grade-level networks were selected, with two being excluded due to having too few (less than 5%) Muslim students to estimate religion-specific effects. The remaining 17 networks comprised a total of 1,678 students, with 544 being Muslim. The overall participation rates were 85.8% in wave 2 and 88.3% in wave 3. Detailed characteristics of these 17 grade-level networks are documented in Tables A2.1 and A2.2 in the Appendix.

2.3.2. Variables

In each wave, both *friendship* and *dislike networks* were measured through sociometric nominations. Based on the questions “*Who are your best friends?*” and “*Who do you dislike?*”, students were presented with a roster of all peers in their grades. Nominations were limited to a maximum of ten friends and disliked peers. Overlaps between friendship and dislike ties, reported in Table A2.3 in the Appendix, were extremely rare (ranging from 0.2%, to 1%) and were recoded into neutral ties (see Boda, Néray, & Snijders, 2020, for this approach). As a result, by definition, the two types of ties are mutually exclusive, meaning that actors need to dissolve a dislike tie before establishing a friendship, and vice versa.

Students’ religion was obtained from responses to the question, “*What is your religion?*” Students with responses indicating Islam were counted as Muslim (32,4% of the sample), while those indicating being non-religious, Catholic, or Protestant denominations as non-Muslim. Then, non-Muslim students were either Christian (80.8%) or had other or no religious affiliation (19.1%). Table A2.4 in the Appendix provides a detailed explanation of the religious composition in our sample.

Relying on the country of origin of the students' families, the *ethnicity* variable differentiates between students originating from Germany, Turkey, Poland, the former Soviet Union, former Yugoslavia, Greece, Italy, Lebanon, North Africa, Rest of Africa, North America and Oceania, Latin America and the Caribbean, Southern Asia, Western Asia, Rest of Asia, Eastern Europe, Rest of Europe, and Southern Europe (see Dollmann, Jacob, & Kalter, 2014, for this approach). Table A2.4 in the Appendix further cross-tabulates students' religions and ethnic backgrounds, demonstrating sufficient variation to simultaneously estimate religious and ethnic effects.

Additional socio-demographic characteristics that could affect friendship and dislike networks were included in the models. Besides students’ *gender* (sex assigned at birth), coded 1 for girls and 0 for boys, *Socio-Economic Status (SES)* was obtained by parents’ highest occupational status as measured on the ISEI scale. To account for the diverse opportunities of social interactions before entering secondary school and outside school, we considered the *primary school* attended by the

students and the *neighborhood* of residence. Since students in Germany attend most subjects with their peers from the same classroom, we further controlled for the specific *classroom* within the school grade. Item-based missing information is negligibly low. Missing information on religion, migration background, and gender is 7.1%, 6.8%, and 6.9%, respectively. For elementary school data, it is 20.2%, and for neighborhood data, it is 8.3%.

2.3.3. *Multivariate Stochastic Actor-Oriented Models*

The empirical analysis relies on Stochastic Actor-Oriented Models (SAOMs) for the dynamics of multivariate networks (Snijders, Lomi, & Torló, 2013), to examine the co-evolution of friendship and dislike networks over time. At the core of SAOMs there are actors, i.e., students. Actors are assumed to control their outgoing ties within the given opportunity structure, i.e., a grade-level network. SAOMs use agent-based simulations where actors make incremental changes, called mini-steps, to their network ties. In each mini-step, a randomly chosen actor decides whether to create a new tie, withdraw an existing one, or leave the network unchanged. These decisions follow a multinomial choice process, guided by an objective function, i.e., a linear combination of effects representing students' preferences and expected network evolution mechanisms (Ripley et al., 2024). The overall change from the initial to the subsequent networks is simulated through the aggregation of these mini-steps, with parameter values being adjusted to match the simulated networks to the actual observed networks. The process starts with the initial observation of the network (e.g., wave 1), treating subsequent observations (e.g., wave 2) as dependent variables. This process is repeated until the simulated networks on average accurately reflect the actual social networks, based on the mechanisms identified in the model specification, so that the resulting parameter values can be interpreted as logit coefficients. In so doing, SAOMs model the interrelated processes of friendship and dislike networks coevolution, while controlling for structural and proximity effects within the social networks and to statistically separate social selection from social influence effects, addressing causal ordering questions (Steglich et al., 2010). This is crucial for understanding how micro-level

processes of friendship and dislike aggregate into macro-level network structures, such as the formation of relational groups among Muslim and non-Muslim students.

2.3.4. Model Specification

In considering the effects on friendship and dislike formation, we first examine univariate basic tendencies, which explore how the relationship between two individuals (e.g., a friendship or dislike tie) depends on relationships with others in the same network. The *outdegree* effect models the general tendency to form friendships or dislikes, constrained by a maximum of ten nominations in our data. The *reciprocity* effect captures the propensity to reciprocate incoming ties. The *geometrically weighted edgewise shared partners* (GWESP) effect describes transitivity, i.e., the tendency for person A to have a relationship with person C when person A nominated person B and person B also nominated person C (Ripley et al., 2024). This tendency is expected to be positive in the case of a friendship network and negative in the case of a dislike network (Harrigan & Yap, 2017; Cartwright & Harary, 1956). Additionally, only for the friendship network, we included an interaction between the GWESP and *reciprocity* effects to account for differences in reciprocity in closed versus open network structures (Block, 2015). Further network-related effects include *outdegree-activity*, *indegree-popularity*, and *indegree-activity*. These processes are included in the SAOMs to describe basic network properties of social network evolution and to avoid confounding theoretically relevant effects with other network dynamics (Lomi et al., 2011).

Beyond the fundamental network processes, various student attributes can significantly influence network formation and introduce selection biases. Primarily, we incorporate *ego*, *alter*, and *same* effects for students' *gender* to address potential differences in activity and popularity between boys and girls, and to account for the prevalent trend towards same-gender friendships and dislike relationships, with boys serving as the reference category. To capture ethnic homophily and heterophily we include the *same ethnicity* effect based on the discussed country of origin

classification⁵. Additionally, socio-economic background is accounted for by including *ego*, *alter*, and *similarity* effects based on parents' mean socio-economic status (*SES*). To address varying opportunities for friendship and dislike development, we incorporate effects for the *same classroom*, *same primary school*, and *same neighborhood*⁶. This comprehensive inclusion of covariates ensures a more accurate analysis of social network dynamics within educational settings (Leszczensky & Pink, 2015; Smith, 2014).

Two longitudinal social network models were estimated to test the hypothesized mechanisms. Model 1 explored the general effect of affiliation with Islam on the likelihood of forming friendship and dislike ties within and between Muslim and non-Muslim groups. The tendencies towards same-Muslim versus different-Muslim friendships and dislikes (*same Muslim* effects) tested these Hypotheses 1.1 and 1.2. In addition to these univariate effects, Model 2 also included multivariate effects. These effects analyze how the relationship between two individuals (e.g., a dislike tie) depends on relationships in another network (e.g., friendship ties). For both friendship and dislike networks, Model 2 utilized the dichotomized covariate being *Muslim*, which was coded 1 if a student

⁵ To address the interrelation between religiosity, ethnicity, and language use, Table A2.7 in the Appendix included Model A2.1 which controls for the general effect of being Turkish (*ego*, *alter*, and *same* effects) on the likelihood of forming friendship and dislike ties within and between Turkish and non-Turkish groups. As a result, the remaining category represents other Muslim students from non-Turkish ethnic backgrounds, which limits further disaggregation in the analysis. Due to the small sample sizes of other Muslim ethnic groups, it was not feasible to distinguish them individually. The results from Model A2.1 show that the tendencies towards same-Muslim versus different-Muslim friendships and dislikes (*same Muslim* effects), which tested Hypotheses 1.1 and 1.2, remain consistent with those observed in Model 1. This suggests that controlling for Turkish ethnicity does not alter the core findings. Therefore, the results from Model A2.1 suggest that the same-ethnicity effect is sufficient to capture the relevant dynamics of ethnic homophily and heterophily in friendship and dislike ties, without the need for further disaggregation by specific Muslim ethnic groups.

⁶ In studying how Islam relates to friendship and dislike development, incorporating these meeting opportunities into the analytical model accounts for the social context, which is likely to play a role in promoting or hindering intergroup ties (Blau, 1974). This means, for example, that religious segregation might stem from segregation in classrooms or neighborhoods rather than from actual preferences. At the same time, having attended the same primary school represents an additional social setting where students may have formed friendships or developed dislikes. Failing to account for such differences in meeting opportunities risks over- or underestimating homophily and heterophily effects (Wimmer & Lewis, 2010).

was Muslim and 0 otherwise. It introduced the univariate effect *diffXOutAct*, to test Hypotheses 2.2 and 3.2, and the multivariate effect *outActIntn* interacted with the *same X* effect, to test Hypotheses 2.1 and 3.1 (see Figure 2.1). The first effect measures the tendency of an individual (ego) who nominates more different-Muslim students (alters) in one network (friendship or dislike) to also nominate another different-Muslim (alter), compared to a same-Muslim student (alter), in the same network. Model 2 also includes the multivariate effect *sameXOutActIntn*. The interaction term *outActIntn*sameX*, therefore, captures the tendency of a student (ego) who nominates more different-Muslim students (alters) in one network to nominate a same-Muslim (alter), compared to a different-Muslim student (alter), in the other network (dislike or friendship).

2.3.5. Analytical Strategy

For both Models 1 and 2, we employed a two-step approach, utilizing SAOMs to investigate the multivariate dynamics of the co-evolution of friendship and dislike networks. First, we analyzed each of our 17 grade-level networks separately. We accounted for compositional changes, such as students joining or leaving between waves, by employing the joiners and leavers method suggested by Huisman and Snijders (2003). Each model was estimated using the SIENA package in the R software (RSiena Version 1.4.9), with non-centered covariates and 10,000 iterations in the final phase of estimation. Missing values for individual attributes were treated as non-informative in the estimation process (Huisman & Steglich, 2008). Each single grade model was estimated with the same specification. Table A2.5 in the Appendix shows the parameters that were fixed in grades where network configurations were absent. To ensure the reliability of our models, we re-estimated all single grade-level network analyses until the t-ratios of convergence for all effects were below 0.1 and the overall maximum convergence ratio was below 0.20. Additionally, we conducted four goodness-of-fit tests to assess model fit with respect to outdegree distribution, indegree distribution, geodesic statistics, and triad census (Lospinoso & Snijders, 2019). Overall, our models fit the data well, as detailed in Table A2.6 in the Appendix. In the second step, we conducted a meta-analysis using the

built-in function (“siena08”) in the RSiena framework, aggregating the 17 sets of parameter estimates to obtain average effects (Snijders & Baerveldt, 2003).

2.4. Results

2.4.1. Descriptives

Table 2.1 provides a summary of the key descriptive statistics for the analytical sample of 1,678 students. This table indicates that there are sufficient numbers of Muslim ($N = 544$) and Turkish ($N = 422$) students across all grades, with an average of 32.1% Muslims and 24.3% Turkish students. The variation in these proportions is adequate to distinguish between Muslim and Turkish categories within this student population. The Jaccard indices for dislike and friendship networks show an average of 0.15 for dislike and 0.43 for friendship. These indices reflect the stability of these networks over time, with the friendship networks being notably more stable. In terms of social connections, the average number of friendships (average degrees) reported was 6.08 at time 1 and 5.98 at time 2. For dislike relationships, the average degrees were 3.05 at time 1 and 2.71 at time 2. These values suggest a slight change in both friendship and dislike relationships over time, indicating stability in the students' social networks dynamics.

Table 2.1. Descriptive statistics with grade-level averages and standard deviation for all ($N = 1,678$), Muslim ($N = 544$), and non-Muslim ($N = 1,031$) students.

<i>Individual Attributes</i>	
Muslim	0.32% (11.5%)
Turkish	0.24% (11.0%)
<i>Average network</i>	
Dislike t1	
Both	3.05 (0.81)
Muslims	3.08 (0.98)
Non-Muslims	3.06 (0.90)
Dislike t2	
Both	2.71 (0.50)
Muslims	2.75 (0.63)

Non-Muslims	2.70 (0.57)
Friendship t1	
Both	6.08 (1.10)
Muslims	6.44 (1.40)
Non-Muslims	5.87 (1.05)
Friendship t2	
Both	5.98 (0.68)
Muslims	6.44 (1.03)
Non-Muslims	5.70 (0.66)

Average Jaccard index

Dislike	0.15 (0.03)
Friendship	0.43 (0.05)

Note. Grade-level averages were computed after excluding NA's coded rows.

2.4.2. Results of Statistical Analysis

To distinguish the roles of different micro-level social selection (network) processes in the formation of friendships and dislikes among Muslim and non-Muslim students, we examine the findings of the SAOMs analyses. Table 2.2 presents the coefficients, standard errors, and *p*-values derived from the meta-analyses that aggregate the outcomes of the 17 individual SAOMs. Model 1 examines the overall friendship homophily and dislike heterophily effects with respect to being affiliated with Islam (Hypotheses 1.1 and 1.2), while Model 2 tests the impact of prior friendship and dislike ties on the propensity for homophily (Hypotheses 2.1 and 3.2) and heterophily (Hypotheses 2.2 and 3.1).

Table 2.2. Coefficients, standard errors, and p-values derived from the meta-analyses that aggregate the outcomes of the 17 individual SAOMs in Models 1 and 2.

		Model 1			Model 2		
Effect no.	Effect	Est. (b _{m1})	SE	p-value	Est. (b _{m2})	SE	p-value
Rate (change)							
1	Rate Parameter	13.433	0.925	0.000	13.180	0.920	0.000
Univariate structural effects: Friendship							
2	Outdegree	-2.663	0.127	0.000	-2.701	0.228	0.000
3	Reciprocity	2.367	0.125	0.000	2.376	0.129	0.000
4	Transitivity (GWESP)	1.586	0.066	0.000	1.603	0.072	0.000
5	Reciprocity x Transitivity (GWESP)	-0.940	0.079	0.000	-0.927	0.081	0.000
6	Indegree popularity	-0.035	0.010	0.000	-0.036	0.010	0.000
7	Indegree activity	-0.159	0.019	0.000	-0.156	0.019	0.000
Attribute-based effects							
Gender (Ref.: Boy)							
8	Alter	-0.024	0.028	0.390	-0.022	0.029	0.452
9	Ego	-0.155	0.048	0.001	-0.161	0.049	0.001
10	Same	0.424	0.039	0.000	0.439	0.039	0.000
Socio-Economic Status							
11	Alter	-0.001	0.001	0.199	-0.001	0.001	0.209
12	Ego	-0.001	0.001	0.208	-0.001	0.001	0.362
13	Similar	0.137	0.077	0.074	0.155	0.080	0.052
Muslim (Ref.: Non-Muslim)							
14	Alter	0.005	0.042	0.900	-0.020	0.050	0.693
15	Ego	0.136	0.076	0.072	0.220	0.092	0.016
16	Same	0.287	0.030	0.000	0.401	0.138	0.003
17	Same ethnicity	0.070	0.042	0.092	0.083	0.045	0.065
18	Same school class	0.545	0.052	0.000	0.565	0.052	0.000
19	Same elementary school	0.026	0.058	0.654	0.030	0.058	0.609
20	Same neighbourhood	0.012	0.050	0.808	-0.001	0.050	0.991
Out-activity effects							
21	#Friend A->Cs on Friend A->B [OutAct]	0.029	0.007	0.000	0.038	0.011	0.000
22	#Friend A->Cs on Friend A->B, with A=B=C ¹ [sameXOutAct]				-0.015	0.013	0.262
23	#Friend A->Cs on Friend A->B, with A≠B=C ¹ [diffXOutAct]				-0.025	0.015	0.106
Multivariate effects: Dislike => Friendship							
25	#Dislike A->Cs on Friend A->B [outActIntn]				0.004	0.031	0.890
26	#Dislike A->Cs on Friend A->B, with A=C ¹ [sameXOutActIntn]				0.050	0.061	0.417
27	#Dislike A->Cs on Friend A->B, with A=B=C ¹ [sameXOutActIntn * sameX]				-0.045	0.067	0.505
28	#Dislike A->Cs on Friend A->B, with A=B≠C ¹ [outActIntn * sameX]				0.021	0.036	0.567

Table 2.2 continuous from the previous page.

		Model 1			Model 2		
Effect no.	Effect	Est. (b1)	SE	p-value	Est. (b2)	SE	p-value
<i>Rate (change)</i>							
29	Rate Parameter	14.542	0.746	0.000	14.162	0.720	0.000
<i>Univariate structural effects: Dislike</i>							
30	Outdegree	-3.311	0.111	0.000	-3.348	0.129	0.000
31	Reciprocity	0.635	0.091	0.000	0.642	0.094	0.000
32	Transitivity (GWESP)	0.142	0.097	0.143	0.157	0.097	0.106
33	Indegree popularity	0.086	0.006	0.000	0.084	0.006	0.000
34	Indegree activity	-0.014	0.01	0.152	-0.013	0.011	0.241
<i>Attribute-based effects</i>							
Gender (Ref.: Boy)							
35	Alter	-0.093	0.028	0.001	-0.101	0.028	0.000
36	Ego	0.042	0.026	0.108	0.071	0.032	0.025
37	Same	0.283	0.034	0.000	0.293	0.033	0.000
Socio-Economic Status							
38	Alter	-0.001	0.001	0.176	-0.001	0.001	0.176
39	Ego	0.000	0.001	0.728	0.000	0.001	0.627
40	Similar	-0.097	0.063	0.121	-0.088	0.067	0.187
Muslim (Ref.: Non-Muslim)							
41	Alter	<i>-0.071</i>	<i>0.04</i>	<i>0.071</i>	<i>-0.108</i>	<i>0.056</i>	<i>0.052</i>
42	Ego	<i>-0.062</i>	<i>0.037</i>	<i>0.092</i>	-0.083	0.060	0.164
43	Same	-0.142	0.049	0.003	<i>-0.169</i>	<i>0.103</i>	<i>0.100</i>
44	Same ethnicity	0.006	0.035	0.865	-0.003	0.037	0.944
45	Same school class	0.954	0.102	0.000	0.970	0.103	0.000
46	Same elementary school	0.064	0.04	0.109	<i>0.071</i>	<i>0.041</i>	<i>0.081</i>
47	Same neighbourhood	<i>-0.057</i>	<i>0.032</i>	<i>0.077</i>	-0.045	0.034	0.184
<i>Out-activity effects</i>							
48	#Dislike A->Cs on Dislike A->B [<i>OutAct</i>]	0.094	0.005	0.000	-0.006	0.013	0.665
49	#Dislike A->Cs on Dislike A->B, with A=B=C ¹				-0.006	0.013	0.665
50	[<i>sameXOutAct</i>] #Dislike A->Cs on Dislike A->B, with A≠B=C ¹ [<i>diffXOutAct</i>]				0.033	0.013	0.010
<i>Multivariate effects: Friendship => Dislike</i>							
51	#Friend A->Cs on Dislike A->B [<i>outActIntn</i>]				-0.013	0.019	0.478
52	#Friend A->Cs on Dislike A->B, with A=C ¹ [<i>sameXOutActIntn</i>]				-0.016	0.023	0.501
53	#Friend A->Cs on Dislike A->B, with A=B=C ¹ [<i>sameXOutActIntn * sameX</i>]				0.000	0.036	0.997
54	#Friend A->Cs on Dislike A->B, with A=B≠C ¹ [<i>outActIntn * sameX</i>]				<i>0.064</i>	<i>0.034</i>	<i>0.063</i>

¹ Same value on Muslim attribute

Note. Number of students = 1,678, number of school grades = 17.

Bold indicates statistical significance at a critical alpha of 0.05.

Italics indicates statistical significance at a critical alpha of 0.10.

In Model 1 in Table 2.2, we find that the coefficient for the *outdegree* effect for the friendship network, which was coded as effect number 2 and referred to as $b_{1,2}$ (where “1” stands for Model 1, and “2” stands for the effect number 2) is negative and significant ($b_{1,2} = -2.663, p < 0.001$). This suggests that students were selective in choosing friends. The *outdegree* effect for the dislike network is also negative and significant in Model 1 ($b_{1,30} = -3.311, p < 0.001$) and indicated that students were also selective in identifying those they disliked. The positive coefficients for *reciprocity* for both the friendship and dislike network ($b_{1,3} = 2.367, p < 0.001$; $b_{1,31} = 0.635, p < 0.001$) signify that the students reciprocated both friendship and dislike ties. In the context of the friendship network, the positive *transitivity effect* ($b_{1,4} = 1.586, p < 0.001$) indicates a propensity for transitive closure. The negative coefficient of the interaction between *reciprocity* and *transitivity* ($b_{1,5} = -0.940, p < 0.001$) means that this tendency was more evident in open structures than in closed ones. Furthermore, the positive *same gender* ($b_{1,10} = 0.424, p < 0.001$; $b_{1,37} = 0.283, p < 0.001$) and *same school class* ($b_{1,18} = 0.545, p < 0.001$; $b_{1,45} = 0.954, p < 0.001$) effects reveal a prevalence of friendship and dislike ties among students who are of the same gender and spend time together inside school. The positive sign in the dislike network for *indegree popularity* ($b_{1,33} = 0.086, p < 0.001$) suggests that students dislike peers who are already disliked by others. In the friendship network, the opposite signs for *indegree popularity* ($b_{1,6} = -0.035, p < 0.001$) and *indegree activity* ($b_{1,7} = -0.159, p < 0.001$) indicate that popular students tend not to be nominated as friends and do not nominate other students as friends themselves. Additionally, the positive parameters for *outdegree activity* ($b_{1,21} = 0.029, p < 0.001$; $b_{1,48} = 0.094, p < 0.001$) report that students who are more outgoing in both networks nominate more students as friends or disliked peers.

Turning to our first hypothesis (Hyp. 1.1), the analysis in Model 1 provides compelling evidence for the presence of religious homophily in the friendship network among Muslim and non-Muslim students. Controlling for ego and alter differences, the positive and statistically significant *same Muslim* effect ($b_{1,16} = 0.287, p < .001$) in the friendship network indicates that students are more likely to form (and maintain) friendships with peers within the same religious groups rather than

outgroup peers. At the same time, the negative and statistically significant *same Muslim* effect ($b_{1,43} = -0.142, p < 0.01$) in the dislike network suggests that Muslim and non-Muslim students are prone to dislike peers belonging to the different religious group rather than ingroup peers, in line with Hypothesis 1.2. Furthermore, the lack of statistical significance of the *same ethnicity* effect in both the friendship network ($b_{1,17} = 0.070, p > 0.05$) and the dislike network ($b_{1,44} = 0.006, p > 0.05$) highlights the importance of Islamic affiliation, rather than ethnic categories, as a primary factor driving the social divide among students.

In Model 2 (Table 2.2), we next examine whether the homophily effect for friendship (i.e., to befriend another same-Muslim student, compared to a different-Muslim student) might be stronger in the presence of existing interreligious negative ties that students have with different-Muslim peers (see Figure 2.1)⁷. We find no statistically significant evidence that a student (A) who holds a higher number of existing dislike ties towards different-Muslim students (Cs) exhibits a higher tendency for building religious friendship homophily ($b_{2,28} = 0.021, p > 0.05$). This suggests that, contrary to our Hypothesis 2.1, prior interreligious dislike does not significantly affect religious homophily in students' friendship choices.

Turning to Hypothesis 2.2, which focuses on the effect of the existing dislike ties on heterophilous tendencies in dislike networks, the parameter *diffXOutAct* shows a positive and statistically significant effect ($b_{2,50} = 0.033; p = .01$), indicating that a student (A) who holds more interreligious dislike ties (towards Cs) is more likely to dislike another different-Muslim student (B) compared to a same-Muslim student. This finding supports Hypothesis 2.2 and aligns with the theoretical expectation that existing outgroup negative ties strengthen religious heterophilous between Muslim and non-Muslim students. Hence, outgroup negative perceptions can create a *cascading effect*, where misinterpretations of outgroup behavior as hostile reinforce dislike ties,

⁷ We note that the coefficients for the effects in Model 1, which we mentioned before do not change, with the exception of the statistical significance of the same Muslim ($b_{2,43} = -0.169; p > 0.05$) and outdegree activity ($b_{2,48} = -0.006; p > 0.05$) effects in the dislike network.

increasing the likelihood of forming and maintaining additional interreligious dislike ties.

Model 2 also tested the effects of outgroup friendship ties, which were expected to reduce religious heterophily in the dislike (hyp 3.1) and religious homophily (hyp 3.2) in the friendship networks.

Regarding the impact of friendship ties on the dislike network, we observe a positive and marginally statistically significant effect in the hypothesized direction ($b_{2,54} = 0.064, p = .063$), suggesting that a student (A) with more different-Muslim friends (Cs) is less likely to dislike a different-Muslim compared to a same-Muslim student (B). This result supports the idea that positive interactions, especially friendships, with outgroup members can challenge negative stereotypes and reduce prejudice. By fostering openness, empathy, and a more favorable appraisal of the outgroup's culture, positive interactions can counteract the social divide between Muslim and non-Muslim youths.

In terms of the friendship network, we find no significant effect ($b_{2,23} = -0.025, p = 0.106$) for Hypothesis 3.2. This indicates that while positive intergroup interactions can reduce negative stereotypes and decrease dislike tendencies, they do not necessarily diminish the inclination towards religious homophily. Even with positive outgroup ties, Muslim and non-Muslim students still tend to prefer friendships with peers from the same religious group.

Notably, the *same Muslim* effect, in the dislike network, is not statistically significant ($b_{2,23} = -0.169, p > 0.05$). This, combined with its statistical significance observed in Model 1, demonstrates that religious heterophily is only present among students who have already developed other interreligious dislike ties. Conversely, the *same-Muslim* effect in the friendship network remains positive and statistically significant, even after including the additional effects of Model 2 ($b_{2,16} = 0.401, p < .01$). Then, Muslim and non-Muslim students prefer to form or maintain friendships with peers of the same religion, rather than with those of a different religion, regardless of existing friendship and dislike ties.

2.5. Discussion, Limitations and Future Research, and Conclusions

2.5.1. Discussion

There exists increasing evidence supporting the idea of segregation between Muslim and non-Muslim youth in Western European schools (e.g., Leszczensky & Pink, 2020, 2017). The main aim of this paper was to provide a deeper understanding of the micro-level phenomena that contribute to generating this macro-level social divide between Muslim and non-Muslim youth over time. The subgroup formation along religious lines might be the outcome of micro-processes of friendship homophily and dislike heterophily, as previous research (Simsek, van Tubergen, & Fleischmann, 2022) and our analysis (Hypotheses 1.1 and 1.2) reiterates. This study examined how students' preferences for friendship and dislike ties underlie the development of such social divides.

We argued how religion in school classes plays an important role in creating a division between “we” (the ingroup) and “them” (the outgroup), in line with *Social Identity Theory* (Turner & Reynolds, 2001; Tajfel & Turner, 1979). This theory relies on the idea that individuals derive their basic need for self-esteem from feeling good about their social identity. In order to satisfy this essential psychological need, they interpret their own behavior and that of their group more favorably than of other groups (i.e., ingroup favoritism). The underlying argument is based on *Attribution Theory* (Fiske & Taylor, 1991; Heider, 1958), which suggests that, given the prevalence of negative views between Muslim and non-Muslim pupils in Western Europe, these are likely to attribute negative characteristics to outgroup members while attributing positive characteristics to ingroup members. Specifically, we hypothesized that the positive ingroup attribution would promote same-religion friendships, over different-religion ones (Hypothesis 1.1), whereas negative outgroup attribution biases would make interreligious dislike ties more prevalent (Hypothesis 1.2). Using longitudinal social network analysis to examine the co-evolution of friendship and dislike relationships, we find support for both Hypotheses 1.1 and 1.2 in Model 1. Statistically significant *same-Muslim* effects provide strong evidence of religious homophily and heterophily. Overall, these

findings highlight Islamic affiliation, rather than ethnicities, as a primary factor driving youths' positive and negative relational networks.

Next, we turned to the main aim of our study, which was to test whether and how interreligious positive and negative interactions could strengthen or weaken such tendencies. One central argument was that present experiences with specific outgroup members would influence evaluations of the entire outgroup. From this perspective, particularly strong intergroup affective relationships, such as a student's friendship and dislike outgoing ties, are likely to affect intergroup networks.

We first hypothesize that negative past experience can be expected to translate into a stronger tendency to form and maintain ingroup friendships over outgroup ones, potentially leading to the avoidance of future intergroup interactions. Model 2 explored the impact of existing interreligious ties on religious homophily and heterophily among students, revealing that religious homophily in friendships is not significantly affected by existing dislike ties, and therefore provides no support for Hypothesis 2.1.

Based on *Integrated Threat Theory* (Stephan & Stephan, 2013), we also hypothesized that negative existing interreligious ties might strengthen the social divide between Muslim and non-Muslim students. Negative intergroup contact accentuates group distinctions, reinforcing adverse expectations and generalizing unfavorable evaluations and prejudices to the entire outgroup (Paolini et al., 2010). These perceptions lead to misinterpreting outgroup behaviors as hostile, contributing to interreligious attribution biases and reinforcing negative intergroup ties. Based on these theoretical considerations, we tested whether students with more interreligious dislike ties are more likely to maintain or form additional interreligious dislike ties. In line with the Hypothesis 2.2, we found that holding more interreligious outgroup negative ties strengthens religious heterophily.

Hence, outgroup negative ties strengthen the outgroup dislike network but do not affect the likelihood of having friendship ties. This might be related to the inner meaning embodied in a friendship relationship. Different-Muslim friends might be perceived as unique individuals who share similarities with the ego on various characteristics beyond religion, such as tastes, values, or

personality traits (i.e., multidimensional homophily, Block & Grund, 2014). Because of these shared characteristics, these friends might be seen as distinct from the broader outgroup, allowing them to be viewed more as individuals rather than as representatives of their religious group. This personalized view likely fosters a sense of empathy and understanding, which can buffer against the negative effects of outgroup dislike ties. However, for others outside this friendship circle, perceptions are more likely to be shaped by generalized stereotypes. Without the empathy that comes from personal connections, these individuals are more susceptible to being judged through the lens of existing biases and prior negative experiences with other members of the same outgroup. As a result, their behaviors might be interpreted more negatively. This diverse effect of intergroup dislike ties highlights the importance of positive personal interactions in overcoming broad negative generalizations and, thus, reducing intergroup divisions.

In addition, we also considered the impact of friendship and whether this could weaken the social divide between Muslim and non-Muslim students. Building on *Intergroup Contact Theory* (Allport, 1954; Pettigrew & Tropp, 2006), we argued that intergroup friendships can trigger positive orientations, such as perspective-taking and empathy, which alleviate negative emotions toward outgroup members. Therefore, these affective processes are expected to lower intergroup anxiety and counteract anticipations of negative outcomes from intergroup interactions.

The findings show a weak, though not statistically significant, effect suggesting that interreligious friendships might reduce religious heterophily, offering no conclusive support for Hypothesis 3.1. This indicates that interreligious friendship ties can potentially counter the negative influence of interreligious dislike ties.

Finally, we considered whether intergroup friendships activate mechanisms of cognitive and emotional self-disclosure, where group categories become less salient, fostering more positive intergroup attitudes. Muslim or non-Muslim students involved in these friendships might adopt an inclusive identity that minimizes religious distinctions, offering opportunities to learn from outgroup members and challenge stereotypes. Consistent with *Intergroup Contact Theory*, we tested whether

students with more interreligious friendships are more likely to maintain or form additional interreligious positive ties (Hypothesis 3.2).

Our results provide no support for existing interreligious positive ties reducing religious homophily among students. Hence, while positive interreligious contacts have the potential to mitigate negative intergroup sentiments, their impact is limited compared to the stronger influence of negative ties on strengthening. These findings align with the argument of "negative asymmetry", which posits that negative relations have a more profound and lasting impact than positive ones (Agneessens, 2023; Labianca & Brass, 2006). In other words, negative *stimuli* are more memorable, produce more complex cognitive representations, and have more socioemotional power than positive or neutral ones. Particularly in a school environment, where interactions often cannot be avoided, this seems to be most influential in driving intergroup relational processes (Barlow et al., 2012; Dhont and Van Hiel, 2009).

2.5.2. Limitations and Future Research

Our study comes with some limitations, which future research should address.

In this study, we assumed that the tested processes would yield the same outcomes for both Muslim and non-Muslim students. However, due to their different status within society at large, past empirical research has found that majority and minority groups respond differently to intergroup contact (Dixon et al., 2010). Contacts with minorities can lead majority group members to acknowledge that their ingroup traditions, customs, norms, and values are not the only ways to manage and view the world (Verkuyten, Voci, and Pettigrew, 2022). In contrast, most minority group members, given their relatively smaller ingroup size, are aware of the different nature of their group and are, on average, more familiar with the majority group's culture (Verkuyten, 2005). Supporting this reasoning, Tropp and Pettigrew (2005) show in their meta-review that the prejudice-reducing effects of positive intergroup contact are stronger for majority groups than for minority groups.

This also implies that contextual characteristics, like the relative size of the Muslim group,

might interact with the micro-level mechanisms tested in this study. The schools in our analysis are located in ethnically and religiously diverse areas of North Rhine-Westphalia, with a high percentage of students from migration backgrounds. More homogeneous or less diverse contexts might give rise to different friendship or dislike patterns, as students might be less aware of group differences (Leszczensky & Kretschmer, 2022). For example, Leszczensky, Sauter, and Flache (2020) found that for Muslim youth, the importance of religion peaked in classrooms where about two-thirds of the classmates were of the same religion, but was weaker in classrooms with either fewer or more Muslim peers. For both immigrant- and native-origin Christian youth, religion was more salient in classrooms with higher shares of Muslims, possibly reflecting a sense of outgroup threat. Future network research should explore how these potential compositional effects are generated in such multilevel settings (Agneessens, Trincado-Munoz, & Koskinen, 2022; Koskinen & Snijders, 2023).

There might also be differences in tendencies for homophily and heterophily depending on characteristics such as age and gender (Kretschmer & Leszczensky, 2023). As female and male adolescents grow older, the observed patterns of interreligious friendship and dislike might develop differently, emphasizing the need for further empirical research to understand these dynamics. Related to this, the central argument in this paper is that intergroup contacts between Muslims and non-Muslims - whether positive or negative - can reflect on the group as a whole. However, especially for positive ties, an individual might develop intergroup ties to specific others who share similar characteristics, such as gender, meaning that the generalization to the entire group might not always be applicable. For instance, they might have become friends because of common interests. A student might ascribe the behavior of the friend as unique to that person or attribute it to their shared characteristics, rather than considering it as typical of the outgroup. This requires considering how different characteristics might interact and limit the generalization to the group as a whole.

Regarding the effects we considered, we note that our analyses focused on outgroup, but did not pay attention to the impact ingroup positive and negative interactions could play in shaping these group boundaries (Estévez, Kisfalusi, & Takács, 2022). While our findings did not find support for

existing intergroup friendship or dislike ties influencing friendship homophily, two recent network studies have highlighted the effect of ingroup socialization on outgroup attitudes among adolescents. Khuu et al. (2023) indicated that ingroup friends positively influence intergroup contact attitudes over time, whereas outgroup friendships showed no attitudinal influence. Bracegirdle et al. (2022) observed that socialization with ingroup friends who have favorable attitudes towards an outgroup is the leading predictor of feelings of warmth toward that outgroup. This suggests the presence of an *indirect contact effect*, which would require the incorporation of experiences with ingroup friends when investigating intergroup relationships.

In addition to general effects of ingroup contact on outgroup tendencies, other network studies in school environments find that friendship and dislike ties are not formed in isolation, but are rather embedded in triadic network processes, where three students are connected to each other. Friendships facilitate flow-type dynamics where students change their opinions and behaviors by considering and trusting their friends' views on interactions with a third person (Toroslu & Jaspers, 2022; Stark, 2015; Rambaran et al., 2015). Building on such empirical evidence, future research could adopt an ego perspective to test whether the outgoing ties and interreligious attitudes of an ego's ingroup friends (through “homophily-balance” mechanisms) affect the formation of positive and negative relational networks between Muslim and non-Muslim students.

Another note concerns our consideration of existing friendship and dislike outgoing ties as acting independently of each other. Purely positive or purely negative contacts are rare in real-life settings (Husnu & Paolini, 2019; Graf, Paolini, & Rubin, 2014). Individuals are likely to have both positive and negative intergroup contacts, and their combined influences might result in outcomes which are different from their isolated effects (Árnadóttir et al., 2018; Ten Berge, Lancee, & Jaspers, 2017; Paolini et al., 2014). For example, in intergroup interactions, we might expect that positive contact buffers the detrimental effects of negative contact.

In our models, we further assumed a linear effect of the number of existing ties. Future network studies should also investigate whether certain threshold effects exist, rather than solely

assuming a linear effect, where, for example, three negative ties have three times the effect of one negative tie. Specifically, a certain level or quantity of either friendship or dislike ties might be needed to influence homophilous and heterophilous tendencies. For instance, building on the "negative asymmetry" argument (Labianca & Brass, 2006), one single negative tie might be sufficient to shift ego's perceptions, while multiple positive ties could be necessary for activating individual self-disclosure mechanisms related to intergroup positive contact.

2.5.3. Conclusions

This study advances our understanding of the dynamics shaping interreligious relations among Muslim and non-Muslim adolescents in Western European schools. By examining both positive and negative relationships, we uncover significant insights into how these networks contribute to the formation and maintenance of religious boundaries. Our findings underscore the presence of religious homophily in friendships and religious heterophily in dislike, supporting previous empirical evidence that highlights the foremost role of religion in shaping a social divide among Western European adolescents (Drouhot & Nee, 2019). Additionally, our study reveals the detrimental impact of existing interreligious dislike ties, which fostered stronger religious heterophily between Muslim and non-Muslim students, suggesting that negative interactions play a critical role in reinforcing such social division. While interreligious friendships did not significantly influence religious homophily, they did show a weakening effect on interreligious dislike, emphasizing the potential for positive interreligious contacts helping reduce religious heterophily. These insights contribute to the ongoing debate regarding integration policies in ethnically and religiously diverse societies, highlighting the need for targeted interventions that promote interreligious friendships and address dislike interactions to foster more inclusive social environments in Western European schools. By leveraging social network analysis, future research should continue to explore how micro-level dynamics coevolve and create the macro-level relationships between Muslim and non-Muslim youth.

2.6. Appendix

Table A2.1. Characteristics of Grade-Level Networks.

Grade no.	Size	Percentage of		Jaccard Index		Average Degree			
		Muslim	Turkish	Friend	Dislike	Friendship		Dislike	
						Wave 2	Wave 3	Wave 2	Wave 3
1	76	38%	26%	0.44	0.1	7.81	7.50	5.61	3.15
2	55	30%	14%	0.39	0.15	8.13	7.67	3.66	4.23
3	69	33%	30%	0.37	0.13	5.66	5.99	4.23	2.77
4	68	13%	4%	0.55	0.23	6.89	6.23	4.23	3.11
5	91	52%	37%	0.47	0.15	8.6	7.24	3.76	2.72
6	98	45%	27%	0.45	0.18	7.58	7.46	4.23	2.73
7	78	32%	21%	0.47	0.14	5.02	5.2	3.18	2.75
8	117	31%	29%	0.39	0.14	7.61	7.52	3.56	3.72
9	117	38%	36%	0.41	0.13	7.11	6.83	3.62	3.21
10	127	23%	22%	0.45	0.18	6.74	5.97	3.06	2.63
11	112	20%	16%	0.43	0.12	7.36	6.75	2.56	2.24
12	134	20%	11%	0.34	0.15	6.87	6.82	3.47	3.76
13	123	13%	6%	0.47	0.16	6.79	6.11	3.3	3.09
14	117	53%	45%	0.43	0.13	6.55	6.39	2.79	2.19
15	114	38%	33%	0.43	0.21	6.88	6.37	3.03	3.14
16	112	37%	32%	0.44	0.17	6.05	6.43	2.09	2.22
17	70	30%	25%	0.35	0.09	4.77	7.73	1.34	3.76
Average	98.7	32.1%	24.3%	0.42	0.15	6.84	6.71	3.39	3.02

Table A2.2. Unit-Response Percentage in Grade-Level Networks.

Grade no.	Size	Grade-Level Unit-Response	
		Wave 2	Wave 3
1	76	85.4%	86.7%
2	55	77.0%	91.4%
3	69	77.7%	90.0%
4	68	95.0%	96.8%
5	91	86.0%	83.7%
6	98	89.5%	89.1%
7	78	88.5%	80.0%
8	117	82.4%	83.9%
9	117	86.9%	91.3%
10	127	86.0%	87.0%
11	112	84.8%	83.4%
12	134	83.7%	91.4%
13	123	90.0%	94.7%
14	117	91.5%	92.0%
15	114	89.9%	91.6%
16	112	88.4%	92.3%
17	70	76.4%	75.5%
Average	98.7	85.8%	88.3%

Table A2.3. Grade-Level Network Number and Percentage of Frenemies.

Grade no.	No. of Frenemies		Percentage of Frenemies			
			Friendship		Dislike	
	Wave 2	Wave 3	Wave 2	Wave 3	Wave 2	Wave 3
1	1	1	0.2%	0.2%	0.4%	0.5%
2	1	1	0.3%	0.3%	0.8%	0.6%
3	1	2	0.3%	0.7%	0.5%	1.5%
4	1	0	0.2%	0.0%	0.4%	0.0%
5	1	2	0.1%	0.4%	0.4%	1.2%
6	0	4	0.0%	0.8%	0.0%	2.2%
7	0	2	0.0%	0.7%	0.0%	1.4%
8	2	7	0.2%	1.0%	0.6%	2.0%
9	3	3	0.4%	0.4%	0.8%	0.8%
10	0	1	0.0%	0.1%	0.0%	0.3%
11	2	2	0.2%	0.3%	0.8%	0.9%
12	4	3	0.5%	0.3%	1.0%	0.6%
13	2	2	0.2%	0.3%	0.5%	0.6%
14	2	2	0.3%	0.3%	0.7%	0.9%
15	1	5	0.1%	0.8%	0.3%	1.6%
16	3	3	0.5%	0.5%	1.0%	1.4%
17	0	1	0.0%	0.5%	0.0%	1.0%
Average	1.4	2.4	0.2%	0.5%	0.5%	1.0%

Table A2.4. Cross-Tabulation of Ethnic Background and Religion.

Ethnic Background	Religion				Total
	Christian	Muslim	Other/non-religious	Missing	
Germany	450	2	80	3	535
Turkey	12	401	8	1	422
Former Soviet Union	98	5	20	1	124
Poland	91	1	8	0	100
Former Yugoslavia	13	16	14	0	43
Italy	54	4	4	1	63
Lebanon	0	27	0	0	27
Greece	1	1	14	2	18
North Africa	3	31	3	0	37
Rest of Africa	13	4	1	0	18
Latin America and the Caribbean	5	0	1	0	6
North America and Oceania	7	1	2	0	10
Southern Asia	7	10	8	0	25
Western Asia	2	12	5	0	19
Rest of Asia	5	0	5	0	10
Eastern Europe	7	0	6	0	13
Southern Europe	25	21	4	0	50
Rest of Europe	30	2	11	0	43
Missing	11	6	3	95	115
Total	834	544	197	103	1,678

Table A2.5. Effects fixed in single multivariate SAOMs summarized in Table 2.2.

Model 2		Grade no.				
Effect	Effect	1	2	3	5	17
Attribute-based effects						
16	Same Muslim (Ref.: Non-Muslim)			x		
Out-activity effects						
21	Friend A->Cs on Friend A->B [OutAct]					
22	Friend A->Cs on Friend A->B, with A=B=C ¹ [sameXOutAct]	x		x		x
23	Friend A->Cs on Friend A->B, with A≠B=C ¹ [diffXOutAct]	x				x
Multivariate effects: Dislike => Friendship						
25	Dislike A->Cs on Friend A->B [outActIntn]		x			x
26	Dislike A->Cs on Friend A->B, with A=C ¹ [sameXOutActIntn]		x		x	x
27	Dislike A->Cs on Friend A->B, with A=B=C ¹ [sameXOutActIntn * sameX]		x	x	x	x
28	Dislike A->Cs on Friend A->B, with A=B≠C ¹ [outActIntn * sameX]		x		x	x
Attribute-based effects						
43	Same Muslim (Ref.: Non-Muslim)			x		
Out-activity effects						
48	Dislike A->Cs on Dislike A->B [OutAct]					
49	Dislike A->Cs on Dislike A->B, with A=B=C ¹ [sameXOutAct]	x	x	x		x
50	Dislike A->Cs on Dislike A->B, with A≠B=C ¹ [diffXOutAct]	x				x
Multivariate effects: Friendship => Dislike						
51	Friend A->Cs on Dislike A->B [outActIntn]					x
52	Friend A->Cs on Dislike A->B, with A=C ¹ [sameXOutActIntn]		x			x
53	Friend A->Cs on Dislike A->B, with A=B=C ¹ [sameXOutActIntn * sameX]	x	x	x	x	x
54	Friend A->Cs on Dislike A->B, with A=B≠C ¹ [outActIntn * sameX]	x				x

¹ Same value on Muslim attribute

Note. Parameters indicated with an “x” were fixed to zero when the individual networks did not provide enough information for estimation. White cells indicate that the parameters were not fixed.

Table A2.6. Goodness of Fit statistics for multivariate SAOMs summarized in Table 2.2.**Model 1**

Grade no.	Friendship Networks					Dislike Networks			
	Overall conver- gence	Out- degree distri- bution	Indegree distri- bution	Triadic Census	Geodesic Distance	Out- degree distri- bution	Indegree distri- bution	Triadic Census	Geodesic Distance
1	0.103	<i>0.021</i>	<i>0.016</i>	0.084	<i>0.035</i>	0.371	0.765	0.798	0.973
2	0.079	<i>0.003</i>	0.183	0.083	0.099	0.563	<i>0.016</i>	0.619	0.479
3	0.083	0.109	0.234	0.473	0.093	0.545	0.134	0.379	0.442
4	0.086	0.225	0.431	0.096	0.747	0.660	0.972	0.863	0.483
5	0.077	<i>0.003</i>	<i>0.001</i>	<i>0.013</i>	<i>0.014</i>	0.196	0.961	0.349	0.927
6	0.078	<i>0.018</i>	<i>0.003</i>	0.494	0.087	0.470	0.072	0.840	0.988
7	0.079	0.563	0.561	0.073	0.651	0.550	0.175	0.866	0.508
8	0.100	0.112	0.064	0.713	0.024	0.767	<i>0.008</i>	0.200	<i>0.042</i>
9	0.085	0.077	0.180	<i>0.001</i>	0.380	0.097	0.070	0.876	0.718
10	0.081	<i>0.016</i>	0.730	0.760	0.648	0.312	<i>0.035</i>	0.857	0.113
11	0.099	0.122	0.763	0.006	0.535	0.991	0.158	0.972	0.839
12	0.082	0.398	0.602	0.792	0.154	0.867	0.056	0.567	0.694
13	0.086	0.105	0.423	0.099	0.377	0.353	<i>0.012</i>	0.962	0.153
14	0.093	<i>0.009</i>	0.478	<i>0.040</i>	<i>0.014</i>	0.619	0.211	0.972	0.980
15	0.074	<i>0.008</i>	0.068	0.135	<i>0.027</i>	0.526	<i>0.031</i>	0.579	0.113
16	0.086	0.091	0.316	0.504	<i>0.035</i>	0.384	0.080	0.989	0.167
17	0.094	0.094	0.044	0.090	<i>0.006</i>	0.783	0.688	0.959	0.820
Average	0.086	0.116	0.300	0.262	0.231	0.533	0.262	0.744	0.555

Model 2

Grade no.	Friendship					Dislike			
	Overall convergence	Out-degree distribution	Indegree distribution	Triadic Census	Geodesic Distance	Out-degree distribution	Indegree distribution	Triadic Census	Geodesic Distance
1	0.106	<i>0.018</i>	<i>0.013</i>	0.070	0.031	0.427	0.722	0.910	0.989
2	0.105	<i>0.004</i>	0.151	0.060	0.103	0.619	<i>0.015</i>	0.627	0.476
3	0.079	0.113	0.219	0.460	0.097	0.564	0.125	0.378	0.414
4	0.083	0.179	0.410	0.108	0.713	0.666	0.976	0.859	0.494
5	0.098	<i>0.004</i>	<i>0.001</i>	<i>0.009</i>	<i>0.015</i>	0.223	0.976	0.394	0.932
6	0.109	<i>0.015</i>	<i>0.004</i>	0.522	0.078	0.372	0.059	0.723	0.973
7	0.080	0.553	0.599	0.089	0.699	0.587	0.165	0.865	0.507
8	0.101	0.162	0.073	0.652	0.021	0.821	<i>0.008</i>	0.202	<i>0.037</i>
9	0.093	0.086	0.187	<i>0.001</i>	0.357	0.103	0.077	0.875	0.666
10	0.092	<i>0.017</i>	0.743	0.785	0.607	0.332	<i>0.032</i>	0.791	0.106
11	0.090	0.199	0.794	0.009	0.555	0.992	0.134	0.965	0.813
12	0.109	0.553	0.602	0.819	0.199	0.890	0.051	0.554	0.676
13	0.103	0.191	0.474	0.192	0.434	0.352	<i>0.014</i>	0.966	0.142
14	0.107	<i>0.011</i>	0.486	0.045	<i>0.012</i>	0.708	0.240	0.972	0.981
15	0.093	0.013	0.066	0.167	<i>0.032</i>	0.515	<i>0.049</i>	0.597	0.113
16	0.108	0.094	0.364	0.778	0.054	0.563	0.092	0.992	0.175
17	0.102	0.109	0.060	0.101	<i>0.007</i>	0.796	0.684	0.958	0.824
Average	0.097	0.137	0.309	0.286	0.236	0.560	0.260	0.743	0.548

Note. The goodness of fit (GoF) was evaluated using four auxiliary network statistics: Outdegree distribution, indegree distribution, geodesic distance, and triad census. These statistics are needed for assessing how well the patterns of friendship or dislike in grade-level networks are represented by the model effects. For each auxiliary statistic, the differences between the observed grade-level values and the simulated values from the model (averaged across 10,000 random networks) were measured using the Mahalanobis distance. A particular statistic is considered to have a good or acceptable fit if the reported p-value is greater than 0.05, indicating that the simulated values do not significantly differ from the observed values. Some grades have one or more statistics that are not well-fitted, highlighted in italics. However, the average p-values, of the four auxiliary network statistics, across the 17 grades are all larger than 0.05, demonstrating that our models generally fit the data well.

Table A2.7. Coefficients, standard errors, and p-values derived from the meta-analyses that aggregate the outcomes of the 17 individual SAOMs in Model A.1.

Parameter	Estimate	SE	P-Value
<i>Univariate Effects: Friendship</i>			
Basic Rate Parameter	13.323	0.914	0
Outdegree	-2.585	0.14	0
Reciprocity	2.351	0.127	0
Transitivity (GWESP)	1.588	0.066	0
Reciprocity x GWESP	-0.923	0.079	0
Indegree popularity	-0.038	0.01	0
Indegree activity	-0.156	0.018	0
Outdegree activity	0.029	0.007	0
Gender (Ref.: Boy)			
Alter	-0.026	0.029	0.37
Ego	-0.167	0.046	0
Same	0.437	0.039	0
Socio-Economic Status:			
Alter	-0.001	0.001	0.197
Ego	-0.001	0.001	0.135
<i>Similar</i>	<i>0.142</i>	<i>0.078</i>	<i>0.069</i>
Muslim (Ref.: Non-Muslim)			
Alter	0.142	0.062	0.023
Ego	0.213	0.113	0.059
Same	0.291	0.033	0
Turkish (Ref.: Non-Turkish)			
Alter	-0.249	0.098	0.011
Ego	-0.192	0.123	0.12

Same	-0.095	0.075	0.204
Same ethnicity	0.161	0.071	0.0239
Same school class	0.555	0.054	0
Same elementary school	0.023	0.06	0.704
Same neighbourhood	0.024	0.049	0.628

Univariate Effects: Dislike

Rate Parameter	14.494	0.747	0
Outdegree	-3.259	0.11	0
Reciprocity	0.635	0.09	0
Transitivity (GWESP)	0.148	0.097	0.128
Indegree popularity	0.083	0.006	0
Indegree activity	-0.015	0.01	0.124
Outdegree activity	0.094	0.005	0
Gender (Ref.: Boy)			
Alter	-0.092	0.03	0.001
Ego	0.037	0.026	0.161
Same	0.284	0.034	0
Socio-Economic Status:			
Alter	-0.001	0.001	0.121
Ego	0	0.001	0.4937
Similar	-0.102	0.063	0.104
Muslim (Ref.: Non-Muslim):			
Alter	-0.08	0.049	0.101
Ego	-0.012	0.062	0.85
Same	-0.12	0.045	0.007
Turkish (Ref.: Non-Turkish)			
Alter	0.009	0.077	0.906
Ego	-0.081	0.071	0.249
Same	-0.021	0.057	0.709

Same ethnicity	-0.002	0.04	0.961
Same school class	0.958	0.102	0
<i>Same elementary school</i>	<i>0.069</i>	<i>0.04</i>	<i>0.084</i>
Same neighbourhood	-0.052	0.033	0.113

Note. Number of students = 1,678, number of school grades = 17.

Bold indicates statistical significance at a critical alpha of 0.05.

Italics indicates statistical significance at a critical alpha of 0.10.

Chapter 3. Gender differences in dislike among Muslim and non-Muslim adolescents in German schools.⁸

Abstract

Existing research provides extensive evidence for the existence of a high level of segregation between Muslim and non-Muslim students in Western European schools, both in terms of a preference for positive ingroup interactions and for negative intergroup attitudes. However, there also is increasing empirical support suggesting that such tendencies towards segregation might vary depending on the gender of the students involved. In this paper, we argue and test whether in school settings, non-Muslim youth are more likely to dislike Muslim males, and that such feelings are reciprocated (i.e., Muslim males have a higher tendency to dislike non-Muslims). We further hypothesize that dislike is especially prominent between non-Muslim and Muslim males. Using multilevel and multivariate Stochastic Actor-Oriented Models (SAOMs) on school-based network panel data (N = 1,487, with Muslims being 519), the results however show an out-group bias in dislike is observed only among Muslim youth towards non-Muslim peers. This research particularly highlights that non-Muslim girls have a significant tendency to dislike Muslim boys more than their non-Muslim male peers. Among Muslim adolescents, both boys and girls show a stronger dislike for non-Muslims compared to Muslims. This outgroup bias is evident only in cross-gender interactions, with Muslim boys disliking non-Muslim girls more than Muslim girls, while Muslim girls disliking non-Muslim boys more than Muslim boys. The findings underscore the interplay of gender and affiliation with Islam in shaping the interactions between Muslim and non-Muslim adolescents, highlighting the importance of considering gender when developing interventions to promote social integration and reduce intergroup divisions between Muslim and non-Muslim adolescents.

⁸ I am currently preparing a slightly different version of this chapter, together with Filip Agneessens, for submission to a peer-reviewed journal.

3.1. Introduction

Social integration and prevention of social isolation of adolescents in school context are crucial for a variety of reasons. Social integration has been found to affect both mental and physical health (Kornienko & Rivas-Drake, 2022). Yet, there is a substantial body of research showing that in Western European schools there is a substantial absence of integration between Muslim and non-Muslim students. This is reflected in substantially fewer positive interactions between religious groups compared to within the respective groups (Leszczensky & Pink, 2017; Windzio & Wingens, 2014). Even after accounting for socioeconomic and ethnic factors (Zwier & Geven, 2023; Leszczensky & Pink, 2015), such a religious boundary between Muslim and non-Muslim students remains as a significant relational divide. Potentially more importantly, this clear dynamic of segregation is reflected in considerably more negative interreligious social relations, such as a higher tendency for negative feelings (Verkuyten & Thijs, 2010) and a reluctance to sit next to each other (Simsek, van Tubergen, & Fleischmann, 2022).

While many prior studies have focused on lower levels of positive interactions and higher levels of negative contacts between Muslims and non-Muslims in general, such research tends to ignore the complex interplay of multiple characteristics. Recent research has started to pay more attention to the role of gender and gender norms in shaping religious segregation among Muslim and non-Muslim youth (Carol, 2014). First of all, scholars have argued that in many Western European countries males tend to have stronger anti-Muslim attitudes than females (Wiemers, Stasio, & Veit, 2024). At the same time, there exists evidence to support the idea that non-Muslims hold strong negative stereotypes towards Muslim males, where they perceive Muslim males as patriarchal (Erentzen et al., 2023) and sometimes even aggressive (Fourgassie, Subra, & Sanitioso, 2024). Furthermore, theoretical arguments also propose that males, as primary competitors for resources, play central roles as both targets and perpetrators in intergroup conflicts (Purdie-Vaughns & Eibach, 2008; Sidanius & Veniegas, 2000). In light of these insights, we aim to explore how gender shapes

the interreligious dislike network.

This study focuses on negative affective ties because they tend to exert a deeper and more lasting impact on individuals than positive ones such as friendship, i.e., a *negative asymmetry* (Labianca & Brass, 2006). Moreover, negative ties have been found to be particularly relevant for the emergence and stability of group boundaries (Agneessens, 2023; Stadtfeld, Takács, & Vörös, 2020). Hence, the presence of an interreligious dislike network would signal particularly tense intergroup dynamics, potentially far more than a lack of friendships (Kretschmer & Leszczensky, 2022), negative attitudes (Verkuyten & Thijs, 2010), or avoidance (Simsek, van Tubergen, & Fleischmann, 2022). If this is the case, the friendship segregation that socially divides Muslim from non-Muslim adolescents in Western European schools would be further reinforced by prominent relationships of dislike between them. While our focus is on negative dislike ties and how these relationships differ based on gender because of their impact, from an analytical perspective, it is essential to consider both friendship and dislike simultaneously because of their interaction. This is in line with earlier research which has shown that frequent intergroup dislike can simultaneously strengthen within-group cohesion while reinforcing between-groups social segregation (Stadtfeld, Takács, & Vörös, 2020). Therefore, both forces of attraction (within-group cohesion) and repulsion (between-group tension) contribute to the formation and stability of social groups.

To study the relevance of gender-specific micro-behaviors in the emergence and stability of macro-level social networks (Snijders & Kalter, 2020) we investigate the longitudinal evolution of both dislike and friendship networks. More specifically, we use Stochastic Actor-Oriented Models (SAOMs; Ripley et al., 2024) on a sample of German school-based network panel data (N = 1,487; number of Muslims = 519). In Germany, Muslims represent a growing share of the population, constituting between 6.4% and 6.7%, and are the largest religious minority group (Pfündel, Stichs, & Tanis, 2021).

3.2. Theory & Hypotheses

3.2.1. *Interreligious Dislike between Muslim and Non-Muslim students*

In many Western European schools, empirical evidence reveals reciprocal negative sentiments and distancing are prevalent between Muslim and non-Muslim students. Simsek, van Tubergen, and Fleischmann (2022) show that Muslim and non-Muslim classmates often experience intergroup exclusion and form fewer friendship relationships in ethnically and religiously diverse settings. Verkuyten and Thijs (2010) similarly find that non-Muslim adolescents, particularly Christians, tend to prefer their own religious group over Muslim peers and express more negative feelings toward them. At the same time, Muslims are found to report considerably more negative feelings towards Christians and non-religious students, than negative feelings towards their own religious group.

One of the core arguments for such animosity is based on the concept of an "interreligious attribution bias". According to *Attribution Theory* (Heider, 1958; Fiske & Taylor, 1991) people often exhibit self-serving biases, attributing failures to external causes, related to situational factors beyond one's control, while taking personal credit for successes by linking them to personal traits and intentions (Larson, 1977; Kelley, 1967). This bias extends beyond personal behavior to the actions of group members, particularly through group-serving attributions (Taylor & Jaggi, 1974). *Social Identity Theory* (Tajfel & Turner, 1979) posits that individuals favor their ingroup as a psychological strategy to maintain a positive social identity and self-esteem. This manifests as a tendency to attribute positive behaviors of ingroup members to internal traits, like good values, while negative actions are blamed on external circumstances. In contrast, the reverse pattern applies to outgroup members, with positive behaviors being attributed to external factors and negative behaviors to internal flaws (Miller & Ross, 1975). These biases become even more pronounced when individuals perceive the outgroup as threatening, leading to hostile interpretations of outgroup behaviors (Kenworthy & Miller, 2002; Campbell & Sedikides, 1999; Crick & Dodge, 1996).

Given the distinction between Muslims or non-Muslims, both groups might perceive

behaviors from members of the other group as intentional and rooted in negative intent, while interpreting the same behavior of ingroup members more positively. As a result, our starting point in this study is that Muslim and non-Muslim students exhibit reciprocal dislike towards the other group:

Hypothesis 1: Among Muslim and non-Muslim youth, interreligious dislike ties are more likely than intrareligious ones.

We next turn to the respective tendencies of non-Muslim and Muslim groups to dislike one another and the role of gender.

3.2.2.1. Why Non-Muslims are more likely to Dislike Muslim Boys than Muslim Girls

Numerous studies have consistently found the prevalence of anti-Muslim attitudes and stereotyping in Western Europe (e.g., Verkuyten, 2021). One important source of such negative stereotyping is the association of Muslim males' behavior with forms of masculinity and gender oppression (Erentzen et al., 2023). Non-Muslims tend to associate Muslim men more frequently with dominant traits such as "misogynistic," "aggressive," "dominant," and "bigotry" (Wiemers, Di Stasio, & Veit, 2024) than they do with non-Muslim men. Such Muslim masculinity heightens non-Muslims' perceptions of them as a "danger" to social order and safety (Allen, 2024). In contrast, Muslim women are often viewed through a lens of gendered Islamophobia that emphasizes their perceived subjugation (Fourgassie et al., 2024). These views are reinforced by media portrayals and political rhetoric, which frequently depict Muslim women as oppressed by conservative gender norms within a patriarchal system (Van Es, 2016).

Such gendered stereotypes could foster distinct dynamics of interreligious dislike among non-Muslims towards Muslim boys and girls. Empirical evidence provides support for these theoretical assertions in Western European school environments, demonstrating that non-Muslim students exhibit a greater reluctance to build positive interactions with Muslim males compared to Muslim

females (Kretschmer & Leszczensky, 2022). By integrating existing literature with *Attribution Theory*, rooted in the intersection of religion- and gender-based stereotypes, we expect that non-Muslim youth might perceive the behavior of Muslim boys in a more negative way than Muslim girls. This perception could increase non-Muslims' "interreligious attribution bias" by amplifying the tendency to attribute specific behaviors displayed by Muslim boys as negative and attributed to internal, culturally or religiously rooted traits, whereas similar behaviors by Muslim girls might be less readily attributed to external situational factors. This bias might contribute to heightened strained relationships between non-Muslim students (both male and female) and Muslim boys, reinforcing existing stereotypes, which lead to greater dislike. Consequently, we formulate the following hypothesis:

Hypothesis 2.1: Non-Muslims are more likely to dislike Muslim boys compared to Muslim girls.

3.2.2.2. Why Non-Muslims Boys, are more likely to Dislike Muslim Boys over Muslim Girls

While non-Muslim boys and girls might be more likely to negatively attribute Muslim males' behaviors, *Social Dominance Theory* (SDT; Sidanius, & Pratto, 1999) suggests that dislike for Muslim boys might be more likely by non-Muslim boys than non-Muslim girls. Furthermore, the *Subordinate Male Target Hypothesis* (SMTH; Sidanius & Veniegas, 2000) provides crucial insights into why the overlap of gender and religious social identities elicits more direct prejudice from non-Muslim males towards Muslim males.

SDT posits that societies are structured in group-based hierarchies where dominant groups enforce their power and privilege over subordinate groups through legitimizing myths, institutional, and individual discriminations (Pratto, Sidanius, & Levin, 2006). These hierarchies are thus maintained by both individual psychological orientations towards dominance and broader societal systems that reinforce inequality. Moreover, dominant group members often use ideologies and institutional structures to perpetuate and justify the subordination of marginalized social groups

through different forms of oppression, such as gender, race, and religion.

SMTH extends SDT by emphasizing the specific threat that subordinate group males pose to dominant group individuals, addressing the intersection of minority status and gender (Purdie-Vaughns & Eibach, 2008). Because mostly men are characterized by traits, such as aggressiveness, bravery, independence, and strength, and compete over resources, SMTH suggests that they are the primary agents as well as targets for intergroup conflicts (Sidanius & Veniegas, 2000). Consequently, subordinate males are more frequently perceived as posing a greater threat to the status of dominant group males. Then, several forms of oppression disproportionately affect subordinate males compared to their female counterparts, who are perceived as less threatening (Navarrete et al., 2010)

Based on this argumentation and the earlier perception of Muslim boys, non-Muslim boys can be expected to perceive Muslim males as threats to their privileged social position, potentially leading to heightened feelings of animosity or dislike. As a result, non-Muslim boys might harbor stronger negative attitudes toward Muslim boys, compared to Muslim girls. Hence, we hypothesize that:

Hypothesis 2.2: Non-Muslim boys are more likely to dislike Muslim boys than to dislike Muslim girls.

3.2.3. Why Muslims, and in particular Muslim Boys, Dislike More Non-Muslims, and in particular more Non-Muslim Boys than Non-Muslim Girls

From the perspective of Muslim students, we might expect a reciprocation of dislike towards non-Muslims, partly due to the negative stereotyping. *Intergroup Threat Theory* (Stephan & Stephan, 2013) suggests that intergroup tensions arise when one group perceives another as a potential threat, whether realistic (e.g., behavioral or safety concerns) or symbolic (e.g., threats to identity and values). These perceived threats are particularly potent during adolescence, a formative period when individuals are developing their social identities (Umaña-Taylor et al., 2014). Muslim adolescents, as a minority in Western societies, often perceive non-Muslims as threats to their own cultural and

religious identity (Farooqui & Kaushik, 2020; Lynch, 2013). This is especially true in school environments, where intergroup dynamics can heighten these feelings of threat and contribute to negative intergroup attitudes (Verkuyten & Thijs, 2002). Following this logic, we could expect similar dislike patterns to emerge from Muslims towards non-Muslims. In particular, we expect that given that males experience prejudice to a higher extent, with stereotypes of aggression and intolerance, they are a primary target for Islamophobia. As a result, Muslim males might be more likely to reciprocate dislike.

Although the gendered aspects of Muslim stereotypes have been proposed in recent literature, both in North America (Erentzen et al., 2023) and Western Europe (Wiemers, Stasio, & Veit, 2024), there is no research exploring the possible gendered dimension of the negative relationships between Muslim and non-Muslim youth. However, with respect to positive networks, empirical evidence from German schools shows that non-Muslim students are less willing to form friendships with Muslim boys than Muslim girls (Kretschmer & Leszczensky, 2022). This reluctance might not only exclude Muslim males but also contribute to a cycle of mutual suspicion and animosity between Muslim males and their non-Muslim peers.

The exclusion that Muslim boys face in these environments can further solidify intergroup divisions and intensify negative attitudes toward non-Muslims, particularly non-Muslim boys, whose behaviors might be perceived as reinforcing their social dominance. Prior research has shown that perceived intergroup threats can amplify perceived differences between groups (Doosje & Branscombe, 2003), resulting in hostile interpretations of outgroup behaviors and increasing intergroup negative attribution biases (Turner & Hewstone, 2010). Discrimination and rejection experiences among Muslim males can thus lead to stereotypes of feelings of threat and hostility towards non-Muslims, particularly targeting non-Muslim males, who might be seen as embodying dominant social traits. Therefore, based on this theoretical framework, we hypothesize that:

Hypothesis 3.1: Muslim boys, compared to Muslim girls, are more likely to dislike non-

Muslims.

Hypothesis 3.2: Muslim boys are more likely to dislike non-Muslim boys compared to non-Muslim girls.

3.3. Data & Method

3.3.1. Data

We examined our hypotheses on interreligious relationships between Muslim and non-Muslim boys and girls using data from the first three waves of the *Friendship and Identity in School* (FIS) project (Leszczensky et al., 2022). This longitudinal study explores the social networks of adolescents in nine schools across the German state of North Rhine-Westphalia. About two-thirds of the student participants have a migration background, meaning they or at least one of their parents or grandparents were born outside of Germany. Within this minority group, 15% are first-generation immigrants, 69% are second-generation, and 16% are third-generation immigrants. The sample comprises 30.6% Muslim students.

In each school, a network panel survey was conducted including all students from the fifth, sixth, and seventh grades (academic years), beginning in April and May of 2013, with student ages ranging from 11 to 14 years old. Subsequent survey waves were administered at approximately nine-month intervals. The surveys were completed using paper-and-pencil questionnaires under the supervision of research assistants. Student participation was voluntary and required written consent from parents. Social ties between students were collected at the grade level, allowing students to indicate relationships with all peers in their academic year. This approach resulted in 26 extensive networks, most consisting of three or four classrooms, providing sufficient information to estimate the complex models required to test our hypotheses.

For our analysis, we focused on the second period (waves 2 and 3), as it offered the highest number of grades with participation rates of at least 75% in any wave. This threshold is commonly

accepted for addressing unit non-response in social network analysis (e.g., Huisman & Steglich, 2008). Consequently, we selected 19 grade-level networks, excluding four due to insufficient Muslim student representation (less than 5%) or lack of statistical power to estimate the interactions of religion- and gender-specific effects. The final analytical sample included 15 networks, totaling 1,487 students, with 519 being Muslim. Average participation rates were 84.9% in wave 2 and 87.3% in wave 3. Detailed characteristics of these 15 grade-level networks are provided in Tables A3.1 and A3.2 in the Appendix.

3.3.2. Variables

In each wave, dislike and friendship networks were assessed using sociometric nominations. Students responded to the questions “*Who do you dislike?*” and “*Who are your best friends?*” with a list of all their peers in the grade. They could nominate up to ten friends and ten disliked peers. The results showed minimal overlap between dislike and friendship ties, ranging from 0.02% to 1%, as detailed in Table A3.3 of the Appendix. These overlaps were shifted to neutral ties, supporting the notion of mutual exclusivity: A dislike tie must be dissolved before forming a friendship, and vice versa (see Boda, Néray, & Snijders, 2020, for this approach).

Students' religious affiliation was determined based on their responses to the question, “*What is your religion?*” Those identifying as Islam were categorized as *Muslim* (constituting 35% of the analytical sample), while students indicating non-religious, Catholic, or Protestant denominations were classified as *non-Muslim*. The Muslim variable was then coded 1 for Muslim and 0 for non-Muslim students. Among the non-Muslims, 81.7% identified as Christian. Detailed information on the religious composition of the sample can be found in Table A3.4 of the Appendix.

Based on the country of origin of students' families, we categorized their *ethnicity* into distinct groups, including Germany, Turkey, Poland, the former Soviet Union, former Yugoslavia, Greece, Italy, Lebanon, North Africa, Rest of Africa, North America and Oceania, Latin America and the Caribbean, Southern Asia, Western Asia, Rest of Asia, Eastern Europe, Rest of Europe, and Southern

Europe. This classification approach emphasizes the largest migrant groups within the context of the study, while combining smaller groups into broader categories (see Dollmann, Jacob, & Kalter, 2014, for details). Table A3.4 in the appendix presents cross-tabulations of students' religions and ethnic backgrounds, illustrating sufficient diversity to analyze the effects of both religious and ethnic factors simultaneously.

In addition to being *female*, which was coded 1 for girls and 0 for boys, we incorporated various socio-demographic factors into our models to account for their potential impact on friendship and dislike networks. *Socio-Economic Status (SES)* was determined based on the highest occupational status of the parents using the ISEI scale. This measure reflects the socio-economic background of the family, capturing the opportunities for social interactions both before entering secondary school and outside of it. We also considered the *primary school* attended by the students and their *neighborhood* of residence as contextual variables. Given that most subjects in Germany are taught within the same classroom, we controlled for specific *classroom* environments within each school grade. The incidence of missing information on *religion*, *ethnicity*, and *gender* was 7.7%, 7.4%, and 7.6% respectively, while for *primary school* data it was 20.9%, and for *neighborhood* data it was 9.1%.

3.3.3. Multivariate Stochastic Actor-Oriented Models

We utilize multivariate Stochastic Actor-Oriented Models (SAOMs) to explore the co-evolution of dislike and friendship networks among students, considering networks compositions and student attributes (Snijders, 2017; Snijders, Van de Bunt, & Steglich, 2010). Each grade-level network defines the boundaries of the opportunity structure where students, as actors, control their outgoing ties. The simulation process involves incremental changes (mini-steps) where actors decide to create new ties, withdraw existing ones, or maintain the status quo. These decisions follow a multinomial choice process guided by an objective function, which combines effects representing student preferences and expected network evolution mechanisms (Ripley et al., 2024). The simulation

proceeds iteratively from an initial observation of the network (e.g., wave 1) to subsequent observations (e.g., wave 2), treating the latter as dependent variables. This iterative process adjusts parameter values to align simulated networks with observed ones, thereby allowing interpretation of resulting parameters as logit coefficients. These models enable a comprehensive analysis of social network dynamics, addressing religion- and gender-related mechanisms while accounting for the complex interplay between individual preferences, network structure, and demographic attributes (Steglich et al., 2010). This methodology is essential for understanding how individual-level interactions aggregate into macro-level network structures, such as the formation of friend groups among diverse student populations, including Muslim and non-Muslim, female and male, students. In summary, SAOMs provide a robust framework for analyzing the dynamics of how friendship and dislike networks evolve over time within educational settings, shedding light on broader social integration processes among students from varying backgrounds.

3.3.4. Model Specification

Friendships among students can greatly impact network formation and introduce selection biases that significantly influence the fundamental network processes for dislike (Boda, Néray, & Snijders, 2020). Then, to ensure an accurate analysis of dislike dynamics within educational settings, we also incorporate the coevolution of friendships. To understand their network formation, we begin by examining basic univariate tendencies. These tendencies explore how relationships between two individuals (e.g., a dislike or a friendship tie) are influenced by other relationships within the same network. The *outdegree* effect represents the general propensity to form dislikes or friendships, with a constraint of a maximum of ten nominations in our dataset. The *reciprocity* effect measures the likelihood of reciprocating incoming ties. The *geometrically weighted edgewise shared partners* (GWESP) effect indicates the likelihood of person A forming a relationship with person C when person A nominates person B and person B also nominates person C (Ripley et al., 2024). For the friendship network, we also included an interaction between the GWESP and *reciprocity* effects to

reflect differences in reciprocity within closed versus open network structures (Block, 2015). Additionally, further network-related effects such as *outdegree-activity*, *indegree-popularity*, and *indegree-activity* are considered. These processes are incorporated into the SAOMs to describe basic network properties and the evolution of social networks. This approach helps to prevent confounding theoretically relevant effects with other network dynamics (Lomi et al., 2011).

Furthermore, we include a comprehensive set of covariates (Leszczensky & Pink, 2015; Smith, 2014). For instance, to capture intra ethnic homophily and interethnic dislike, we include the same ethnicity effect based on the discussed country of origin classification. Socio-economic background is also considered by including *ego*, *alter*, and *similarity* effects based on parents' mean socio-economic status (*SES*). Furthermore, to address differing opportunities for friendship and dislike development, we include effects for the *same classroom*, *same primary school*, and *same neighborhood*⁹.

Four models were estimated to test the hypothesized mechanisms sequentially. Model 1 explored the general effect of affiliation with Islam to test whether Muslim and non-Muslim youth hold an out-group bias in dislike (Hypothesis 1). To model such biases, we use *ego*, *alter*, and *same Muslim* (0 = non-Muslim; 1 = Muslim) effects in both networks. From this set of effects, we derived the 2-by-2 Table 3.1 to estimate Muslim/non-Muslim students' tendencies in befriending Muslims/non-Muslims over non-Muslims/Muslims and in disliking non-Muslims/Muslims over Muslims/non-Muslims.

⁹ By incorporating these meeting opportunities into our analytical model, the modelling strategy acknowledge the influence of social context for intergroup networks (Blau, 1974). Indeed, religious segregation might be a consequence of segregation in schools and neighborhoods rather than individual preferences. Additionally, attending the same primary school provides another social setting where students might establish friendships or develop dislikes. Neglecting these variations in meeting opportunities could lead to inaccurate estimations of homophily and heterophily effects (Wimmer & Lewis, 2010).

Table 3.1. 2-by-2 table to estimate the tendencies of Muslim and non-Muslim students' friendship ingroup biases and dislike outgroup biases.

Ego	Alter		<i>Friendship ingroup bias</i>	<i>Dislike outgroup bias</i>
	n-M	M		
n-M	$b_{M \text{ Same}}$	$b_{M \text{ Alter}}$	$(1) b_{M \text{ Same}} + (-1) b_{M \text{ Alter}}$	$(1) b_{M \text{ Alter}} + (-1) b_{M \text{ Same}}$
M	$b_{M \text{ Ego}}$	$b_{M \text{ Ego}} + b_{M \text{ Alter}} + b_{M \text{ Same}}$	$(1) b_{M \text{ Alter}} + (1) b_{M \text{ Same}}$	$(-1) b_{M \text{ Alter}} + (-1) b_{M \text{ Same}}$

Note. n-M indicates non-Muslim; M indicates Muslim. The Muslim attribute is dummy coded: 0 for n-M and 1 for M.

In Model 1, we incorporated *ego*, *alter*, and *same* effects for the *female* covariate, with boys serving as the reference category, to address potential differences in activity and popularity between boys and girls, as well as to account for the prevalent trend toward same-gender friendships and dislike relationships. In Models 2, we interacted *ego*, *alter*, and *same* Muslim effects with, in Model 2A, *alter female* and, in Model 2B, *ego female*. In the final Model 3, all *ego*, *alter*, and *same* effects for the *female* and *Muslim* covariates were interacted.

3.3.5. Analytical Strategy

For each of the four Models, we implemented a two-step process using SAOMs to examine the multivariate dynamics of friendship and dislike networks co-evolution. Initially, we individually analyzed each of the 15 grade-level networks, taking into account compositional changes, such as students entering or leaving between waves, by using the joiners and leavers approach proposed by Huisman and Snijders (2003). All models were estimated with the SIENA package in the R software (RSiena Version 1.4.9), utilizing non-centered covariates and running 10,000 iterations during the final estimation phase. Missing values for individual attributes were considered non-informative in the estimation process (Huisman & Steglich, 2008). Each single grade model followed the same specification. To ensure model reliability, we re-estimated all single grade-level network analyses until the t-ratios of convergence for all effects were below 0.1 and the overall maximum convergence ratio was under 0.2 (Ripley et al., 2024). We also conducted four goodness-of-fit tests to evaluate model fit concerning outdegree distribution, indegree distribution, geodesic statistics, and triad census

(Lospinoso & Snijders, 2019). The models demonstrated a good fit to the data, as shown in Tables A3.5 in the Appendix. In the second step, we performed a random-effects multivariate meta-analysis with a restricted maximum likelihood estimator (An, 2015; Gasparrini, Armstrong, & Kenward, 2012). We applied the “mvmeta” function (Version 1.0.3) up to 1500 iterations, combining the 15 sets of parameter estimates to derive average effects (Snijders & Baerveldt, 2003). We selected this multivariate approach because it generated the covariance matrix needed to compute confidence intervals for the linear combinations of effects, as detailed in the previous section.

3.4. Results

3.4.1. Descriptives

Table 3.2 provides a summary of the key descriptive statistics for the analytical sample of 1,487 students, including the averages and standard deviations for the 15 grade-level networks. On average, Muslims constitute 35%, while Turkish students make up 27%. The average outdegree activity for friendship networks was 6.85 at time 1 and slightly decreased to 6.79 at time 2. For dislike relationships, the average outdegree activity was 3.35 at time 1 and 3.01 at time 2. These values indicate stability in the students' social networks over time, with minor changes in both friendship and dislike relationships. The average Jaccard index, which measures the stability of these networks, was 0.14 for dislikes and 0.42 for friendships, highlighting greater stability in friendship networks compared to dislike networks. The variations in these proportions and indices provide a clear distinction between different student categories and the dynamics of their social interactions over the observed period.

Table 3.2. Descriptive statistics with averages and standard deviations, within parentheses, for the 15 grade-level networks.

<i>Individual Attributes</i>	
Muslim	35% (10.1%)

Turkish	27% (9.2%)
Female	44% (15.7%)
<i>Average Outdegree</i>	
Friendship t1	6.85 (1.09)
Friendship t2	6.79 (0.73)
Dislike t1	3.35 (0.99)
Dislike t2	3.01 (0.62)
<i>Average Jaccard index</i>	
Dislike	0.14 (0.03)
Friendship	0.42 (0.04)

Note. Grade-level averages were computed after excluding NA's coded rows.

Table 3.3 provides descriptive statistics of the analytical sample, including averages and standard errors for outdegrees among 661 females and 729 males. It further distinguishes between 519 Muslim students (254 females and 265 males) and 870 non-Muslim students (405 females and 465 males). At time 1, the average outdegree for dislike relationships was 3.00 overall, with Muslims averaging 2.95 and non-Muslims averaging 3.02. Among Muslims, girls had an average outdegree of 3.18 and boys 2.75, compared to non-Muslim girls at 3.44 and boys at 2.65. By time 2, the overall average for dislike decreased to 2.72, with Muslims at 2.64 and non-Muslims at 2.76. Muslim girls' average dropped to 2.61, while boys' average increased slightly to 2.67. Non-Muslim girls averaged 3.12 and boys 2.44. For friendship networks at time 1, the overall average outdegree was 6.27, with Muslims higher at 6.52 compared to non-Muslims at 6.12. Muslim boys had the highest average at 6.95, while non-Muslim boys averaged 6.09. Both Muslim and non-Muslim girls averaged 6.14. By time 2, the overall average slightly decreased to 6.13, with Muslims at 6.55 and non-Muslims at 5.87. Muslim boys increased to 7.10, while non-Muslim boys decreased to 5.96. Muslim girls averaged 6.03, higher than non-Muslim girls at 5.76. These statistics highlight notable differences in social dynamics among Muslim and non-Muslim students, with variations by gender and over time.

Table 3.3. Descriptive statistics with analytical sample averages for all (N = 1,487; female = 661, male = 729), Muslim (N = 519; female = 254, male = 265), and non-Muslim (N = 870; female = 405,

male = 405) students. Standard errors are reported within parentheses.

	All	Muslims	non-Muslims
<i>Average outdegree</i>			
Dislike t1			
Both	3.00 (0.08)	2.95 (0.13)	3.02 (0.10)
Girls	3.34 (0.12)	3.18 (0.20)	3.44 (0.15)
Boys	2.70 (0.10)	2.75 (0.18)	2.65 (0.13)
Dislike t2			
Both	2.72 (0.07)	2.64 (0.12)	2.76 (0.09)
Girls	2.92 (0.11)	2.61 (0.17)	3.12 (0.15)
Boys	2.52 (0.10)	2.67 (0.19)	2.44 (0.12)
Friendship t1			
Both	6.27 (0.09)	6.52 (0.15)	6.12 (0.11)
Girls	6.14 (0.12)	6.14 (0.21)	6.14 (0.16)
Boys	6.41 (0.13)	6.95 (0.21)	6.09 (0.15)
Friendship t2			
Both	6.13 (0.08)	6.55 (0.14)	5.87 (0.10)
Girls	5.88 (0.12)	6.03 (0.18)	5.76 (0.15)
Boys	6.37 (0.12)	7.10 (0.18)	5.96 (0.15)

Note. Averages were computed after excluding NA's coded rows.

3.4.2. Results of Statistical Analysis

The key results from the four models of the SAOM analyses are displayed in the figures below, as well as in the Appendix for the friendship network, along with the full results in Table A3.6. All results in the figures are presented as posterior means with 95% confidence intervals, reflecting logit effects on the probability of tie formation and maintenance of a tie. These are also referred to as contributions to the evaluation function (Ripley et al., 2024). In the figure labels, “n-M” and “M” denote non-Muslim and Muslim, respectively.

To test our hypothesis 1, we consider the effect of outgroup tendencies for Muslim and non-Muslim, respectively. Model 1 provides only partial support for Hypothesis 1. Figure 3.1 highlights an outgroup bias in the dislike network for Muslim students, meaning they are significantly more likely to report disliking non-Muslim peers compared to Muslim peers ($b = 0.186$, $st. err. = 0.077$, $p < 0.05$). However, non-Muslim students do not exhibit a significantly higher tendency to dislike Muslims over non-Muslims ($b = 0.062$, $st. err. = 0.047$, $p > 0.05$).

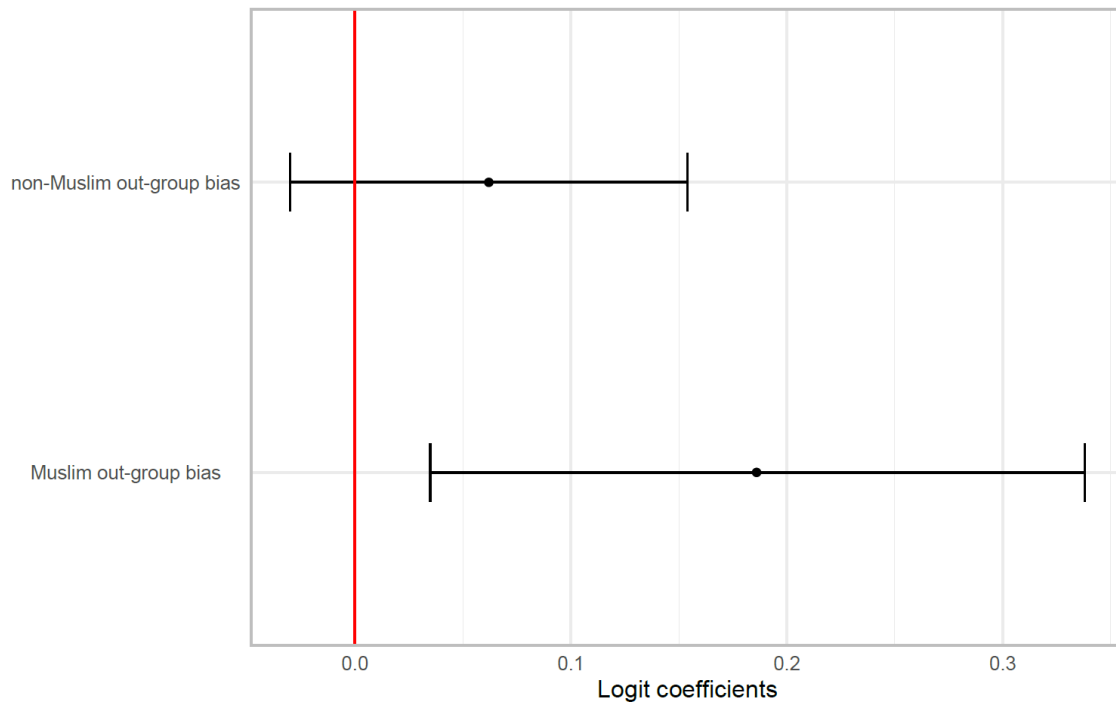


Figure 3.1. Tendency of non-Muslims/Muslims to create/maintain dislike ties with the other group versus their own group.

While we do not find a significant effect for non-Muslims to dislike Muslims more, Hypothesis 2.1 suggests that non-Muslims will be especially likely to dislike Muslim males. In Model 2A, we further examine dislike networks among Muslim and non-Muslim boys and girls, specifically differentiating based on the gender of the receiver (i.e., alter). Figure 3.2 shows the outgroup dislike preferences among non-Muslims based on the gender of their Muslim peers. The results indicate a non-significant outgroup bias, meaning that, overall, non-Muslims do not differentiate between boys and girls in their propensity to dislike Muslims. Hence, contrary to the theoretical expectations of Hypothesis 2.1, non-Muslim adolescents do not exhibit a significantly higher dislike towards Muslim boys overall ($b = 0.094$, $st. err. = 0.063$, $p > 0.05$).

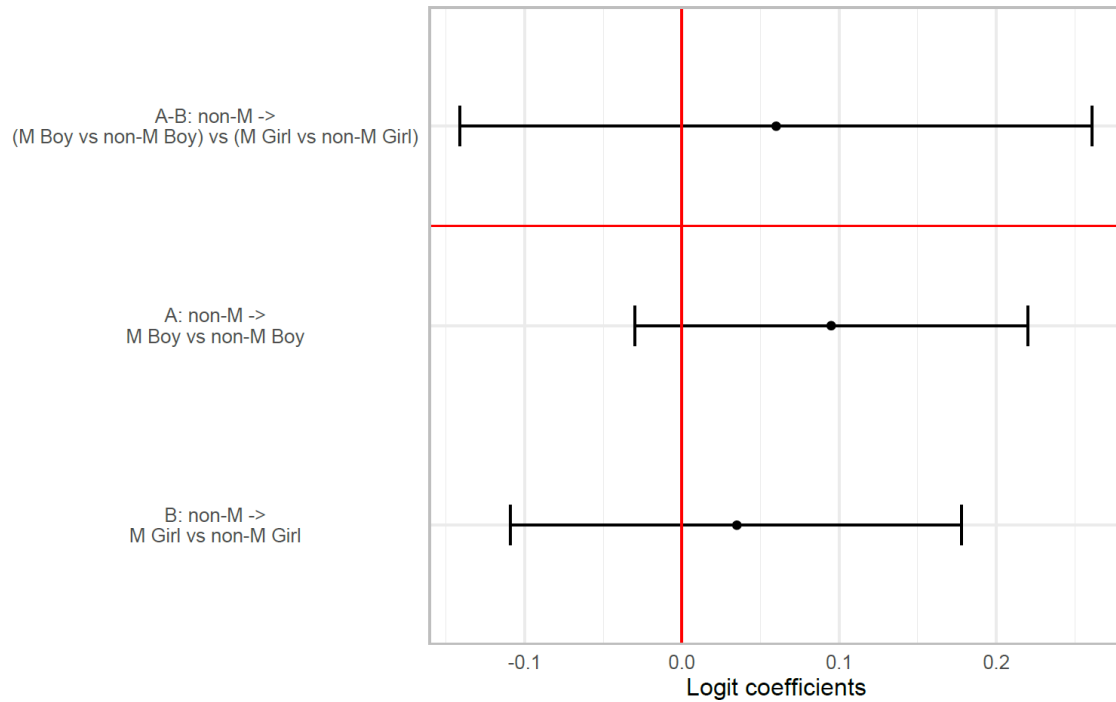


Figure 3.2. Tendency of non-Muslims to create/maintain dislike ties with Muslim boys/girls vs non-Muslim boys/girls.

In Figure 3.3, results show that Muslims exhibit an outgroup bias which is significantly stronger towards non-Muslim boys compared to Muslim boys ($b = 0.298$, $st. err. = 0.101$, $p < 0.05$), while there is no significant difference of Muslims disliking non-Muslim girls over Muslim girls. However, this bias is not significantly greater than the outgroup bias towards girls ($b = 0.146$, $st. err. = 0.141$, $p > 0.05$).

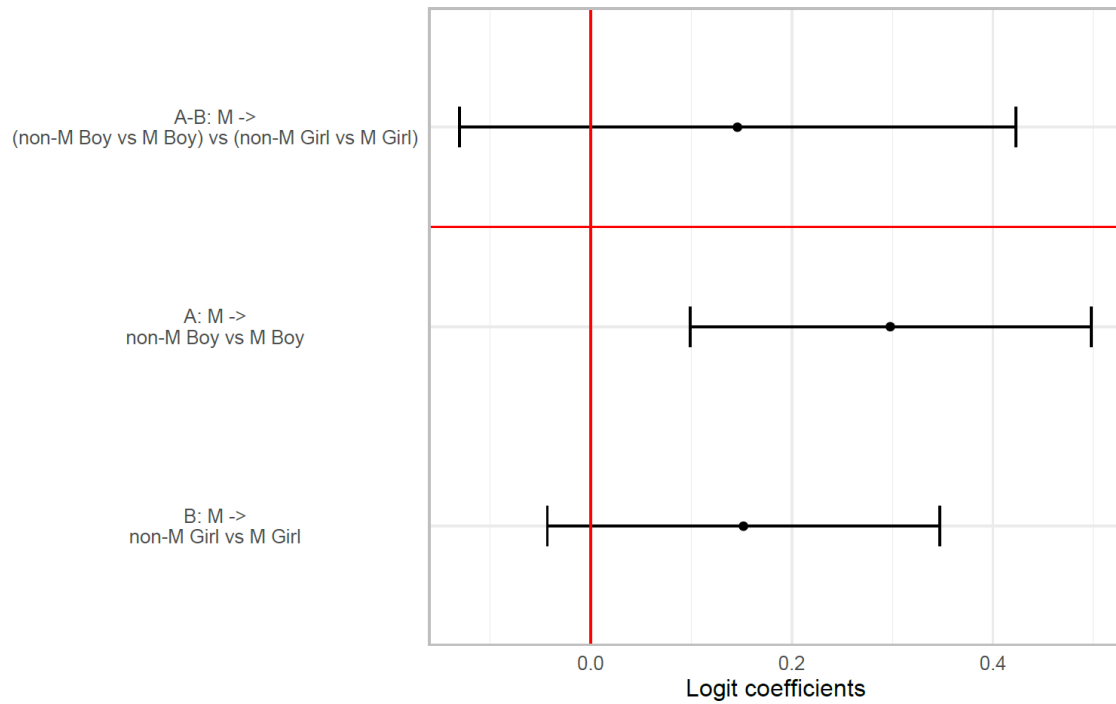


Figure 3.3. Tendency of Muslims to create/maintain dislike ties with non-Muslim boys/girls vs Muslim boys/girls.

In Model 2B, we extend Model 1 by considering the gender of the sender (i.e., ego) on their tendency for interreligious bias. For non-Muslim girls, the results reveal a nuanced pattern in dislike preferences. Non-Muslim girls exhibit a significant tendency to form and maintain dislike ties with Muslims compared to non-Muslims ($b = 0.212$, $st. err. = 0.073$, $p < 0.05$), diverging from their male same-religion peers. Figure 3.4. shows that this tendency is significantly lower among non-Muslim boys ($b = -0.308$, $st. err. = 0.121$, $p < 0.05$).

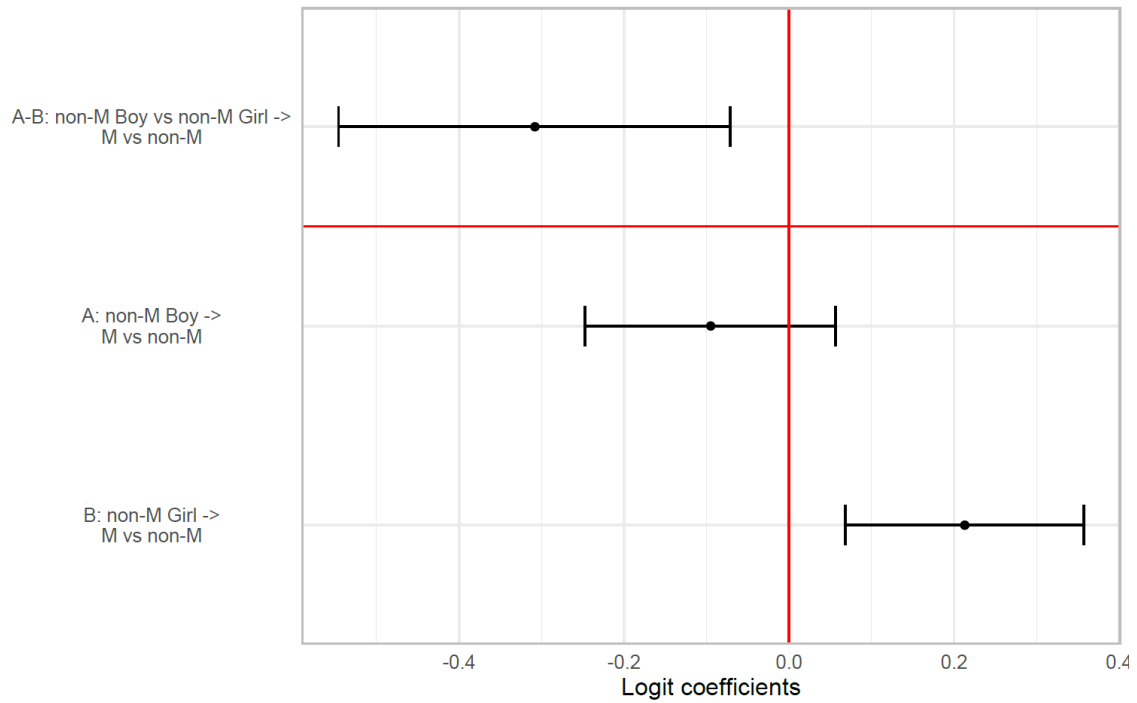


Figure 3.4. Tendency of non-Muslim boys/girls to create/maintain dislike ties with Muslims vs non-Muslims.

Moreover, Figure 3.5. provides only partial support for Hypothesis 3.1: Muslim boys are indeed more likely to dislike non-Muslims compared to Muslims ($b = 0.362$, $st. err. = 0.119$, $p < 0.05$), but this tendency is not significantly higher than that of Muslim girls ($b = 0.236$, $st. err. = 0.202$, $p > 0.05$).

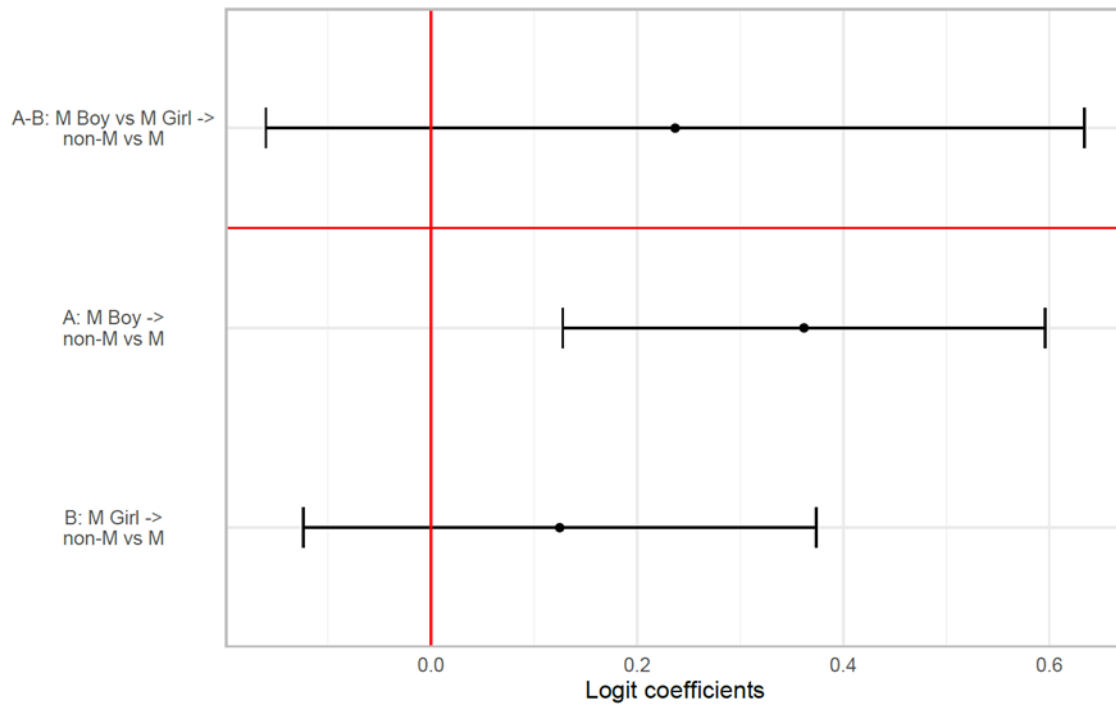


Figure 3.5. Tendency of Muslim boys/girls to create/maintain dislike ties with non-Muslims vs Muslims.

In the final Model 3, we delve deeper into dislike networks among Muslim and non-Muslim boys and girls, distinguishing by the gender of both the sender and receiver. Figure 3.6 represents dislike preferences among non-Muslim boys and girls based on the religious background and gender of their peers. Contrary to the theoretical expectations of Hypothesis 2.2, the results indicate that non-Muslim boys do not exhibit a significantly stronger dislike of Muslim males overall ($b = -0.059$, *st. err.* = 0.101, $p > 0.05$). However, consistent with Figure 3.5 non-Muslim girls display a significant outgroup bias, disliking Muslims more than non-Muslims, but only in cross-gender relationships ($b = 0.182$, *st. err.* = 0.092, $p < 0.05$). Nonetheless, this tendency is not significantly greater than their outgroup dislike for girls ($b = 0.022$, *st. err.* = 0.182, $p > 0.05$).

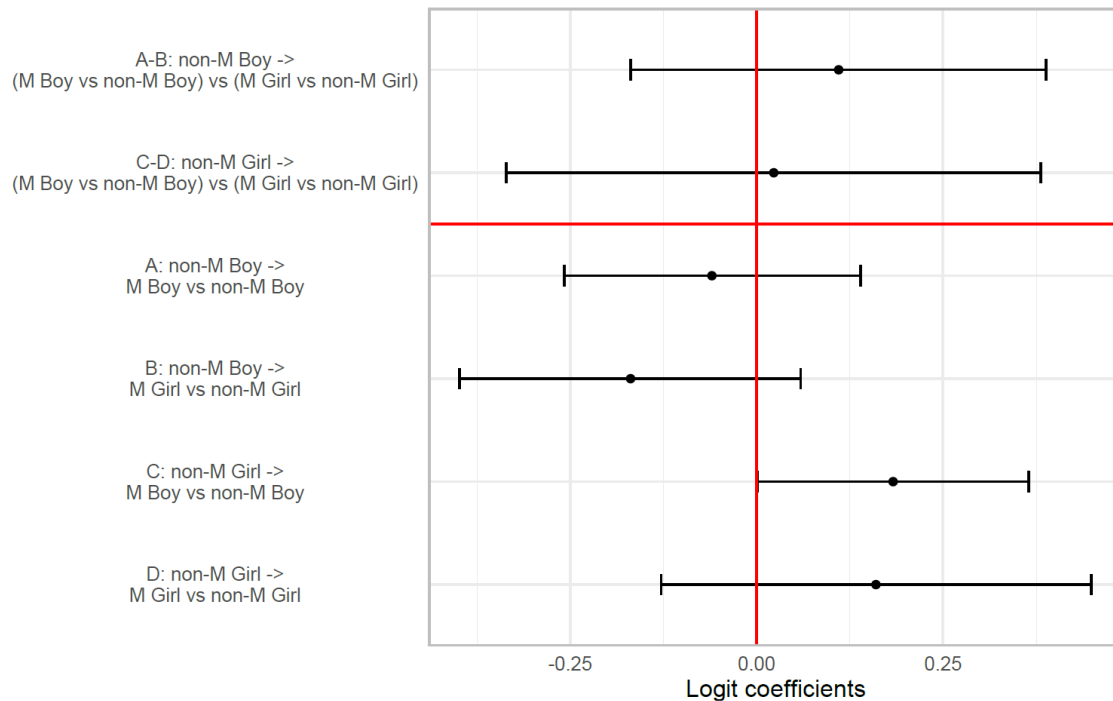


Figure 3.6. Tendency of non-Muslim boys/girls to create/maintain dislike ties with Muslim boys/girls vs non-Muslim boys/girls.

Figure 3.7 explores dislike patterns among Muslim boys and girls. The findings indicate that Muslim boys are not more prone to dislike non-Muslim peers of the same gender, thus not supporting Hypothesis 3.2. In cross-gender interactions, however, Muslims of both genders show a significant tendency to dislike non-Muslims more than Muslims (for Muslim boys, $b = 0.646$, $st. err. = 0.225$, $p < 0.05$; for Muslim girls, $b = 0.463$, $st. err. = 0.195$, $p < 0.05$). Notably, for both Muslim boys and girls, these tendencies are significantly different from their same-gender outgroup biases (for Muslim boys the same-gender outgroup biases being negative, $b = -0.596$, $st. err. = 0.250$, $p < 0.05$; for Muslim girls the different-gender outgroup biases being positive, $b = 0.685$, $st. err. = 0.215$, $p < 0.05$).

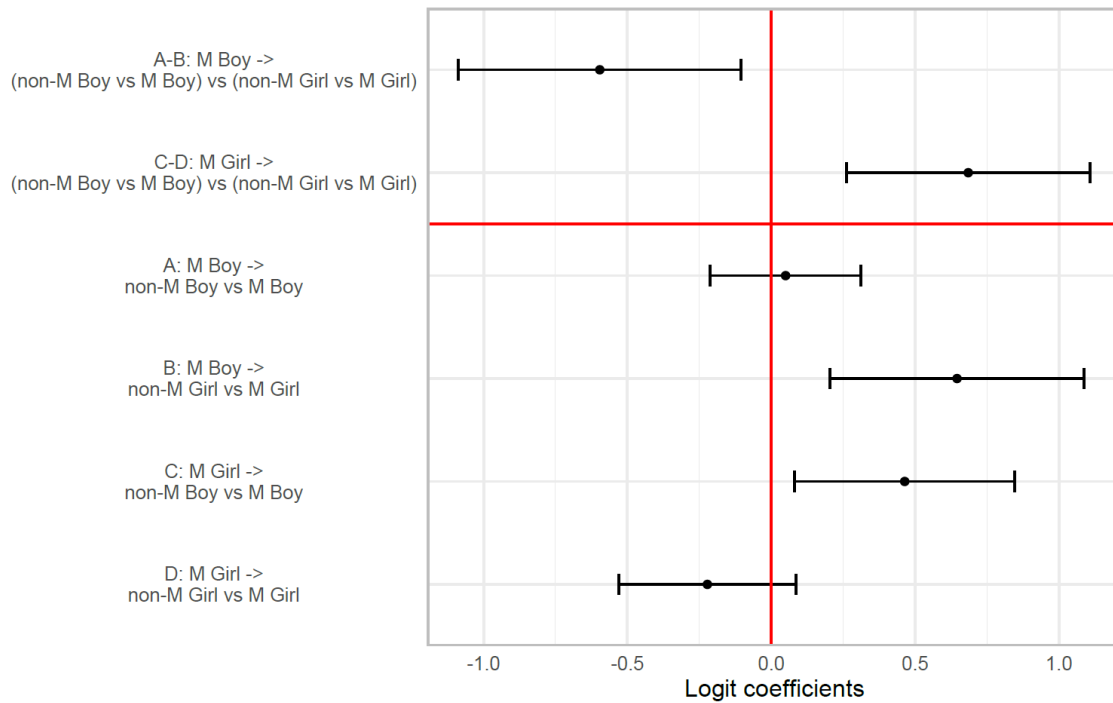


Figure 3.7. Tendency of Muslim boys/girls to create/maintain dislike ties with non-Muslim boys/girls vs Muslim boys/girls.

3.1. Discussion, Limitations and Future Research, and Conclusions

3.5.1. Discussion

This study aimed to explore the micro-level dynamics contributing to interreligious dislike between Muslim and non-Muslim youth in Western European schools. Previous research has shown that students from both groups often harbor negative sentiments toward each other, leading to cross-religious social distancing and rejection (e.g., Simsek, van Tubergen, & Fleischmann, 2022; Verkuyten & Thijs, 2010). Building on this prior empirical evidence, the present paper examines how dislike ties manifest and evolve, particularly through the lens of interreligious attribution biases. According to *Attribution Theory* (Heider, 1958; Fiske & Taylor, 1991), people tend to attribute the negative actions of outgroup members to inherent characteristics, while justifying similar behaviors in their own group as situational. We hypothesized that these biases would lead to stronger dislike

ties between Muslim and non-Muslim youth (Hypothesis 1), as students attribute negative traits to outgroup members based on perceived religious differences.

Our findings provide only partial support for Hypothesis 1, revealing an asymmetry in intergroup dislike behaviors. Specifically, Muslim students exhibit a significant outgroup bias, as they are significantly more likely to report disliking non-Muslim peers compared to fellow Muslims. Conversely, non-Muslim students do not display a similar pattern of bias in their dislike of Muslim peers. This suggests that Muslim students might be more motivated to emphasize positive qualities within their own group and attribute negative characteristics to non-Muslims, potentially in response to the unique social dynamics experienced by minority groups. Muslim students, acutely aware of their group's salient identity and minority status in society, might be more inclined to perceive negative behaviors from outgroup members as intentional and indicative of inherent negative traits associated with non-Muslims. *Attribution Theory* supports this perspective, suggesting that this heightened sensitivity is rooted in the perception of their group identity as threatened (e.g., Campbell & Sedikides, 1999). This response is not as evident among non-Muslims, who might not experience the same level of perceived threat or marginalization.

Moreover, our analysis delves into how intergroup dislike varies based on gender, particularly in the context of Muslim and non-Muslim boys. Given the prominence of anti-Muslim stereotypes in Western Europe (e.g., Verkuyten, 2021), we explored whether Muslim boys face more negative biases compared to Muslim girls. Guided by *Attribution Theory* (Heider, 1958; Fiske & Taylor, 1991) and gendered Islamophobia (Allen, 2024), we hypothesized that non-Muslim students would be more likely to express dislike toward Muslim boys (Hypothesis 2.1). This hypothesis builds on existing literature showing that Muslim males are often associated with negative stereotypes (Erentzen et al., 2023). However, the results of Model 2A show that non-Muslims are not significantly more likely to dislike Muslim boys over Muslim girls, contradicting Hypothesis 2.1.

In further exploring gender dynamics, we applied *Social Dominance Theory* (Sidanius & Pratto, 1999) and the *Subordinate Male Target Hypothesis* (Sidanius & Veniegas, 2000). These

frameworks suggest that dominant social groups, like non-Muslim boys, might perceive minority males, such as Muslim boys, as threats to their status, potentially intensifying intergroup dislike (Hypothesis 2.2). Yet, the findings of Model 3 indicate that non-Muslim boys do not significantly differentiate between Muslim boys and girls in terms of negative attributions, which does not provide evidence for Hypothesis 2.2. This nuanced result suggests that interreligious dislike among non-Muslim boys might be less driven by overt competition for dominance than initially hypothesized.

In Model 3, consistent with findings from Model 2B, non-Muslim girls show a marked preference for expressing dislike toward Muslim boys compared to non-Muslim boys. This trend might reflect broader gendered anti-Muslim sentiments prevalent in Western societies, where Muslim men are often stereotyped as adherents to patriarchal norms that oppress and subordinate women (Wiemers, Di Stasio, & Veit, 2024). Such perceptions could contribute to the ideational basis for non-Muslim girls' dislike of Muslim males, potentially rooted in their commitment to gender equality (Choi, Poertner, & Sambanis, 2023). Therefore, future research should investigate whether this reaction is linked to the perception that Muslim boys support traditional gender roles.

Focusing on Muslim adolescents, we examined the reciprocal nature of dislike, particularly from the perspective of Muslim boys towards non-Muslim boys. According to *Intergroup Threat Theory* (Stephan & Stephan, 2013), those members of minority groups who perceive majority groups as threats to their identity can often hold negative intergroup attitudes. We hypothesized that Muslim boys, compared to Muslim girls, would be more likely to hold negative attitudes towards non-Muslims due to specific negative stereotypes associated with Muslim males (Hypothesis 3.1). The results from Model 2B indicate that this dislike is not uniform across gender lines. While Muslim boys tend to dislike non-Muslims over Muslims, this tendency is not significantly stronger than that observed in Muslim girls, providing only partial support for Hypothesis 3.1.

Additionally, using the same *Intergroup Threat Theory* framework, we investigated whether Muslim boys, potentially perceiving a greater threat from dominant non-Muslim boys, would also harbor stronger negative sentiments specifically toward non-Muslim boys as opposed to non-Muslim

girls (Hypothesis 3.2). Model 3 does not provide evidence to support Hypothesis 3.2. While Muslim boys report some dislike towards non-Muslim girls, this sentiment does not extend to non-Muslim boys. In fact, both Muslim boys and girls show a tendency to dislike non-Muslims more than their co-religionists, but this is exclusively observed in cross-gender interactions.

Such heightened dislike might reflect prior research suggesting that some Muslim youth in Western Europe, particularly those with low levels of intergroup contact and a high perception of discrimination, tend to uphold traditional gender norms (Maliepaard & Alba, 2016). These traditional religious and gender identities could contribute to conflictual intergroup boundaries with peers who differ both in gender and religion. Thus, our results underscore the need for further research on the mechanisms driving the interplay of religious and gender identities in shaping such dislike relationships among Muslims. Additional research is also needed to examine the extent to which these negative ties hinder the interreligious social integration processes of Muslim boys and girls. At the same time, future research should include measures of intergroup attitudes to determine which Muslim and non-Muslim youth are more inclined toward interreligious dislike and explore whether such negative perceptions contribute to the coevolution of network behaviors.

Regarding the friendship network, Figures in the Appendix show that our results largely mirror those of Kretschmer & Leszczensky (2022), which used a similar longitudinal social network analysis on a national representative sample of Muslim and non-Muslim German adolescents, i.e., data from the CILS4EU project (Kalter et al., 2016). Both Muslim and non-Muslim students show a pronounced preference for forming friendships within their own religious groups, reflecting a clear in-group bias (Figure A3.1). Particularly, non-Muslims are reluctant to befriend Muslim boys compared to Muslim girls (Figure A3.2), with non-Muslim girls exhibiting a stronger in-group bias (Figure A3.4). Among Muslim adolescents (Figure A3.7), consistent with expectations of religious and gender homophily, both Muslim boys and girls exhibit a preference for friendships within their own religion and gender, and such tendencies are significantly more pronounced for girls. Additionally, Muslim girls show an unexpected avoidance of forming friendships with Muslim, compared to non-Muslim, boys. This

behavior might be attributed to internalized norms around endogamy and chastity related to Islam, which potentially frame interactions with Muslim boys as leading to romantic engagements rather than platonic relationships (Altinyelken, 2022). Future research could explore this potential motivation, examining whether Muslim girls indeed perceive intrareligious cross-gender friendships as inappropriate and avoid Muslim boys to prevent behaviors that could be interpreted as romantic interest.

3.5.2. Limitations and Future Research

We recognize some constraints of the current study.

Firstly, our data are drawn from a regional sample within densely populated and culturally diverse areas of North Rhine-Westphalia, characterized by a substantial immigrant presence. As such, the findings might not be fully applicable to more homogeneous or less diverse Western European regions, where distinct social dynamics could arise. Prior research has shown that Muslim and non-Muslim group identities tend to vary their salience in settings with greater religious diversity (Leszczensky, Sauter, & Flache, 2020). Consequently, it is essential for future studies to investigate how gendered pathways in Muslim and non-Muslim dislike networks are shaped by structural conditions, both at the national and school levels, that either facilitate or hinder the formation of intra- and inter-group ties. This includes examining how gender and religion are divided in these settings and how the two intersect. Exploring these dynamics could further illuminate the compositional effects that emerge in such diverse multilevel environments (Agneessens, Trincado-Munoz, & Koskinen, 2022; Koskinen & Snijders, 2023).

Secondly, the findings of our study are limited to the early adolescence period, with students ranging from 11 to 14 years old. However, the mechanisms might change as adolescents become older and enter romantic relationships. Recent research suggests that chastity and endogamy norms, which become more relevant during puberty, distinctly shape Muslim girls' friendships throughout adolescence (Kretschmer 2024; Kretschmer, Lämmermann, & Leszczensky, 2024). Initially, Muslim

girls who exhibit a low in-group bias tend to develop a stronger preference for in-group friendships as they age, eventually surpassing the same biases of both Muslim boys and non-Muslim youths (Kretschmer & Leszczensky, 2023). These age-specific biases highlight the age specificity of these results and the need for longitudinal studies to better understand how puberty, along with its associated endogamy and chastity norms, influences dislike networks among Muslim and non-Muslim boys and girls.

A third limitation of our analyses is that they do not explore the underlying processes but rather present only the general patterns of dislike among Muslim and non-Muslim boys and girls. For example, the dislike expressed by non-Muslim girls toward Muslim boys might be influenced by intensified gendered Islamophobia. However, other possible explanations related to cultural differences or personal experiences remain unexplored. Similarly, understanding why Muslim girls and boys exhibit interreligious dislike, particularly toward cross-gender peers, would provide deeper insights into the dynamics at play. Therefore, future research should investigate these underlying mechanisms to offer a more comprehensive understanding of the interplay between gender and Islam in social relationships, as well as the reciprocal relationship between dislike network dynamics and negative attitudes (Takács, Flache, & Mäs, 2016).

Finally, we focused on dislike and friendship. While these are important, other positive and negative social ties could also influence the dynamics of cross-gender and interreligious dislike. For example, understanding romantic interest in social relationships is essential, as Muslim and non-Muslim adolescents might engage with their peers in markedly different ways (Mir, 2009). Additionally, examining the influence of weaker social ties, such as acquaintanceships or school-based collaborations, could provide insights into how these relationships might mitigate the effects of gendered religious norms on the dislike network. Similarly, negative ties like bullying and conflict could affect the overall school environment experienced by Muslim students (Pistocchi, Triventi, & Agneessens, 2024). Investigating how religious and gender norms intersect to influence interreligious bullying behaviors could further illuminate the social dynamics among Muslim and non-Muslim

youth.

3.5.3. Conclusions

This study offers critical insights into the dynamics of dislike among Muslim and non-Muslim youth in German schools. It uncovers a notable pattern of interreligious dislike, particularly among Muslim students toward non-Muslims, highlighting the unique social challenges faced by minority groups. Additionally, the research reveals gender-specific patterns. Non-Muslim girls show a significant tendency to dislike Muslim boys compared to their non-Muslim peers, potentially reflecting broader gendered anti-Muslim sentiments. Among Muslim adolescents, both boys and girls tend to dislike non-Muslims more than their same-religion peers, but this tendency is statistically significant only in cross-gender interactions, possibly shaped by religious and gendered stereotypes. These results indicate that cross-gender tensions establish the divide between Muslim and non-Muslim students.

The implications of these findings are relevant for developing interventions aimed at promoting social integration and reducing intergroup divisions. Future research should prioritize longitudinal studies to better understand the evolving nature of these dynamics and the specific mechanisms through which gendered religious norms shape dislike networks among Muslim and non-Muslim adolescents. In particular, investigating the coevolution of intergroup perceptions and network behaviors could provide valuable insights into how these attitudes develop and perpetuate divisions. Addressing these issues is essential for fostering inclusive environments and enhancing the social integration of Muslim youth in Western societies.

3.6. Appendix

Table A3.1. Characteristics of Grade-Level Network.

Grade no.	Size	Percentage of			Jaccard Index		Average Degree			
		Muslim	Turkish	Female	Friend	Dislike	Friendship		Dislike	
							Wave 2	Wave 3	Wave 2	Wave 3
1	76	38%	26%	29%	0.44	0.1	7.81	7.5	5.61	3.15
2	55	30%	14%	22%	0.39	0.15	8.13	7.67	3.66	4.23
3	69	33%	30%	31%	0.37	0.13	5.66	5.99	4.23	2.77
4	91	52%	37%	33%	0.47	0.15	8.6	7.24	3.76	2.72
5	98	45%	27%	40%	0.45	0.18	7.58	7.46	4.23	2.73
6	78	32%	21%	28%	0.47	0.14	5.02	5.2	3.18	2.75
7	117	31%	29%	56%	0.39	0.14	7.61	7.52	3.56	3.72
8	117	38%	36%	58%	0.41	0.13	7.11	6.83	3.62	3.21
9	127	23%	22%	61%	0.45	0.18	6.74	5.97	3.06	2.63
10	112	20%	16%	54%	0.43	0.12	7.36	6.75	2.56	2.24
11	134	20%	11%	65%	0.34	0.15	6.87	6.82	3.47	3.76
12	117	53%	45%	47%	0.43	0.13	6.55	6.39	2.79	2.19
13	114	38%	33%	55%	0.43	0.21	6.88	6.37	3.03	3.14
14	112	37%	32%	62%	0.44	0.17	6.05	6.43	2.09	2.22
15	70	30%	25%	20%	0.35	0.09	4.77	7.73	1.34	3.76
Average	99.1	35.1%	27.3	44.0%	0.42	0.14	6.84	6.79	3.34	3.01

Table A3.2. Unit-Response Percentage in Grade-Level Networks.

Grade no.	Size	Grade-Level Unit-Response	
		Wave 2	Wave 3
1	76	85.4%	86.7%
2	55	77.0%	91.4%
3	69	77.7%	90.0%
4	91	86.0%	83.7%
5	98	89.5%	89.1%
6	78	88.5%	80.0%
7	117	82.4%	83.9%
8	117	86.9%	91.3%
9	127	86.0%	87.0%
10	112	84.8%	83.4%
11	134	83.7%	91.4%
12	117	91.5%	92.0%
13	114	89.9%	91.6%
14	112	88.4%	92.3%
15	70	76.4%	75.5%
Average	99.1	84.9%	87.3%

Table A3.3. Grade-Level Network Number and Percentage of Frenemies.

Grade no.	No. of Frenemies		Percentage of Frenemies			
			Friendship		Dislike	
	Wave 2	Wave 3	Wave 2	Wave 3	Wave 2	Wave 3
1	1	1	0.2%	0.2%	0.4%	0.5%
2	1	1	0.3%	0.3%	0.8%	0.6%
3	1	2	0.3%	0.7%	0.5%	1.5%
4	1	2	0.1%	0.4%	0.4%	1.2%
5	0	4	0.0%	0.8%	0.0%	2.2%
6	0	2	0.0%	0.7%	0.0%	1.4%
7	2	7	0.2%	1.0%	0.6%	2.0%
8	3	3	0.4%	0.4%	0.8%	0.8%
9	0	1	0.0%	0.1%	0.0%	0.3%
10	2	2	0.2%	0.3%	0.8%	0.9%
11	4	3	0.5%	0.3%	1.0%	0.6%
12	2	2	0.3%	0.3%	0.7%	0.9%
13	1	5	0.1%	0.8%	0.3%	1.6%
14	3	3	0.5%	0.5%	1.0%	1.4%
15	0	1	0.0%	0.5%	0.0%	1.0%
Average	1.4	2.6	0.2%	0.5%	0.5%	1.1%

Table A3.4. Cross-Tabulation of Ethnic Background and Religion.

Ethnic Background	Religion				Total
	Christian	Muslim	Other	Missing	
Germany	385	1	60	3	449
Turkey	10	392	8	1	411
Former Soviet Union	76	4	15	1	96
Poland	80	1	7	0	88
Former Yugoslavia	9	14	9	0	32
Italy	49	4	4	1	58
Lebanon	0	20	0	0	20
Greece	1	1	13	2	17
North Africa	3	29	3	0	35
Rest of Africa	12	3	1	0	16
Latin America and the Caribbean	4	0	1	0	5
North America and Oceania	6	1	0	0	7
Southern Asia	5	9	8	0	22
Western Asia	2	12	4	0	18
Rest of Asia	4	0	5	0	9
Eastern Europe	7	0	5	0	12
Southern Europe	21	20	4	0	45
Rest of Europe	26	2	9	0	37
Missing	11	6	3	90	110
Total	711	519	159	98	1,487

Tables A3.5. Goodness of Fit statistics for multivariate SAOMs summarized in Table A3.6.**Model 1**

		Friendship Networks				Dislike Networks			
Grade no.	Overall convergence	Outdegree Distribution	Indegree Distribution	Triadic Census	Geodesic Distance	Outdegree Distribution	Indegree Distribution	Triadic Census	Geodesic Distance
1	0.115	<i>0.025</i>	<i>0.028</i>	0.121	0.058	0.330	0.999	0.858	0.706
2	0.106	<i>0.006</i>	0.394	0.123	0.214	0.472	0.060	0.754	0.866
3	0.083	0.128	0.359	0.495	0.128	0.625	0.760	0.827	0.547
4	0.087	<i>0.014</i>	<i>0.001</i>	<i>0.049</i>	<i>0.040</i>	0.263	0.966	0.404	0.780
5	0.075	<i>0.015</i>	<i>0.003</i>	0.652	0.179	0.633	0.105	0.743	0.965
6	0.103	0.562	0.591	0.060	0.670	0.548	0.339	0.854	0.280
7	0.086	0.132	0.135	0.515	<i>0.038</i>	0.826	0.137	0.238	<i>0.046</i>
8	0.089	0.073	0.202	<i>0.001</i>	0.487	0.053	0.401	0.918	0.887
9	0.119	<i>0.018</i>	0.667	0.711	0.654	0.731	0.334	0.614	0.155
10	0.082	0.158	0.839	<i>0.008</i>	0.751	0.985	0.459	0.960	0.671
11	0.101	0.374	0.451	0.839	0.121	0.664	0.516	0.779	0.560
12	0.087	<i>0.019</i>	0.525	0.055	<i>0.014</i>	0.879	0.916	0.696	0.367
13	0.066	<i>0.013</i>	0.149	0.122	<i>0.047</i>	0.617	0.322	0.604	0.270
14	0.086	0.180	0.499	0.548	0.066	0.651	0.658	0.987	0.252
15	0.094	0.127	0.066	0.108	<i>0.008</i>	0.776	0.685	0.955	0.788
Average	0.091	0.123	0.327	0.294	0.232	0.603	0.510	0.746	0.543

Model 2A

		Friendship Networks				Dislike Networks			
Grade no.	Overall convergence	Outdegree Distribution	Indegree Distribution	Triadic Census	Geodesic Distance	Outdegree Distribution	Indegree Distribution	Triadic Census	Geodesic Distance
1	0.149	<i>0.024</i>	<i>0.042</i>	0.122	<i>0.036</i>	0.370	0.999	0.869	0.736
2	0.153	<i>0.006</i>	0.234	0.138	0.204	0.547	0.126	0.816	0.963
3	0.139	0.125	0.15	0.498	0.088	0.610	0.811	0.859	0.576
4	0.112	<i>0.016</i>	<i>0.000</i>	0.106	0.061	0.408	0.982	0.445	0.841
5	0.12	<i>0.007</i>	<i>0.005</i>	0.491	0.296	0.610	0.136	0.820	0.946
6	0.115	0.476	0.630	0.053	0.748	0.556	0.335	0.867	0.302
7	0.134	0.123	0.130	0.443	<i>0.018</i>	0.833	0.162	0.232	<i>0.046</i>
8	0.175	0.075	0.163	<i>0.000</i>	0.389	0.052	0.397	0.892	0.891
9	0.132	<i>0.008</i>	0.543	0.717	0.772	0.714	0.326	0.626	0.130
10	0.115	0.172	0.860	<i>0.005</i>	0.794	0.980	0.477	0.973	0.636
11	0.123	0.381	0.449	0.859	0.183	0.676	0.533	0.786	0.557
12	0.129	<i>0.021</i>	0.406	<i>0.021</i>	<i>0.018</i>	0.857	0.919	0.703	0.484
13	0.142	<i>0.013</i>	0.251	0.108	0.098	0.595	0.303	0.613	0.256
14	0.172	0.192	0.507	0.525	0.082	0.669	0.642	0.985	0.269
15	0.126	0.201	0.096	0.125	<i>0.008</i>	0.630	0.565	0.865	0.439
Average	0.136	0.123	0.298	0.281	0.253	0.607	0.514	0.757	0.538

Model 2B

		Friendship Networks				Dislike Networks			
Grade no.	Overall convergence	Outdegree Distribution	Indegree Distribution	Triadic Census	Geodesic Distance	Outdegree Distribution	Indegree Distribution	Triadic Census	Geodesic Distance
1	0.135	0.029	0.057	0.160	0.046	0.392	0.998	0.866	0.699
2	0.176	0.003	0.161	0.130	0.195	0.641	0.092	0.849	0.800
3	0.142	0.083	0.284	0.556	0.103	0.620	0.794	0.853	0.611
4	0.135	0.015	0.000	0.077	0.054	0.396	0.981	0.436	0.840
5	0.149	0.008	0.004	0.619	0.283	0.615	0.124	0.830	0.963
6	0.109	0.540	0.560	0.054	0.770	0.569	0.336	0.850	0.299
7	0.109	0.120	0.124	0.549	0.026	0.839	0.118	0.185	0.045
8	0.153	0.107	0.203	0.000	0.473	0.052	0.403	0.897	0.884
9	0.133	0.030	0.607	0.755	0.694	0.740	0.356	0.589	0.131
10	0.119	0.182	0.820	0.012	0.748	0.984	0.468	0.955	0.675
11	0.159	0.381	0.473	0.836	0.176	0.653	0.532	0.802	0.546
12	0.135	0.021	0.466	0.031	0.019	0.869	0.920	0.667	0.402
13	0.126	0.016	0.268	0.146	0.097	0.615	0.310	0.659	0.252
14	0.131	0.180	0.515	0.603	0.086	0.655	0.662	0.974	0.251
15	0.149	0.237	0.121	0.165	0.013	0.638	0.631	0.901	0.602
Average	0.137	0.130	0.311	0.313	0.252	0.619	0.515	0.754	0.533

Model 3

		Friendship Networks				Dislike Networks			
Grade no.	Overall convergence	Outdegree Distribution	Indegree Distribution	Triadic Census	Geodesic Distance	Outdegree Distribution	Indegree Distribution	Triadic Census	Geodesic Distance
1	0.095	0.018	0.041	0.157	0.074	0.339	0.999	0.838	0.675
2	0.096	0.005	0.301	0.091	0.218	0.447	0.116	0.756	0.958
3	0.095	0.121	0.262	0.438	0.118	0.584	0.804	0.832	0.576
4	0.121	0.013	0.001	0.062	0.038	0.297	0.970	0.351	0.793
5	0.108	0.014	0.003	0.611	0.246	0.619	0.109	0.761	0.971
6	0.120	0.549	0.562	0.068	0.662	0.533	0.363	0.861	0.282
7	0.106	0.133	0.121	0.611	0.025	0.842	0.115	0.217	0.050
8	0.110	0.120	0.181	0.001	0.548	0.059	0.355	0.879	0.929
9	0.104	0.043	0.465	0.605	0.686	0.736	0.304	0.646	0.153
10	0.107	0.165	0.855	0.008	0.802	0.986	0.477	0.966	0.697
11	0.107	0.371	0.454	0.784	0.106	0.624	0.481	0.791	0.594
12	0.096	0.020	0.562	0.037	0.010	0.867	0.916	0.668	0.398
13	0.105	0.013	0.179	0.154	0.051	0.618	0.313	0.572	0.279
14	0.114	0.204	0.474	0.487	0.066	0.678	0.643	0.982	0.244
15	0.110	0.205	0.111	0.157	0.008	0.779	0.653	0.955	0.901
Average	0.106	0.133	0.305	0.285	0.244	0.601	0.508	0.738	0.567

Note. The goodness of fit (GoF) was evaluated using four auxiliary network statistics: Outdegree distribution, indegree distribution, geodesic distance, and triad census. These statistics are needed for assessing how well the patterns of friendship or dislike in grade-level networks are represented by the

model effects. For each auxiliary statistic, the differences between the observed grade-level values and the simulated values from the model (averaged across 10,000 random networks) were measured using the Mahalanobis distance. A particular statistic is considered to have a good or acceptable fit if the reported p-value is greater than 0.05, indicating that the simulated values do not significantly differ from the observed values. Some grades have one or more statistics that are not well-fitted, highlighted in italics. However, the average p-values, of the four auxiliary network statistics, across the 17 grades are all larger than 0.05, demonstrating that our models generally fit the data well.

Table A3.6. Coefficients, standard errors, and p-values derived from the meta-analyses that aggregate the outcomes of the 15 individual SAOMs in Models 1, 2A, 2B, and 3.

		Model 1			Model 2A			Model 2B			Model 3		
Effect no.	Effect	Est.	SE	P-value	Est.	SE	P-value	Est.	SE	P-value	Est.	SE	P-value
<i>Friendship Network</i>													
<i>Rate (change)</i>													
1	Rate Parameter	15.618	1.023	0	14.992	1.04	0	15.025	1.088	0	15.466	1.039	0
<i>Univariate structural effects: Friendship</i>													
2	Outdegree	-1.768	0.308	0	-1.295	0.26	0	-1.38	0.251	0	-1.682	0.249	0
3	Reciprocity	2.183	0.140	0	2.27	0.142	0	2.313	0.14	0	2.204	0.136	0
4	Transitivity (GWESP)	1.535	0.067	0	1.684	0.059	0	1.703	0.06	0	1.526	0.068	0
5	Reciprocity x Transitivity (GWESP)	-0.849	0.100	0	-0.844	0.1	0	-0.879	0.099	0	-0.882	0.096	0
6	Indegree popularity (Sqrt)	-0.217	0.057	0	-0.292	0.055	0	-0.272	0.053	0	-0.226	0.060	0
7	Indegree activity (Sqrt)	-0.661	0.075	0	-0.628	0.073	0	-0.621	0.077	0	-0.613	0.075	0
8	Outdegree activity (Sqrt)	0.154	0.054	0.004	0.106	0.048	0.025	0.089	0.049	0.068	0.161	0.049	0
<i>Attribute-based effects</i>													
Socio-Economic Status													
9	Alter	-0.001	0.001	0.313	0	0.001	0.733	0	0.001	0.865	-0.001	0.001	0.407
10	Ego	0	0.001	0.949	0	0.001	0.929	0.001	0.001	0.492	0.001	0.001	0.636
11	Similar	0.099	0.095	0.296	0.093	0.094	0.319	0.095	0.094	0.311	0.101	0.1	0.308
12	Same ethnicity	0.074	0.042	0.08	0.062	0.043	0.144	0.062	0.044	0.155	0.069	0.043	0.11
13	Same school class	0.527	0.053	0	0.381	0.049	0	0.389	0.049	0	0.545	0.063	0
14	Same elementary school	0.038	0.072	0.593	0.021	0.064	0.744	0.023	0.069	0.744	0.035	0.069	0.608
15	Same neighbourhood	0.003	0.050	0.959	0.027	0.053	0.611	0.022	0.048	0.643	0.015	0.059	0.804
Muslim (Ref.: Non-Muslim)													
16	Muslim Alter	0.008	0.047	0.861	0.058	0.066	0.382	0.073	0.062	0.245	-0.119	0.105	0.258
17	Muslim Ego	0.109	0.071	0.126	0.076	0.076	0.317	0.196	0.079	0.012	0.071	0.099	0.469

18	Muslim Same	0.268	0.039	0	0.175	0.054	0.001	0.215	0.052	0	-0.051	0.093	0.582
	Female (Ref.: Boy)												
19	Girl Alter	-0.004	0.039	0.912	-0.156	0.1	0.12				-0.2	0.101	0.047
20	Girl Ego	-0.104	0.051	0.041				-0.109	0.085	0.199	0.064	0.087	0.46
21	Girl Same	0.403	0.043	0							0.09	0.079	0.258
	Muslim x Gender												
22	Girl Ego x Muslim Ego							-0.149	0.089	0.094	-0.279	0.117	0.016
23	Girl Ego x Muslim Alter							-0.128	0.083	0.12	-0.177	0.109	0.104
24	Girl Ego x Muslim Same							0.109	0.074	0.14	-0.053	0.082	0.518
25	Girl Alter x Muslim Ego				0.023	0.075	0.758				0.155	0.085	0.068
26	Girl Alter x Muslim Alter				-0.109	0.112	0.33				0.049	0.119	0.68
27	Girl Alter x Muslim Same				0.19	0.086	0.028				0.242	0.093	0.009
28	Girl Same x Muslim Ego										0.159	0.08	0.045
29	Girl Same x Muslim Alter										0.243	0.085	0.004
30	Girl Same x Muslim Same										0.338	0.081	0
	Dislike Network												
31	Rate Parameter	16.224	0.898	0	15.517	0.89	0	15.877	1.043	0	16.086	0.971	0
	<i>Univariate structural effects: Dislike</i>												
32	Outdegree	-4.671	0.188	0	-4.458	0.182	0	-4.493	0.192	0	-4.421	0.211	0
33	Reciprocity	0.726	0.1	0	0.807	0.103	0	0.789	0.097	0	0.712	0.11	0
34	Transitivity (GWESP)	-0.252	0.137	0.065	-0.363	0.144	0.011	-0.316	0.139	0.022	-0.267	0.143	0.062
35	Indegree popularity (Sqrt)	0.597	0.036	0	0.614	0.034	0	0.617	0.035	0	0.593	0.036	0
36	Indegree activity (Sqrt)	-0.079	0.036	0.026	-0.097	0.036	0.007	-0.092	0.034	0.007	-0.076	0.038	0.044
37	Outdegree activity (Sqrt)	0.517	0.03	0	0.527	0.031	0	0.506	0.032	0	0	0	0
	<i>Attribute-based effects</i>												
	Socio-Economic Status												
38	Alter	-0.002	0.001	0.029	-0.002	0.001	0.045	-0.002	0.001	0.063	-0.002	0.001	0.069
39	Ego	0	0.001	0.774	0	0.001	0.955	0	0.001	0.864	0	0.001	0.881
40	Similar	-0.141	0.082	0.087	-0.164	0.082	0.044	-0.166	0.08	0.038	-0.128	0.083	0.123
41	Same ethnicity	0.019	0.047	0.688	0.003	0.046	0.946	-0.01	0.052	0.852	0.006	0.049	0.905

42	Same school class	0.921	0.118	0	0.791	0.114	0	0.793	0.114	0	0.944	0.12	0
43	Same elementary school	<i>0.093</i>	<i>0.053</i>	<i>0.082</i>	0.053	0.048	0.277	0.031	0.053	0.559	0.089	0.056	0.112
44	Same neighbourhood Muslim (Ref.: Non-Muslim)	-0.054	0.04	0.179	<i>-0.081</i>	<i>0.044</i>	<i>0.066</i>	-0.07	0.044	0.109	-0.07	0.046	0.13
45	Muslim Alter	<i>-0.062</i>	<i>0.038</i>	<i>0.099</i>	-0.102	0.053	0.055	-0.229	0.078	0.003	-0.397	0.122	0.001
46	Muslim Ego	-0.05	0.038	0.186	-0.177	0.064	0.005	-0.028	0.057	0.622	-0.231	0.092	0.012
47	Muslim Same Gender (Ref.: Boy)	-0.124	0.052	0.016	-0.197	0.066	0.003	-0.133	0.064	0.036	-0.294	0.1	0.003
48	Girl Alter	<i>-0.059</i>	<i>0.035</i>	<i>0.088</i>	-0.243	0.098	0.013				<i>-0.203</i>	<i>0.107</i>	<i>0.058</i>
49	Girl Ego	0.052	0.032	0.107				-0.04	0.107	0.705	-0.013	0.121	0.911
50	Girl Same Muslim x Gender	0.249	0.045	0							-0.106	0.079	0.179
51	Girl Ego x Muslim Ego							-0.088	0.083	0.287	-0.095	0.097	0.329
52	Girl Ego x Muslim Alter							0.273	0.139	0.05	<i>0.256</i>	<i>0.148</i>	<i>0.082</i>
53	Girl Ego x Muslim Same							-0.036	0.092	0.698	-0.03	0.107	0.783
54	Girl Alter x Muslim Ego				0.257	0.108	0.017				0.187	0.133	0.16
55	Girl Alter x Muslim Alter				0.043	0.087	0.617				-0.011	0.09	0.904
56	Girl Alter x Muslim Same				0.103	0.088	0.24				0.055	0.105	0.596
57	Girl Same x Muslim Ego										0.245	0.083	0.003
58	Girl Same x Muslim Alter										0.342	0.111	0.002
59	Girl Same x Muslim Same										0.299	0.097	0.002

Note. Number of students = 1,487, number of school grades = 15.

Bold indicates statistical significance at a critical alpha of 0.05.

Italics indicates statistical significance at a critical alpha of 0.10.

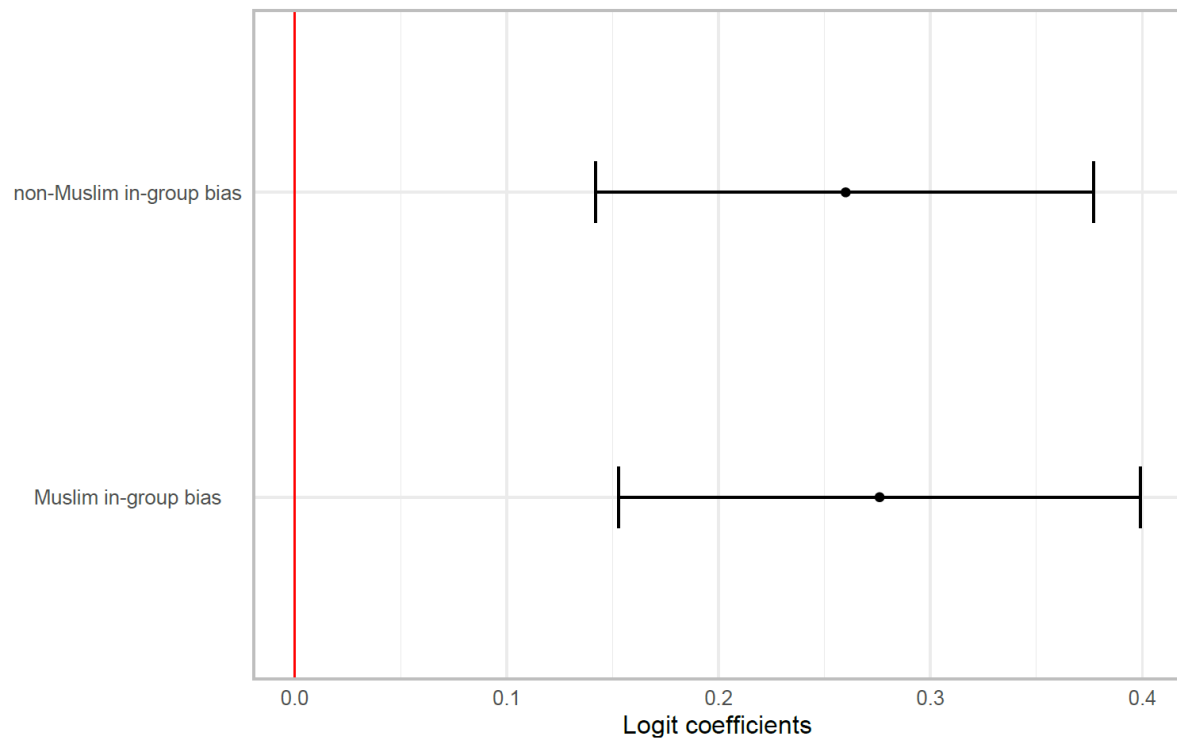


Figure A3.1. Tendency of non-Muslims/Muslims to create/maintain friendship ties with non-Muslims/Muslims vs Muslims/non-Muslims.

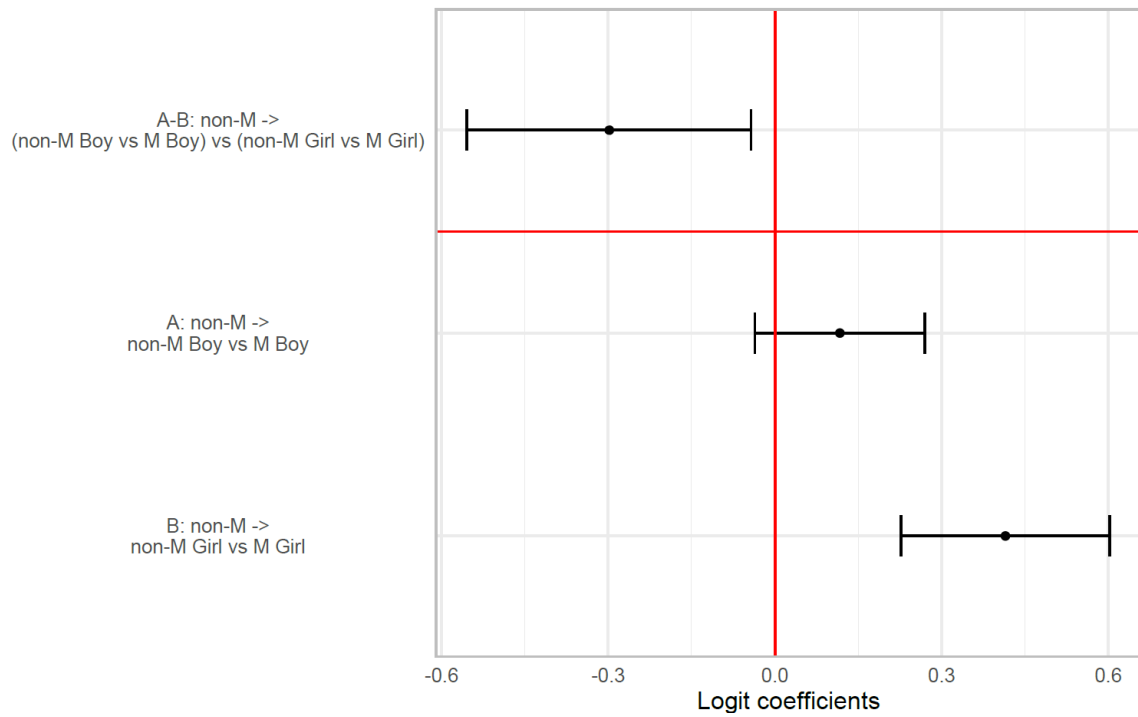


Figure A3.2. Tendency of non-Muslims to create/maintain friendship ties with non-Muslim boys/girls vs Muslim boys/girls.

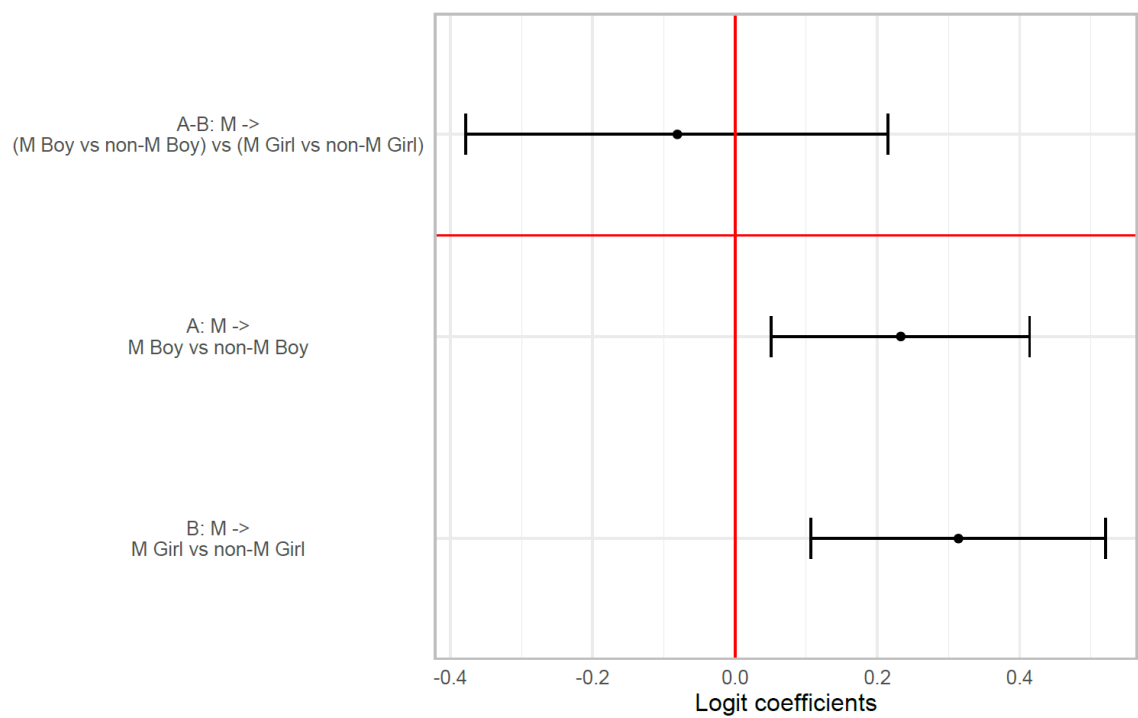


Figure A3.3. Tendency of Muslims to create/maintain friendship ties with Muslim boys/girls vs non-Muslim boys/girls.

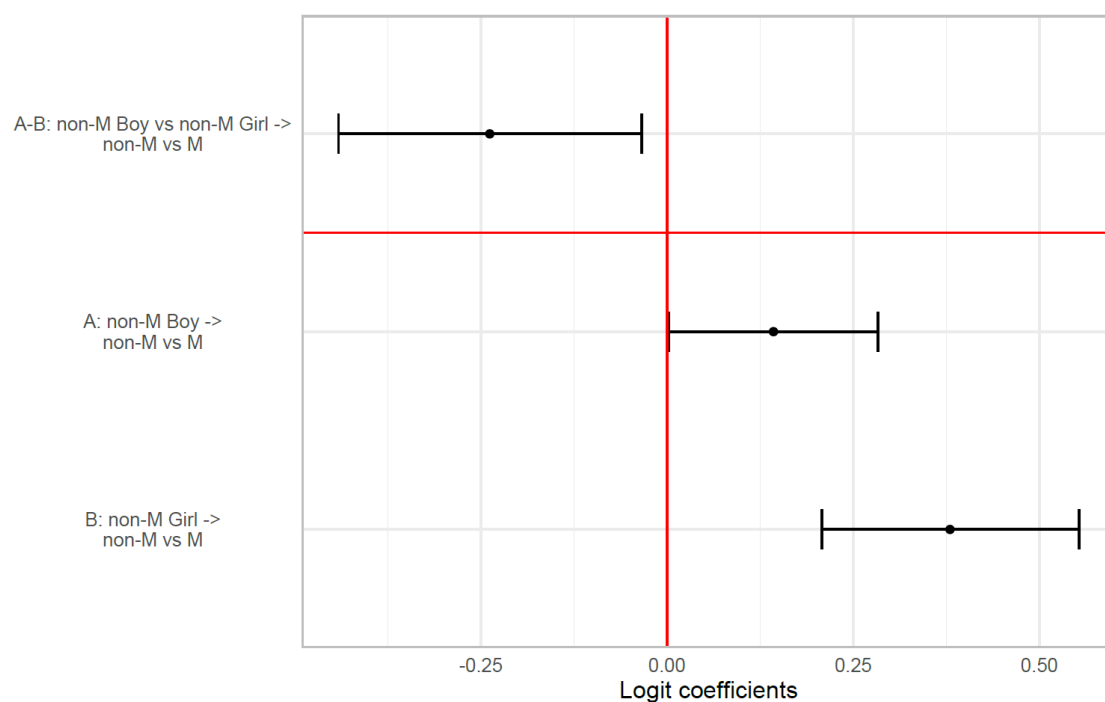


Figure A3.4. Tendency of non-Muslim boys/girls to create/maintain friendship ties with non-Muslims vs Muslims.

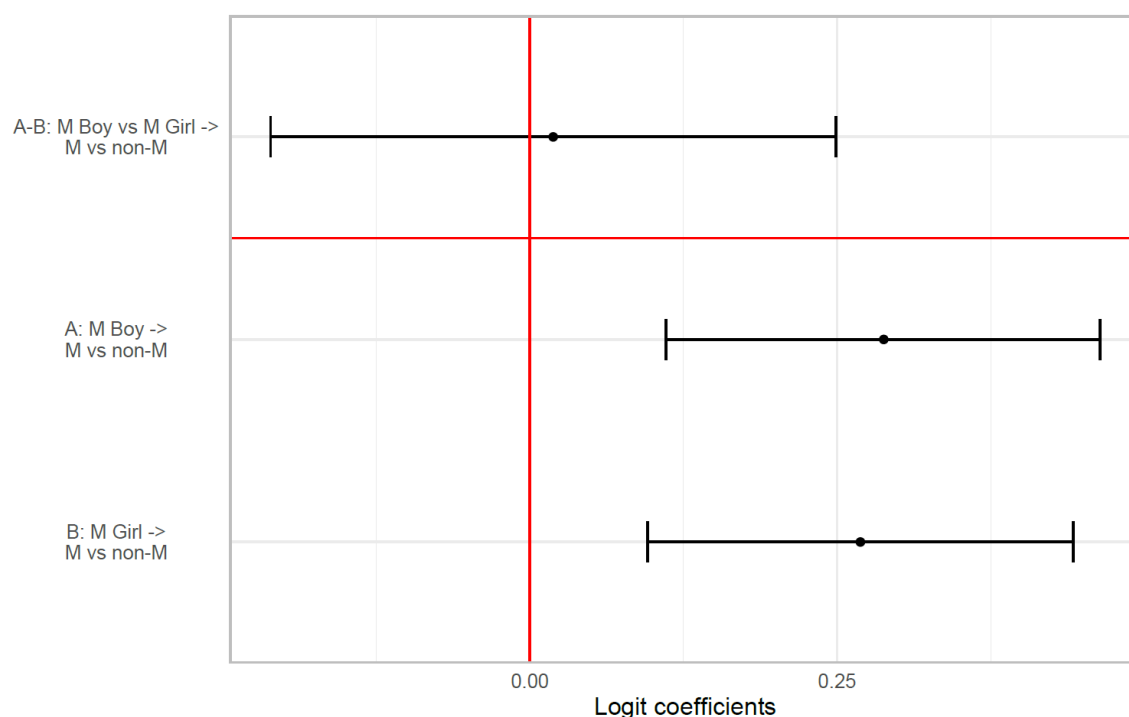


Figure A3.5. Tendency of Muslim boys/girls to create/maintain friendship ties with Muslims vs non-Muslims.

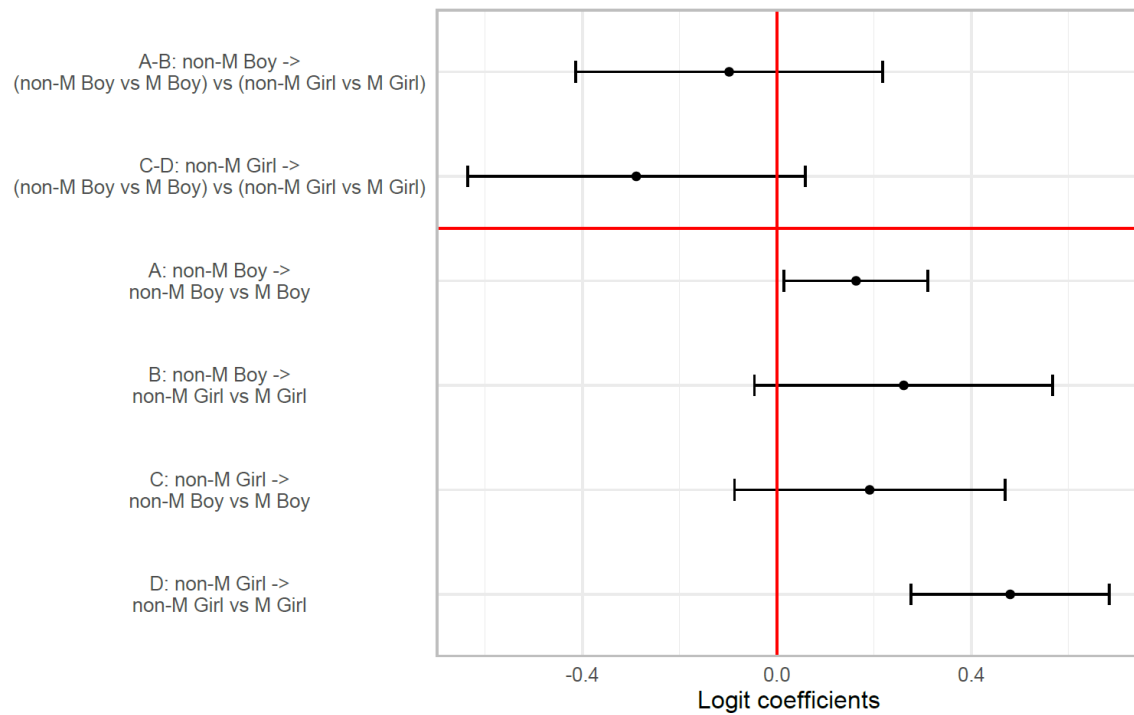


Figure A3.6. Tendency of non-Muslim boys/girls to create/maintain friendship ties with non-Muslim boys/girls vs Muslim boys/girls.

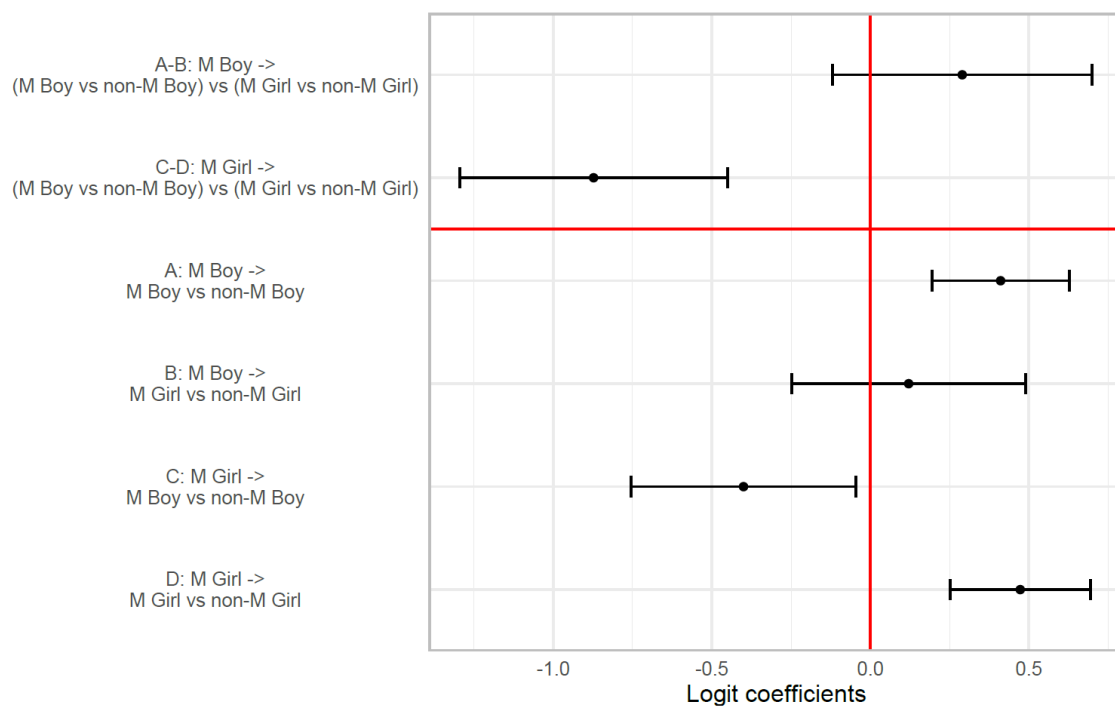


Figure A3.7. Tendency of Muslim boys/girls to create/maintain friendship ties with Muslim boys/girls vs non-Muslim boys/girls.

Chapter 4. Interreligious Bullying and Academic Achievement Among Muslim and Non-Muslim Early Adolescents in Germany.¹⁰

Abstract

Previous research has consistently found that pupils who are victims of bullying are at higher risk of academic underachievement. This study investigates whether the link between bullying victimization and academic achievement might be stronger when bullying occurs between school kids with a different religious affiliation, and in particular when the victim is a Muslim pupil who is being bullied by a non-Muslims peer. We use entropy balancing matching method in conjunction with multilevel regression analysis among 2320 students (1836 non-Muslim and 484 Muslim pupils) in 181 German school classes (CILS4EU data) collected between 2010 and 2011 to study how bullying victimization during the school year is related to the academic achievement of the bullied student at the end of the school year. Our findings show that interreligious bullying victimization is negatively linked to the victim's academic achievement when the victim is a Muslim being bullied by a non-Muslim.

¹⁰ A slightly different version of this chapter, co-authored by Moris Triventi and Filip Agneessens, was published in *The Journal of Early Adolescence* (Pistocchi, Triventi, & Agneessens, 2024).

4.1. Introduction

Bullying is a widespread problem among children and young adolescents (Carney & Merrell, 2001) and can manifest itself in various ways, including physical attacks, verbal harassment, and social exclusion (Olweus, 1994). Depending on the country being considered, between 12% and 35% of school-going Western European adolescents report being the target of bullying behavior(s) (OECD, 2019). Being the victim of bullying can have detrimental effects on early adolescents (e.g., Craig, 1998).

In this study, we focus on the link between bullying and the school achievements of early adolescents (Juvonen et al., 2011; Nakamoto & Schwartz, 2010). Previous research has argued that being bullied by peers can negatively impact a victim's academic achievement (Norwalk et al., 2016; Li et al., 2020; Dorio et al., 2019), and that such a negative association between bullying victimization and grades persists across gender, age, and ethnicity of the person (e.g., Juvonen et al., 2011; Nakamoto & Schwartz, 2010). However, less is known about whether the effect of bullying victimization on academic achievement varies depending on the similarity or differences in characteristics of both the bully and its victim.

While prior research has focused on the consequences of bullying for academic outcomes, a key question is whether the religious affiliation of bully and victim might affect the academic achievement of the victim. We apply a social network perspective (Borgatti et al., 2022) to take into account the characteristics of both the perpetrator and the victim and thus differentiate between interreligious and intrareligious bullying. Based on the importance of religion among adolescents, and especially the divide between Muslim and non-Muslim adolescents, which has been argued in prior research (Leszczensky et al., 2020; Verkuyten & Thijs, 2010), we argue that bullying victimization between students with a different religious background might be more detrimental than bullying between same-religion students. Furthermore, given the minority role of Muslims in Western Europe, interreligious bullying might especially have a negative impact on academic achievement

when the victim is a Muslim being bullied by a non-Muslim.

To test our hypotheses, we consider the case of Germany between 2010 and 2011, where Islam is the largest religious minority and school grades play a crucial role for students' track placement in the secondary school system. To test our hypotheses, we rely on longitudinal data from the CILS4EU project (Kalter et al., 2016), which collected social network relations about bullying among 13- and 14-year-old students in 181 German school classes. By relying on a longitudinal design integrated with a matching approach, the paper aims to reduce bias due to confounding typical of observational studies. In doing so we aim to contribute to a better understanding of how religion might be a relevant moderator in the relation between bullying victimization and academic achievement.

4.2. Theory and Hypotheses

4.2.1. Bullying Victimization and Academic Achievement

Bullying among adolescents tends to predominantly occur inside school classes (Wolke et al., 2001). Previous research has argued that being the victim of bullying can undermine their feeling of belonging to the school (Biggart et al., 2013). According to *Self-Determination Theory* (Deci et al., 1991; Ryan & Deci, 2000), a feeling of belonging, along with competence and autonomy, are essential for human development and growth. During childhood and early adolescence, schools constitute one of the most important social contexts for generating meaningful and stable positive interactions with same-age peers (Coleman, 1994), making schools and classmates a central part of a student's world. Hence, a feeling of belonging related to school plays a critical role in the intrinsic and extrinsic academic motivation of students (Vansteenkiste et al., 2006).

Experiences of being bullied by classmates have been shown to take a toll on the psycho-emotional well-being of an adolescent as it undermines one's feeling of connectedness with peers (Norwalk et al., 2016). As a result of not being accepted, respected, and included in their school community, victims are prone to have feelings of anxiety, low self-worth, loneliness, and depression

(Vaillancourt et al., 2013; Nishina et al., 2005). In addition, victims of bullying have also been reported to have more cognitive difficulties concentrating during lessons, all of which make it more difficult for a student to engage in school activities and collaborative learning opportunities (Buhs & Ladd, 2001; Vaillancourt et al., 2013). To cope with such an abusive situation, victimized students have even been found to be more likely to skip school altogether, so as to avoid school-related interactions (Steiner & Rasberry, 2015).

Following the findings from these previous studies (e.g., Juvonen et al., 2011; Nakamoto & Schwartz, 2010), we expect to find an overall negative link between bullying victimization and academic achievement among German early adolescents. We specifically investigate whether bullying at a specific time point will be related to academic achievement at a later time point. We focus on the relation between academic achievement at a later time point because of the potential reverse effect where students who do not exhibit adequate school performance might be more likely to be targets of bullying. For example, one study has argued that low-achieving students tend to be assigned a lower social status within the group, making them more likely to be a target of bullying than high-achieving students (Glew et al., 2005). Hence, the causal order of this relation remains an important point of debate (Leith & Vaillancourt, 2022). Therefore, we test for a longitudinal effect of bullying victimization on academic achievement which results in the following first hypothesis:

Hyp. 1. Bullying victimization is negatively related with a student's academic achievement at a later time point.

4.2.2. Interreligious Bullying Victimization and Academic Achievement

While bullying victimization, in general, can have a negative impact on academic achievement, less is known about how similarities or differences in characteristics of both the bully and its victim might impact the association between being bullied and academic grades. Focusing on early adolescents in Germany, we specifically explore whether bullying behaviors between students

with a different religious background can be more detrimental on its victims than when it occurs between same-religious students, and in particular when it occurs between Muslim and non-Muslim students.

In the past decades, the religious composition in many Western European countries has undergone a shift. This includes both an increase in secularization among the native Christian population (Voas, 2009) and the emergence of Islam as a growing minority religion (Pew Research Center, 2015). In Germany, for example, in 2010 an estimated 71% of the population is Christian, while 21% is non-religious and 5% is Muslim (Pew Research Center, 2011). The Muslim population share has further increased to approximately 6.5% in 2020 (Pfündel et al., 2021) and is predicted to double by 2050 (Pew Research Center, 2017). These changes in religious composition have generated increased scholarly attention with regards to its impact on social integration in Western European society, and in particular on the integration processes occurring between young Muslim and non-Muslim adolescents (Drouhot & Nee, 2019).

Prior studies have argued that, in Western Europe, religious affiliation often establishes a clear boundary between Muslim minority and Christian or secular majority populations (e.g., Alba & Foner, 2015) and that, for a considerable number of Muslim early adolescents, religion is an important basis for identity (Jacob & Kalter, 2013). At the same time, public discourses, as well as political and media discourses in Western societies frequently represent Muslim immigrants as reluctant to integrate and as being part of parallel societies dominated by religious beliefs, which are seen as conflicting with the contemporary Western European way of life (Ahmed & Matthes, 2017; Helbling, 2014). There is also considerable evidence that Muslim communities often face strong stigmas (Simonsen & Bonikowski, 2020) and considerable discriminatory behaviors (Thijssen et al., 2022).

In a school context, such a divide is mirrored by more negative feelings between Muslim and non-Muslim early adolescents (Simsek et al., 2022). For example, in a study conducted among eleven-year-old Christian, non-religious, and Muslim students in the Netherlands, Verkuyten & Thijs (2010) found that around 30% of Christian and non-religious students reported negative feelings

about Muslims, while an almost equal number of Muslims reported negative feelings towards Christians and non-religious students, which was considerably higher than negative feelings towards their own religious group. The role of religious affiliation is further substantiated by research on the importance of Islam as a basis for friendship segregation between Muslim and non-Muslim students (Leszczensky & Pink, 2017). Specifically, considering German school classes, Muslim students often exhibit a preference for friendships with peers of the same religious group, while non-Muslim youth generally express hesitancy in forming friendships with Muslim rather than non-Muslim peers (Kretschmer & Leszczensky, 2022; Leszczensky & Pink, 2017). This pattern persists across gender (Kretschmer et al., 2024; Kretschmer & Leszczensky, 2023, 2022), levels of individual religiosity (Leszczensky & Pink, 2017, 2020), and the relative size of the Muslim group within the classroom (Leszczensky & Kretschmer, 2022; Snijders & Kalter, 2020).

Given the empirical support for the salience of a divide between Muslim and non-Muslim in Western societies, and in school classes in particular, we can expect bullying between these religious groups in schools to be perceived as an attack from an outside group on their own group identity. According to *Social Identity Theory* (Tajfel & Turner, 1979), when someone identifies with a specific social group and when this categorization is salient in a specific context, this person is inclined to create positive perceptions about the values and behavior of their own group (Rutland et al, 2010), as well as negative perceptions and stereotypes about other groups (Billiet et al., 1996). Translated to a school context, adolescents are likely to hold favorable evaluations of their own religious group (Verkuyten & Thijs, 2010), while they are likely to interpret behavior from classmates of a different religious group in a more negative way (for a review see Sapouna et al., 2023).

Following the logic of *Social Identity Theory*, bullying behavior from peers affiliated with a different religion can be expected to be interpreted in a more negative way than bullying from one's own group. More specifically, given the salient symbolic and relational divide between Muslim and non-Muslim at the societal level, interreligious bullying events towards Muslims might be conceived by the Muslim victims as reflecting a broader negative attitude towards Islam, and an attack to their

religious identity (Schihalejev et al., 2020), whereas, bullying by Muslims of non-Muslims might be perceived by the latter as an attack on Western values (Tahir et al., 2019).

Research on interreligious bullying has linked being victim of interreligious bullying to emotional and psychological distress, such as depression and suicidal ideation (Pan & Spittal, 2013). Scholars have also argued that an identity threat can undermine a victim's feelings of belonging to the school community (Vignoles, 2011). In line with this reasoning, we propose that interreligious bullying might be expected to have a more profound effect on academic achievement than intrareligious bullying. Hence, we derive the following hypothesis:

Hyp. 2. The negative relation between bullying victimization and academic achievement is stronger for students who are victims of interreligious bullying, than for those who are victims of intrareligious bullying

4.2.3. Interreligious Bullying Victimization for Muslim Students

The core argument underlying Hypothesis 2 is that interreligious bullying can be expected to have a stronger impact because it crosses religious divides, and in particular between Muslims and non-Muslims. However, because of the numerical minority positions of Muslims in society at large (Leszczensky, et al., 2020), we expected that interreligious bullying might have an unequal effect on Muslim and non-Muslim early adolescents.

According to *Social Misfit Theory* (Wright et al., 1986), individuals who in a given society are different in some regards to the dominant group, are likely to be avoided or rejected by the dominant majority. Following this argument, when Muslim minority students somehow deviate from the dominant social norm of their classmates, for instance regarding religious symbols, engaging in prayer, or observing distinct drinking and eating cultures, this might create an opportunity for intergroup bullying events to occur in a school context (Kuldass et al., 2021a, 2021b). Following *Social Dominance Theory* (Sidanius & Pratto, 2001), because they are conscious of belonging to a minority

religious group in society (Kruse & Kronenberg, 2019), Muslim victims might perceive interreligious bullying events as an act of oppression from members of the dominant group towards the Muslim religious minority, and potentially as an attack on one's religious identity.

Recent research has found that Islamophobic behavior in schools has led to psychological distress, poor mental health, and feelings of alienation among Muslim adolescents (for a review, Abu Khalaf et al., 2023). In this regard, interreligious bullying victimization might clearly undermine Muslim minority students' basic need for school belonging, as well as their motivation for academic engagement and performance (Verkuyten et al., 2019). In sum, within Western European society, to the extent that bullying perpetrated by a non-Muslim is interpreted as an instance of oppression or discrimination by the Muslim victim, reflecting the broader societal negative attitudes towards Islam and a rejection of its religious minority, we argue that such interreligious bullying might exert a more profound impact on the academic achievement of Muslim victim. Following these arguments, we propose the following third hypothesis:

Hyp. 3. The stronger negative impact of interreligious bullying compared to intrareligious bullying on a student's academic achievement is more pronounced for Muslim students than for students of other religious affiliations.

4.3. Method

4.3.1. Data and Sample

To test our hypotheses, we rely on data collected in German schools as part of the CILS4EU project (Kalter et al., 2016). The study collected longitudinal information regarding academic achievement and network information about bullying among adolescents from different regions in Germany (except Bavaria) between 2010 and 2011. Around that time, the religious composition of the German population consisted of about 71% Christian, 21% non-religious, and 5% Muslim (Pew

Research Center, 2011).

The data collection started when students were in the 9th grade, when they were around 13 or 14 years old, and followed up in subsequent academic years. Schools were selected using a two-stage sampling design to allow for an oversampling of classrooms containing a high proportion of students with a migration background.

For our study we restricted our analyses to the first two waves (wave 1 and wave 2). For the first wave, students were surveyed between October 2010 and February 2011, when they were in their 9th grade. The participation for students was 80.9%. The data collection for the second wave took place about a year later, from September 2011 to June 2012, when students attended the 10th grade. This second wave provided information about the academic achievement that students received at the end of the 9th grade.

4.3.2. Analytical Sample

The data available from the German CILS4EU subsample consists of 5,013 pupils in 271 classrooms and 144 schools. However, not all cases were suitable for our analysis. After creating the bullying victimization measure, the dataset was then reduced to an analytical sample in four sequential steps.

First, 64 students from 11 school classes were discarded because they had less than 10 classmates, in which case the networks were of insufficient size for making inference about their bullying behavior. In a second step, we excluded those school classes where more than 25% of the pupils did not participate in the survey in wave 1, as in such cases the network measures (indegree centrality) based on the bullying network would be unreliable. Although what level of missing cases is acceptable for network analysis is a point of debate (Borgatti et al., 2006), we followed recommendations by previous studies examining classroom networks (e.g., Jansen et al., 2022). This second step resulted in an additional removal of 70 school classes and 905 students. In the third step, we excluded students who had missing information on any of the variables of analytical interest, i.e.,

academic achievement, body mass index, socio-economic status, religion, ethnicity, migration generation, or age. As a result, 1,183 students were removed. For the final step we considered that the analytical design required data on academic achievement at the end of the second semester of both school years 2009-2010 and 2010-2011. The grades were obtained through the question “What grades did you receive on your most recent school report?” However, 541 participants were interviewed between February and June. For this subset of cases, the self-reported answers might refer to their grades in the first semester school report of the current year, which is typically received around February and March, rather than those at the end of second semester of the previous year. Because these self-reported grades might pertain to the wrong time period, various sources of time-varying unobserved heterogeneity, such as changes in teachers, classroom composition, friendships, or other bullying events, could potentially have affected the academic achievement of these 541 students. Therefore, we excluded them from our analysis. Table A4.1, in Appendix, shows these 541 students do not substantially differ from the analytical sample in any of the characteristics we focus on.

These selection criteria left us with complete data for 2,320 students from 181 religiously and ethnically diverse classrooms, within 115 schools. Of this final group, 1,466 were *Christian*, 484 *Muslim*, 270 *non-religious*, and 100 affiliated with other minority religions (*other-religion*). More than half of the students (53%) had an ethnic minority background. Within the immigrant group, the biggest origin groups were students whose families emigrated from Turkey (30%), Poland (11.4%), and Former Soviet Union countries (11.4%).

4.3.3. Measures

To collect information about academic achievement, students were asked the question “*What grades did you receive on your most recent school report?*”. Each student reported their grade for their three main subjects: Mathematics, German and English. *Academic achievement* was calculated as the average of the three grades at each wave. The average grade at the end of the school year 2010-

2011 (based on wave 2) was used as the dependent variable, while the grade at the end of 2009-2010 (based on wave 1) was used as a control variable to account for the cumulative learning process. In the German educational system, grades range from 1 (very good) to 6 (failed) and thus the variable was reversed so that a higher value indicates higher achievement (see Kretschmer et al., 2018, for this approach).

For the main independent variable, *bullying victimization*, students were presented with a roster with the names of all their classmates and asked to nominate “*Who is sometimes mean to you?*” (victim’s perspective) and “*Who are you sometimes mean to?*” (bully’s perspective). As “bullying” has a strong negative connotation, instead of mentioning this word directly, bullying was captured using the less threatening “being mean to” (Kalter et al., 2016), which is an indirect and softer way of capturing negative behavior and a common way for adolescents to describe bullying behavior (e.g., Ybarra et al., 2019). An indirect way of wording such a concept is quite common in survey research, and in network research in particular, when a concept has a negative connotation (Agneessens & Labianca, 2022). Previous research has found that asking for “bullying” in a direct way can be problematic (see Greif & Furlong, 2006).

To ensure that we captured the intentional aspect of the bullying behavior we consider a bullying tie to exist when the bully named the victim as someone who they were sometimes mean to and, at the same time, the victim reported that the bully was sometimes mean to them. This measurement strategy has the advantage of incorporating the negative intent of the bully and ensures that the victim also interprets it this way (i.e., “being mean”). Hence, it takes away any potential discrepancies between the victim’s and the perpetrator’s perception of a bullying event (Tatum & Grund, 2020; Harrigan et al., 2020). We subsequently created the variable *bullying victimization*, where a value of 1 indicated that the student was sometimes bullied by at least one peer, and 0 otherwise.

Students’ religious affiliation was obtained by asking students the question “*What is your religion?*”. We distinguished between four main categories: *Christian* (1,466 students), which

comprised Catholics and Protestants, *Muslim* (484), *non-religious* (270), and *other-religion* (100). Given the strong overlap between religion and country of origin in Germany, we controlled for *ethnicity* in the analyses. The ethnic origin of students' families was aggregated into six broad categories (Dollmann et al., 2014): *German* (1,090 students), *Turkish* (369), *Eastern European* (438), *other European* (198), *other Arabic* (124), and *other non-Western* (101). With these categories we aimed to merge countries which roughly have the same migration history and cultural background (see Fleischmann et al., 2019, for this classification approach). Table A4.2, in Appendix, cross tabulates students' religion and ethnic background, indicating considerable variation to distinguish between religious affiliation and ethnicity. These results show, among others, that about 66% of Muslims were of Turkish origin, whereas 88% of Turkish students were Muslim.

Student- and classroom-level covariates were included as control variables. If sociodemographic information was missing in the first wave of the data collection, but this time-constant information was available at the second or third wave, the missing information was imputed with data from subsequent waves. The control variables have been chosen among those that were identified by theoretical accounts and previous empirical studies as potentially affecting the likelihood of being bullied and that can also be related to students' achievement in school.

Migrant generation distinguished between immigrant students of the first- (foreign-born student) and second-generations (at least one foreign-born parent), as research has found that first-generation immigrant students tend to be more vulnerable to bullying victimization (Karakus et al., 2023) and hold a lower academic achievement (Triventi, 2020) than other generations of immigrant peers. In addition, the variables *proportion of classmates with same-religion* and *same-ethnicity* controlled for the opportunity structure, i.e., the relative number of same and different religious and ethnic peer choices available to a student in a specific classroom, which might affect the opportunity for inter- and intrareligious bullying and also impact the identification processes of minority-group students (Leszczensky et al., 2020).

The socio-demographic variables *gender*, *age*, body mass index (*BMI*), and socio-economic

status (*SES*) were also included. *Age* was coded in months, while for *gender* boys were used as the reference group (i.e., *female* = 1). The measure ranged from 0 (unemployed parents) to 100, with higher values indicating higher *SES*. Body mass index (*BMI*) was calculated as weight in kilograms divided by height in meters squared (Gwozdz et al., 2015). Socio-economic status (*SES*) was identified according to the ISEI classification (Ganzeboom et al., 1992) and based on the highest parental value. These variables were considered in the analyses because girls tend to outperform boys in academic achievement (e.g., Buchmann et al., 2008) and experience significantly less bullying victimization than male students (Fisher et al., 2015), while low *SES* is linked to academic underachievement (Sirin, 2005) and being victim of bullying (Tippett & Wolke, 2014). *BMI* took into consideration that overweight pupils are more likely to be victimized (Puhl et al., 2013) as well as report lower grades (Dian & Triventi, 2021). *Age* was also included since, during adolescence, previous research argues that older ages reduce the risk of being victimized (e.g., Barker et al., 2008) and generally decrease academic achievement (e.g., Eccles et. al., 1993).

At the classroom-level, we incorporated several variables to control for the different compositions of the school class group, which might impact the students' *academic achievement at wave 2*. These variables encompass the *number of classmates*, the *classroom-average academic achievement at wave 1*, and the *classroom average SES*. Small school classes are often reported to increase teachers' investment in each student's learning (Jepsen & Rivkin, 2009) and be beneficial for pupils' academic achievement (Shin & Raudenbush, 2011). Being in a school class where children have a higher average rate of academic achievement can instead create a positive normative learning culture within the peer group which motivates students to exhibit greater educational engagement and aspirations (Stäbler et al., 2017). Finally, low *SES* classrooms have been found to lower the disciplinary climate or atmosphere in a school class (Hoxby, 2000).

4.3.4. Analytical Strategy

While numerous studies have relied on the idea that bullying victimization can negatively

impact academic achievement (e.g., Juvonen et al., 2011), other studies claim that academic achievement could instead be a predictor of bullying victimization (e.g., Park et al., 2017). Indeed, the possibility of reverse causality cannot be ruled out in most of the existing studies that find a negative association between both variables (Laith & Vaillancourt, 2022). To remedy as best as possible such an endogenous selection bias (Elwert & Winship, 2014), resulting from students with poor academic achievement being selected as victims by bullies, we relied on entropy balancing between bullied and non-bullied groups. Entropy balancing is a statistical method that allows preprocessing the analytical sample prior to estimation (Hainmueller, 2012). Unlike traditional matching methods, which rely on one-to-one or nearest neighbor matching, entropy balancing employs flexible weighting schemes that assign different weights to each observation, enabling more precise balance adjustments, particularly in smaller samples where exact matches may be rare. Using the “ebal” R software package (Hainmueller, 2022), an iterative algorithm determines the optimal weights for each observation by minimizing differences in the means and variances of observed covariates between bullied and non-bullied groups. This process involves solving an optimization problem to minimize the entropy criterion while satisfying covariate balance constraints, ensuring that the weights are tailored to the specific characteristics of the sample without relying on exact matches (Stuart, 2010). Moreover, entropy balancing maintains the size of the analytical sample, avoiding reductions in statistical power (Higgins et al., 2016), and does not depend on assumptions regarding the functional form of relationships between covariates and outcomes (King & Nielsen, 2019).

By assigning tailored weights to each observation in the sample, the bullied and non-bullied groups were weighted in such a way that the academic achievement of the most similar students was compared across waves 1 and 2. In Models A4.2 and A4.3 (see Appendix), we also report the results of additional analyses that employ multicategory entropy balancing matching among the different bullied groups (Tübbicke, 2022). These results are very similar to those reported in Models 2 and 3 in Table 4.3 (see below). Table A4.3 and Figure A4.1, in Appendix, show the achieved balance in

means and variances across all covariates between bullied non-bullied students. We then incorporate these covariates in the Models to further mitigate any remaining bias resulting from imbalances in some of the covariates used to create the weights, and to increase the precision of our estimates by reducing the residual variability in the outcome variable (Funk et al., 2011).

A multilevel modeling approach using the R software package “lme4” (Bates et al., 2015) was employed to account for unobserved contextual differences that could have influenced the way in which students responded to classroom- and school-level circumstances. The hierarchical data structure, with students (Level-1) nested in classrooms (Level-2) nested in schools (Level-3), reflected a need for a three-level regression model, with random intercepts at classroom- and school-level, to correct for dependencies between clusters (Snijders & Bosker, 2011).

Three models were estimated to test the hypotheses sequentially. Model 1 explored the general effect of being bullied during the school year on academic achievement at the end of the same school year. Model 2 included a two-way interaction between bullying victimization and the bully belonging to a different religion. Subsequently, a new variable called Different-Religion Bullying Victimization (DRBV), with a value of 1 indicating being bullied by a bully of a different religion and 0 otherwise, was introduced to investigate the role of interreligious bullying victimization on academic achievement at wave 2. Model 3 tested whether interreligious bullying by non-Muslims towards Muslims moderates such an effect through a three-way interaction between *bullying victimization*, the bully being of different religion, and the victim being a Muslim. Since omitting constitutive terms would result in biased estimates (Brambor et al., 2006), for each interacted variable, all possible two-way interactions between *bullying victimization*, *Muslim*, *Christian*, or *other-religion* victim, and *different-religion bully* were also included. In order to facilitate the interpretation of regression coefficients, all student- and classroom-level continuous predictors were centered respectively at the classroom- and grand-mean.

4.4. Results

4.4.1. Descriptives

Table 4.1 reports the mean, standard deviation, minimum and maximum values for each of the variables before centering them at their mean. These data show that students had an average score of 4.14 on *academic achievement at wave 2* (corresponding to 2.86 in the original German grading system). Overall, 15% of students reported being victims of bullying.

Table 4.1. Descriptive Statistics for Study Variables.

	<i>M</i>	<i>SD</i>	<i>Min</i>	<i>Max</i>
Student-level Variables				
Academic achievement at wave 2	4.14	0.71	1	6
Academic achievement at wave 1	4.02	0.71	1.33	6
Bullying victimization ^a	0.15		0	1
Interreligious bullying victimization ^a	0.08		0	1
Intrareligious bullying victimization ^a	0.09		0	1
Age (in months)	183.09	10.52	157	226
Gender ^b	0.5			1
Ethnic origin				
German	0.47		0	1
Turkish	0.16		0	1
Eastern European	0.19		0	1
Other European	0.09		0	1
Other Arabic	0.05		0	1
Other non-Western	0.04		0	1
Religious group				
non-religious	0.12		0	1
Christian	0.63		0	1
Muslim	0.21		0	1
other-religion	0.04		0	1
Socio-Economic Status (SES)	45.08	21.4	0	88
Migrant Generation				
Native	0.47		0	1
First generation	0.09		0	1
Second generations	0.44		0	1
Body-Mass index	20.54	3.27	12	59
Proportion classmates with same religion	48.22	25.37	0	95.83
Proportion classmates with same ethnicity	27.92	22.89	0	75
Classroom-level Variables				
Total number of classmates	25.21	4.22	10	36
Average academic achievement at wave 1	3.97	0.33	2.89	4.91

Average Socio-Economic Status (SES)	44.8	11.21	21.19	74.8
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Note. Number of students = 2,320, number of school classes = 181.

^a0 = not being bullied, 1 = being bullied.

^b0 = male, 1 = female.

Table 4.2 provides further descriptive statistics for *academic achievement at wave 2*, as well as for the proportion of students who were victimized and the proportion of same- and different-religion bullies, according to religious denomination. These average classroom proportions were derived by dividing, for each school class, the numbers of bullies by the number of same- and different- religion survey-participating classmates. First of all, we notice a lower achievement for Muslim students. The proportion of overall bullying is roughly the same across religious affiliations, except for other-religion students. However, the relatively small number of students in this group means that this higher occurrence might just be due to random chance.

Table 4.2. Percentages of Students Experiencing Bullying, Interreligious Bullying, and Intrareligious Bullying Victimization (at Wave 1) and Students' Average Academic Achievement (at Wave 2) by Religious Denomination.

	<i>N</i>	% of students bullied	% of students bullied interreligiously	% of students bullied intrareligiously	Mean of academic achievement at wave 2
All	2,320	15.17	7.64	9.45	4.14
Muslim	484	14.227	8.04	7.21	4.03
Christian	1,466	14.83	5.85	11.36	4.17
Non-religious	270	14.76	11.07	5.16	4.19
Other religion	100	25.74	22.77	3.96	4.20

4.4.2. Analytical Results

Table 4.3 shows the results of the three random intercept multilevel regression models with *academic achievement at wave 2* as dependent variable. Intra-class correlation coefficient (ICC = .37) shows that *academic achievement at wave 2* differs significantly across classrooms and schools, which is the reason for using a multilevel model with random intercepts at classroom- and school-

level. However, in the three models the majority of the variance is at the student-level (0.07), rather than the classroom-level (0.02), and school-level (0.02).

Table 4.3. Results of the Three Multilevel Regression Models with Academic Achievement at Wave 2 as Dependent Variable.

Effect	Model 1			Model 2			Model 3		
	Estimate	SE	p	Estimate	SE	p	Estimate	SE	p
Student-level effects									
Intercept	4.093	0.05	<.001	4.096	0.05	<.001	4.112	0.058	<.001
Bullying victimization (BV) ^a	-0.074	0.021	0.001	-0.008	0.027	0.782	-0.126	0.104	0.228
BV ^a x Christian victim ^b							0.122	0.109	0.261
BV ^a x Muslim victim ^b							0.187	0.122	0.123
BV ^a x other-religion victim ^b							-0.007	0.202	0.973
Different religion bullying victimization (DRBV) ^a				-0.132	0.034	<.001	-0.051	0.113	0.654
DRBV ^a x Christian victim ^b							-0.016	0.12	0.896
DRBV ^a x Muslim victim ^b							-0.341	0.135	0.012
DRBV ^a x other-religion victim ^b							0.118	0.208	0.569
Academic achievement									
at wave 1	0.675	0.017	<.001	0.674	0.017	<.001	0.674	0.017	<.001
Age (in months)	-0.004	0.001	<.001	-0.004	0.001	<.001	-0.004	0.001	<.001
Gender ^c	-0.015	0.022	0.535	-0.017	0.022	0.426	-0.018	0.022	0.397
SES	0.001	0.001	0.132	0.001	0.001	0.149	0.001	0.001	0.177
Ethnic origin ^d									
Turkish	0.085	0.066	0.197	0.075	0.066	0.26	0.082	0.066	0.218
Eastern European	0.095	0.059	0.106	0.087	0.059	0.137	0.085	0.058	0.146
Other European	-0.037	0.064	0.565	-0.043	0.064	0.5	-0.052	0.064	0.416
Other Arabic	0.063	0.081	0.436	0.057	0.081	0.477	0.069	0.081	0.394
Other non-Western	0.107	0.094	0.255	0.103	0.094	0.274	0.104	0.094	0.269
Religious group ^b									
Christian	0.085	0.045	0.06	0.089	0.045	0.048	0.061	0.056	0.279
Muslim	0.03	0.056	0.597	0.035	0.056	0.534	0.062	0.068	0.357
other-religion	0.051	0.054	0.342	0.051	0.054	0.345	0.002	0.072	0.983
Migrant Generation ^e									
First generation	-0.116	0.056	0.04	-0.121	0.056	0.032	-0.121	0.056	0.031
Second generations	-0.036	0.047	0.444	-0.036	0.046	0.443	-0.04	0.046	0.383
Body-Mass index	0.002	0.003	0.536	0.001	0.003	0.653	0.002	0.003	0.603
Proportion of classmates with same religion	-0.001	0.001	0.468	-0.001	0.001	0.113	-0.001	0.001	0.059
Proportion of classmates with same ethnicity	-0.001	0.001	0.301	-0.001	0.001	0.226	-0.001	0.001	0.176
Classroom-level effects									
Total number of classmates	-0.008	0.005	0.109	-0.007	0.005	0.125	-0.007	0.005	0.13

Average academic achievement at wave 1	0.742	0.068	<.001	0.751	0.068	<.001	0.762	0.067	<.001
Average SES	0.003	0.002	0.235	0.003	0.002	0.23	0.003	0.002	0.169

Note. Number of students = 2,320, number of school classes = 181, number of schools = 115. All student- and classroom-level continuous independent variables were centered respectively at the classroom- and grand-mean in the three models. BV = Bullying victimization. DRBV = Different religion bullying victimization.

^a0 = not being bullied, 1 = being bullied.

^bNon-religious is the reference group.

^c0 = male, 1 = female.

^dGerman is the reference group.

^eNative is the reference group.

Model 1 in Table 4.3 explores the relation between being bullied during the first semester of the school year 2010-2011 and the academic achievement at the end of the same school year while controlling for all covariates, including the academic achievement reported at the end of the previous school year, 2009-2010. Results show that students who are bullied on average have significantly lower grades than those students who are not bullied ($b = -0.075$, $p = .001$), which provides support for Hypothesis 1.

In Model 2, we turn to the question whether the relation between interreligious bullying and the dependent variable is stronger than the relation for intrareligious bullying. This was achieved by interacting the variable *bullying victimization* with the bully being of a different religion. The result of this two-way interaction corroborates Hypothesis 2 ($b = -0.132$, $p < .001$) and suggests that experiences of interreligious bullying victimization are a more important risk factor for adolescents' academic achievement than experiencing intrareligious bullying victimization. We also note that the "overall" bullying victimization effect becomes non-significant ($b = -0.008$, *ns*), which indicates that intrareligious bullying does not itself impact academic achievement.

Our third hypothesis proposed that interreligious bullying would have a stronger impact on Muslims compared to non-Muslims. To test this hypothesis, we included both the effects of interreligious bullying for the different religious affiliations and the "overall" bullying victimization effect for each group. After adding a three-way interaction between the religious (Christian, Muslim,

or other-religion) victim, bullying victimization, and the bully being of different religion, the two-way interaction between religion and bullying victimization now captures the bullying events by a same-religion bully. The results in Model 3 show that the longitudinal relation between intrareligious bullying victimization and achievement is not significantly different across religious groups. For example, the effect of intrareligious bullying victimization for Christians and Muslims, compared to the reference group, i.e., non-religious students, is nonsignificant ($b = 0.122$, ns).

Likewise, interreligious bullying for the reference group (non-religious students) has no significantly different effect ($b = -0.051$, ns) from the intrareligious bullying (i.e., intercept). Taken together with the effects of interreligious bullying for Christian and other-religion students being non-significant, this means that interreligious bullying has a non-significant effect for these groups. Turning to our hypothesis, unlike any other religious group, we find that Muslim victims experience a significantly negative temporal relation between being bullied by different-religion peers and academic achievement compared to being bullied by same-religion peers ($b = -0.341$, $p = .012$). Hence, in line with hypothesis 3, interreligious bullying of Muslim students decreases their academic achievement, compared to Muslim students who are bullied by same-religion peers.

4.5. Discussion, Limitations and Future Research, and Conclusions

4.5.1. Discussion

In this study, we first tested the relation between bullying victimization and subsequent academic achievement. To do so, we used a rigorous empirical strategy involving 1) longitudinal data to effectively address, as best as possible, the issue of reverse causality where low-achieving students being chosen as victims by bullies, 2) powerful balancing and reweighting techniques to reduce bias from confounding, and 3) multilevel regression to account for the complex nature of the data and the organization of the learning environments. The results of the statistical analysis revealed that, among early young adolescents in Germany, the experience of bullying victimization decreased subsequent

academic performance, measured in terms of school grades. This finding provides support for the hypothesis that experiences of bullying victimization undermine a student's academic achievement. One argument proposed in prior research for such a negative relation is that this is due to a reduced sense of belonging for school-aged adolescents, and a disengagement from their studies.

Our main aim was to explore whether interreligious bullying has a stronger negative relation with its victims' academic achievement. Since there is a considerable divide between Muslim and non-Muslims in the school context in many Western European countries, bullying behaviors, which occur between students with a different religious affiliation, might be interpreted in a more negative way, and potentially even as a form of discriminatory behavior which attacks the religious identity of victims. Although interreligious bullying events were less frequent than intrareligious ones (Table 4.2), the results lent support for the second hypothesis. Students who were being victimized by different-religion bullies had lower academic achievement at the end of the academic year, while being victimized by same-religion bullies did not show such a relation. Further research should explore the precise reasons why such intergroup behaviors are more detrimental, and the role of mediators. In particular, it should consider the exact meaning ascribed to bullying by both the bully and its victim, and to what extent such interreligious bullying victimization is seen as a threat to the victim's identity.

Finally, we examined whether bullying of Muslim victims by non-Muslims was more strongly related to academic achievement. Our findings provide evidence for this third hypothesis. When compared to Muslim students being bullied by same-religion peers, experiences of interreligious bullying victimization had a more negative association with subsequent academic achievement for Muslim victims. These results provide interesting insights into the role of Islamic affiliation on the relation of bullying and academic achievement and are in line with the arguments derived from *Social Dominance Theory*.

4.5.2. Limitations and Future Research

The results of our study provide a number of interesting avenues for future research, but also brought with them a set of limitations.

First of all, the concept of “bullying” is a widely researched topic. Although its exact measurement has been debated extensively (see Greif & Furlong, 2006), bullying is often considered to encompass three important components: intentional aggression, repetition and power differential (Olweus, 1978). “Bullying” can consist of a broad range of aggressive events, ranging from verbal and physical attacks to subtler forms, such as disrespectful treatment and avoidance (Brüß, 2008). Moreover, according to some scholars bullying should be understood as a specific version of peer victimization, while others believe it should be understood as a separate phenomenon (Turner et al., 2011; Finkelhor et al., 2012). As a result, the measurement of “bullying” remains challenging, especially when it is captured through a network approach, where the number of questions that can be asked are limited, and when dealing with young adolescents (Greif & Furlong, 2006). Given the negative loading of “bullying” and the different interpretation of this concept among different people, it is not uncommon to try to describe bullying events rather than use the word itself.

In the CILS4EU, “being sometimes mean” was employed as a measurement strategy for capturing bullying instead. Employing a social network approach, i.e., “who-bullies-whom”, allowed us to identify whether a student experienced bullying from a peer of the same or a different religious denomination, a task that would have been difficult without relying on network data. Based on theoretical assumptions and previous research, we defined interreligious victimization as occurring when a dyad consists of two adolescents from two different religious groups.

However, it is important to note that we were not able to measure the power imbalance between the bully and its victim, which means that, according to the original definition, our measure might not completely capture all components of bullying. We also did not have information about the underlying intent of such bullying behavior by the perpetrator and the meaning given to it by the victims. Particularly, given the extensive research that has reported the presence of negative feelings

(Verkuyten & Thijs, 2010) and practices of rejection (Kretschmer & Leszczensky, 2022) between Muslim and non-Muslim youth in Western European schools, we might expect that some of the interreligious bullying victimization contains direct or more subtle attacks on Islam or Western values. We believe that future research should explicitly assess the motivations for students bullying specific peers, as well as inquire into how victims perceive these (interreligious) bullying events. It should also investigate whether victims view bullying events more negatively if they occur between religious groups compared to when they happen within religious groups. We used the combined “I am sometimes mean to X” and “X was sometimes mean to me” to ensure that both perpetrator and victim see the bullying event negatively, i.e., as “being mean”. Additionally, scholars might want to explore more clearly the content of verbal bullying. Such questions likely require a mixed methods network approach (Hollstein & Dominguez, 2014).

A second main limitation is that we could not explicitly test some of our claims. Our theoretical argument posits that the link between bullying victimization and lower academic achievement works through variables such as psycho-emotional distress, cognitive difficulties in concentrating on school activities, a reduced sense of belonging towards the school community, and an increased absenteeism from school. While using the CILS4EU dataset, we were unable to empirically assess whether these variables indeed mediate the relation between bullying victimization and academic achievement in our context. The evidence supporting the argument that the effect of being bullied on educational outcomes is mediated through school belonging and academic engagement is mixed. For example, in a study on peer victimization among students in the area of San Diego, California, Wormington and colleagues (2015) found that the impact on academic achievement was only partially mediated via school belonging. Similarly, Li and colleagues (2020) discovered support for serial mediation, first through school belonging and then through academic engagement, among 15-year-olds in rural China. They found that this was only occurring for the male segment of their study. These findings show that the basis for a link between victimization and bullying remains uncertain and that school belonging might only be part of the explanation. In our

case, future research should focus on uncovering the relative importance of these potential intervening mechanisms and whether they operate to the same extent for Muslim and non-Muslim students, at different ages and for all genders, in German schools.

Third, our study is based on data from 2010 and focuses on Germany (excluding Bavaria). A large part (66%) of the Muslim children in 2010 were of Turkish origin. Due to the bilateral treaty of 1961 with Turkey regarding the recruitment of foreign workers (*Gastarbeiter*), Germany specifically has a higher proportion of Muslim Turkish population compared to other Western European countries (Akgündüz, 2021), which might make our results not generalizable to Western Europe. Moreover the Muslim population in Germany has changed to some extent. As a result of recent refugee movements from the Middle East, primarily from countries such as Syria, Afghanistan, Iraq, and Iran, the ethnic composition of the Muslim population in Germany has become increasingly diverse during the last decade (Pfündel et al., 2021). While Muslims of Turkish origin still constitute the largest group, they no longer represent the absolute majority (about 45% according to Pfündel et al., 2021). While the Muslim community might not be such a homogeneous group even in 2010, our study was unable to examine interactions between religion and ethnicity. A more qualitative approach might be needed to explore potential nuances related to different ethnic groups within the Muslim community. In addition, the last decades has seen considerable changes in anti-Muslim attitudes in many Western countries. Political parties with a more negative attitude towards Muslim and immigrants have recently gained popularity in Western European countries (Simonsen & Bonikowski, 2020). These changing attitudes might also have an impact on the interactions among students in school. Consequently, future research could benefit from utilizing recent data that reflect this more heterogeneous Muslim youth population, to test whether the results found in our study still hold true and whether the same effects are present in other Western European countries.

These studies should be complemented with research that focuses on ways to mitigate the negative effects of interreligious bullying. Scholars have paid increasing attention to intervention efforts, such as teaching practices (Kisfalusi et al., 2021), family and friend support (Vannucci et al.,

2021) and speaking out against bullies (van der Ploeg et al., 2016), to dampen the effect of bullying on adolescents.

4.5.3. Conclusions

In Western European countries, Muslim students often lag behind their native majority peers in educational achievement (Ohlendor et al. 2017). One potential explanation, which we focused on in this study, is that interreligious bullying victimization leads to school difficulties for Muslim students because they are especially vulnerable to bullying by their non-Muslim peers. A poor academic achievement can potentially have long-lasting negative effects on the future occupational careers of Muslims, including lower rates of labor force participation and lower levels of occupational attainment (Connor & Koenig, 2015). Adverse consequences on Muslims' careers might be especially visible in countries, like Germany, where grades play a crucial role for students' placement in academic or vocational educational tracks in the secondary school system (Terrin & Triventi, 2023), thereby further hampering the integration processes of young Muslims who are victims of interreligious bullying. While past research has focused on whether different groups of adolescents might be impacted by bullying victimization in different ways (Sapouna et al., 2023), the role of similarities or differences in characteristics between bully and victim has been understudied. Such a focus requires network data and the development of specific network measures (Borgatti et al., 2022). Overall, this novel approach might allow educational practitioners and policy makers to identify differential effects of exposure to bullying victimization. Specifically, in the case of Muslim early adolescents, this study indicates that countering interreligious bullying victimization would be critical for the implementation of effective integration policies.

4.6. Appendix

Table A4.1. Descriptive Statistics for Study Variables, 541 excluded students.

	<i>M</i>	<i>SD</i>	<i>Min</i>	<i>Max</i>
<i>Student-level variables:</i>				
Academic achievement at time 2	4,058	0,746	1	6
Academic achievement at time 1	3,835	0,76	1	6
Bullying victimisation (0/1)	0,172		0	1
Bullying victimisation (interreligious)(0/1)	0,081		0	1
Bullying victimisation (intrareligious)(0/1)	0,113		0	1
Age (in months)	185,348	11,591	157	216
Gender (<i>Girl</i> = 1)	0,527		0	1
Ethnic origin:				
German	0,438		0	1
Turkish	0,17		0	1
Eastern European	0,194		0	1
Other European	0,098		0	1
Other Arabic	0,054		0	1
Other non-Western	0,046		0	1
Religious group:				
non-religious	0,139		0	1
Christian	0,573		0	1
Muslim	0,227		0	1
Other-Religion	0,061		0	1
Socio-Economic Status (SES)	44,085	21,358	0	88
Migrant Generation (<i>Ref.</i> :				
<i>Native</i>):				
First generation	0,111		0	1
Second generations	0,451		0	1
Body-Mass index	21,017	3,981	14	54
Share of classmates with same religion	47,063	26,085	0	95,833
Share of classmates with same ethnicity	26,513	22,887	0	75
<i>Classroom-level variables:</i>				
Average academic achievement at time 1	3,957	0,314	2,889	4,693
Classroom average class SES	43,396	11,3	21,188	74,8
Total number of classmates	24,719	4,734	11	35

Table A4.2. Cross tabulation of students' ethnicity and religion.

Ethnicity	Non-Religious	Other Religions	Christian	Muslim	Total
German	153	19	917	1	1090
Turkish	17	9	19	324	369
Eastern European	50	32	306	50	438
other European	23	15	147	13	198
Other Arabic	7	15	11	91	124
other non-Western	20	10	66	5	101
Total	270	100	1466	484	2320

Model A4.2. Results of Model 2 using an entropy balancing matching approach over the categories: non-bullied student, intrareligiously bullied student, interreligiously bullied student.

	Model 2		
Effect	Estimate	SE	p
Student-level effects			
Intercept	4.126	0.049	<.001
Bullying victimization (BV)	0.004	0.039	0.926
Different religion bullying victimization (DRBV)	-0.136	0.055	.013
Academic achievement at wave 1	0.665	0.017	<.001
Age (in months)	-0.003	0.001	.009
Gender	-0.021	0.022	0.334
SES	0	0.001	0.539
Ethnic origin			
Turkish	-0.021	0.066	0.748
Eastern European	0.032	0.058	0.579
Other European	-0.085	0.066	0.194
Other Arabic	0.035	0.083	0.678
Other non-Western	0.103	0.08	0.202
Religious group			
Christian	0.041	0.045	0.359
Muslim	0.053	0.056	0.343
other-religion	0.022	0.062	0.727
Migrant Generation			
First generation	-0.026	0.055	0.633
Second generations	0.013	0.045	0.771
Body-Mass index	0	0.003	0.930
Proportion of classmates with same religion	-0.001	0.001	0.405
Proportion of classmates with same ethnicity	-0.001	0.001	0.537
Classroom-level effects			
Total number of classmates	-0.006	0.004	0.145
Average academic achievement at wave 1	0.791	0.057	<.001
Average SES	0.001	0.002	0.758
ICC		0.09	
Variances			
Student	0.24		
Classroom	0.01		
School	0.01		

Model A4.3. Results of Model 3 using an entropy balancing matching approach over the categories: non-bullied student, non-religious student*intrareligiously bullied student, non-religious student*interreligiously bullied student; other-religion student*intrareligiously bullied student, other-religion student*interreligiously bullied student; Christian student*intrareligiously bullied student, Christian student*interreligiously bullied student; Muslim student*intrareligiously bullied student, Muslim student*interreligiously bullied student.

Effect	Model 3		
	Estimate	SE	p
Student-level effects			
Intercept	4.141	0.056	< 0.001
Bullying victimization (BV)	-0.165	0.088	0.06
BV ^a x Christian victim	0.165	0.099	0.096
BV ^a x Muslim victim	0.25	0.143	0.08
BV ^a x other-religion victim	0.057	0.301	0.848
Different religion bullying victimization (DRBV)	0.007	0.1	0.941
DRBV ^a x Christian victim	-0.068	0.121	0.576
DRBV ^a x Muslim victim	-0.379	0.173	0.029
DRBV ^a x other-religion victim	0.059	0.316	0.851
Academic achievement at wave 1	0.678	0.016	< 0.001
Age (in months)	-0.003	0.001	0.002
Gender	-0.031	0.021	0.151
SES	0.001	0.001	0.154
Ethnic origin			
Turkish	-0.036	0.064	0.576
Eastern European	0.022	0.057	0.693
Other European	-0.088	0.063	0.164
Other Arabic	0.027	0.082	0.737
Other non-Western	0.095	0.079	0.229
Religious group			
Christian	0.024	0.053	0.652
Muslim	0.064	0.063	0.311
other-religion	0.012	0.073	0.870
Migrant Generation			
First generation	-0.014	0.054	0.792
Second generations	0.023	0.044	0.604
Body-Mass index	0	0.003	0.950
Proportion of classmates with same religion	0	0.001	0.504
Proportion of classmates with same ethnicity	-0.001	0.001	0.591
Classroom-level effects			

Total number of classmates	-0.007	0.004	0.106
Average academic achievement at wave 1	0.798	0.057	<0.001
Average SES	0.001	0.002	0.698
ICC		0.1	
Variances			
Student		0.23	
Classroom		0.01	
School		0.01	

Table A4.3. Achieved balance in means and variances across all covariates between bullied non-bullied students.

	Mean Bullied Group	Mean Non-Bullied Group After Balancing	Mean Non-Bullied Group Before Balancing
<i>Classroom-level covariates:</i>			
Classroom average academic achievement at time 1	3.927	3.927	3.974
Classroom average academic achievement at time 1 $\wedge$ 2	15.524	15.524	15.896
Classroom average class SES	44.021	44.021	44.956
Classroom average class SES $\wedge$ 2	2050.722	2050.722	2148.711
Total number of classmates	24.754	24.754	25.296
Total number of classmates $\wedge$ 2	631.56	631.56	657.499
<i>Student-level covariates:</i>			
Share of classmates with same religion	46.469	46.469	48.538
Share of classmates with same religion $\wedge$ 2	2877.365	2877.365	2985.677
Share of classmates with same ethnicity	27.378	27.378	28.036
Share of classmates with same ethnicity $\wedge$ 2	1261.864	1261.864	1312.292
Academic achievement at time 1	4.022	4.022	4.019
Academic achievement at time 1 $\wedge$ 2	16.681	16.681	16.667
Age (in months)	182.786	182.786	183.12
Age (in months) $\wedge$ 2	33525	33525	33642.83
Gender (<i>Girl</i> = 1)	0.486	0.486	0.498
Ethnic origin:			
Turkish	0.129	0.129	0.164
Eastern European	0.18	0.18	0.191
Other European	0.106	0.106	0.082
Other Arabic	0.066	0.066	0.051
Other non-Western	0.023	0.023	0.047
Religious group:			
Muslim	0.197	0.197	0.21
Other-Religion	0.074	0.074	0.038
non-religious	0.114	0.114	0.117
Socio-Economic Status (SES)	44.357	44.357	45.207
Socio-Economic Status (SES) $\wedge$ 2	2417.797	2417.797	2503.148
Migrant Generation (<i>Ref.: Native</i>):			
First generation	0.091	0.091	0.084
Second generations	0.331	0.331	0.363
Body-Mass index	21.131	21.131	20.44
Body-Mass index $\wedge$ 2	459.229	459.229	428.036

Note: Variances are represented by continuous variables at the power of 2.

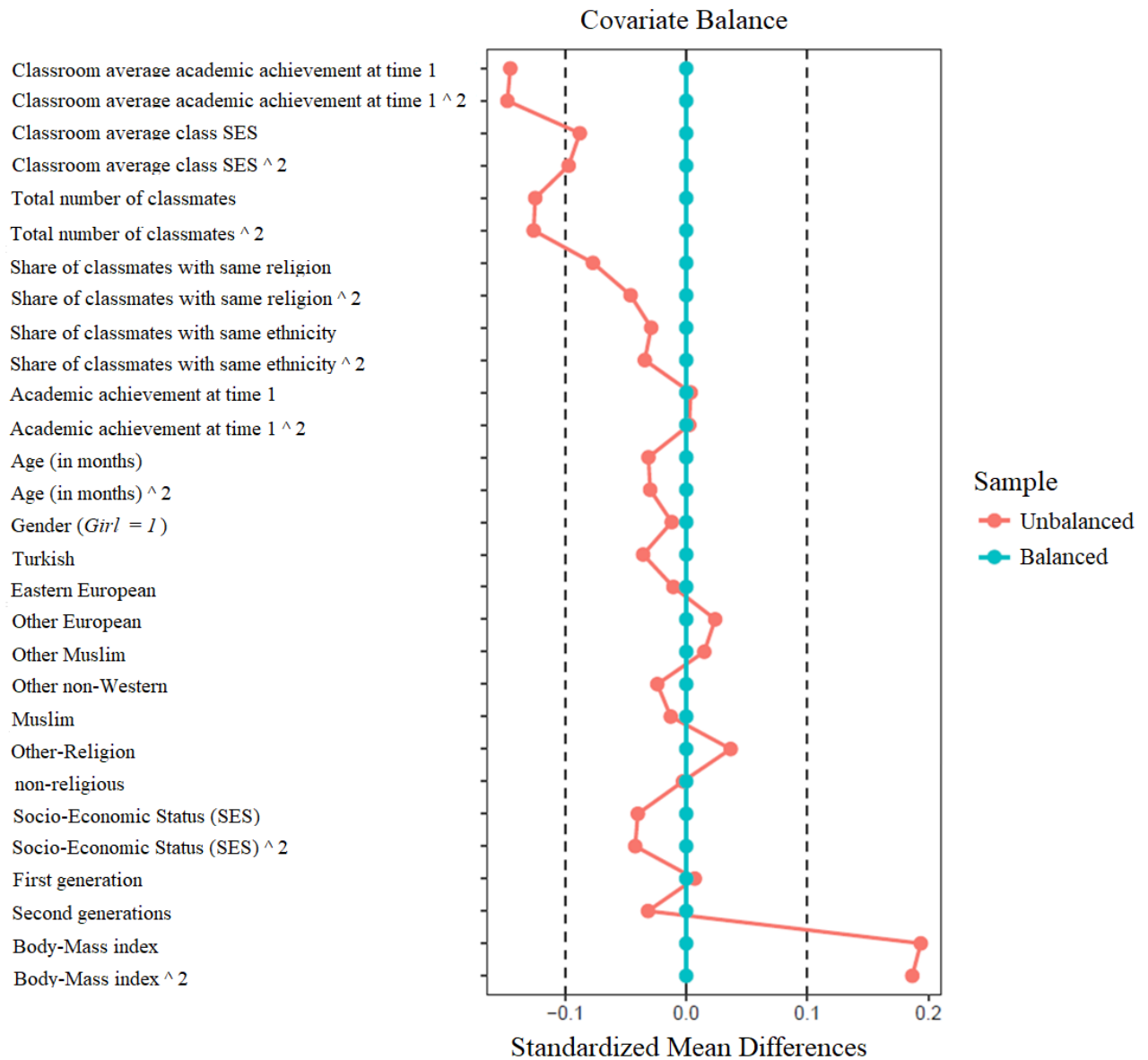


Figure A4.1. Standardized mean differences of covariates between the bullied and non-bullied students in both the original unbalanced analytical sample and the new balanced analytical sample.

Chapter 5. General Conclusions

This final chapter examines each chapter individually, taking a step back to consider the overarching conclusions from this Doctoral Dissertation and why they are important. This is followed by an exploration of how these findings relate to one another.

5.5.1. Study 1. Mechanisms reinforcing and countering religious segregation in schools: How existing friendship and dislike ties impact homophily and heterophily among Muslim and non-Muslim students in Germany.

The first Study started from observing that while adolescents exhibit a clear tendency toward religious homophily in their friendship networks (Leszczensky & Pink, 2017; Simsek, van Tubergen, & Fleischmann, 2022), there remains limited understanding of how these tendencies are shaped by prior interreligious interactions. To address this gap, the first substantive Study pursued two distinct but complementary objectives.

Firstly, acknowledging the complexity and variability inherent in adolescent friendship dynamics (Kornienko & Rivas-Drake, 2022), longitudinal data from a diverse set of schools were employed to re-examine the impact of interreligious friendships and dislikes on the formation of future ties. This approach provided a more nuanced perspective on the processes governing religious segregation by allowing for the examination of how prior connections influence emerging patterns.

Secondly, beyond merely validating previous findings, the aim was to explore the underlying mechanisms that might explain the observed tendencies. Specifically, the focus was on understanding whether and how the quality and nature of existing interreligious ties could either reinforce or mitigate the observed religious segregation. Building on the premise that both positive and negative ties can shape social boundaries (Agneessens, 2023; Stadtfeld, Takács, & Vörös, 2020), the role of ongoing positive and negative interreligious interactions in influencing future friendship and dislike patterns between Muslim and non-Muslim students was investigated. This led to the formulation of the

following research question:

Research Question 1: Do existing friendship and dislike ties impact future friendship and dislike networks among Muslim and non-Muslim students?

Both homophilous and heterophilous tendencies were refined by distinguishing between two processes for each. Regarding homophily, prior research was built upon by recognizing that similarity fosters ease of communication and emotional support, focusing on friendship choices between Muslim and non-Muslim students. It is argued that individuals tend to form friendships with those who share their religion because shared attributes reduce the cognitive and social costs of maintaining ties (Wimmer & Lewis, 2010; Block & Grund, 2014). This results in a strong preference for same-religion friendships, where Muslim and non-Muslim students alike are thus more likely to form ties with those of their own faith, reflecting homophilous tendencies (Jugert & Leszczensky, 2023). On the other hand, heterophily tendencies in dislike networks might reflect a divide between Muslim and non-Muslim students based on religious differences. Negative interactions and attributions toward outgroup members could solidify group boundaries, creating dislike towards those from different religious backgrounds. *Attribution Theory* (Fiske & Taylor, 1991; Heider, 1958) further explains that individuals are more likely to interpret negative behaviors from outgroup members as intentional, fueling dislike ties. Hence, Muslim and non-Muslim students might be more prone to dislike those from different religions, as heterophilous tendencies in their dislike networks.

The theoretical understanding of homophilous and heterophilous mechanisms was extended by distinguishing between two distinct processes for each. Regarding homophily, it was posited that students with negative interreligious experiences are more likely to form friendships with peers who share their religion, rather than those of a different faith. Furthermore, drawing on *Intergroup Contact Theory* (Allport, 1954), it was hypothesized that students with a history of interreligious friendship ties would form and maintain other interreligious friendships due to reduced anxiety from outgroup

members. For heterophily processes, two sub-mechanisms were similarly proposed. On the one hand, negative interreligious contact can reinforce the likelihood of dislike ties across religious boundaries, as students generalize these unfavorable experiences to other outgroup members. On the other hand, positive interreligious friendships might counteract these tendencies. Following *Intergroup Contact Theory*, it was proposed that interreligious friendships foster empathy and reduce intergroup threat, thus decreasing the formation of dislike ties with outgroup members. Therefore, intergroup friendships might weaken heterophilous tendencies, fostering more inclusive social networks between Muslim and non-Muslim youth.

This study used data from the Friendship and Identity in School (FIS) project (Leszczensky et al., 2022), a longitudinal study conducted in nine schools in North Rhine-Westphalia, Germany. It focused on adolescents' social networks, with a sample of 1,678 students, including 544 Muslim students. The data included sociometric nominations for friendships and dislikes, enabling a detailed analysis of network dynamics, examining both intra- and inter-group relations between Muslim and non-Muslim students. Multivariate Stochastic Actor-Oriented Models (SAOMs) were employed to analyze the co-evolution of friendship and dislike networks over time (Snijders, Lomi, & Torló, 2013). The models were estimated using a two-step analytical approach: First, by analyzing each of the 17 grade-level networks separately, and then by conducting a meta-analysis to aggregate the effects across all networks.

The findings supported the presence of religious homophily in friendship and religious heterophily in dislike. The research revealed that Islamic affiliation, more than ethnicity, drives social boundaries. Negative interreligious ties exacerbated this division, reinforcing religious heterophily in dislike, while interreligious friendships showed potential to reduce interreligious dislike, although their effect on countering religious heterophily was limited. These results align with the argument of “negative asymmetry”, where negative experiences have a greater impact on individual behavior than positive ones (Labianca & Brass, 2006). Finally, the study highlighted the role of personal connections in promoting social integration between Muslim and non-Muslim students, suggesting

that fostering interreligious friendships and addressing negative interactions are key to reducing segregation in diverse school environments.

5.5.2. Study 2. Gender differences in dislike among Muslim and non-Muslim adolescents in German schools.

The second study explored how Islamic affiliation and gender might contribute to patterns of interreligious dislike. The study began by analyzing dislike networks among Muslim and non-Muslim boys and girls, examining whether religious affiliation and gender play a role in shaping dislike within and across religious groups.

Previous studies have shown that, even in diverse school settings, friendships between Muslim and non-Muslim students are less common than within the same religious group (Leszczensky & Pink, 2020, 2017; Windzio & Wingers, 2014). Despite controlling for other factors, the religious divide remains a significant factor influencing social interactions. Negative interactions, such as hostile attitudes and social distancing (Simsek, van Tubergen, & Fleischmann, 2022; Verkuyten & Thijs, 2010), have also been documented.

Recent research highlights how gendered religious norms affect cross-religious social dynamics, particularly among Muslim girls (Kretschmer, Lämmermann, & Leszczensky, 2024; Kretschmer & Leszczensky, 2023, 2022). However, the role of gender in shaping interreligious negative ties is less understood. This first Study aimed to fill this gap by examining how Islamic affiliation and gender influence dislike behaviors between Muslim and non-Muslim students. The core research question was as follows:

Research Question 2: What is the relevance of Islam for the disliking behavior and do gender differences moderate interreligious dislike between Muslim and non-Muslim students?

To address this question, several theoretical frameworks were developed to explain the

dynamics of interreligious dislike between Muslim and non-Muslim students, focusing on the roles of gender and religious affiliation. Drawing on *Attribution Theory* (Fiske & Taylor, 1991; Heider, 1958), it was theorized that individuals tend to attribute the negative behaviors of outgroup members, such as Muslims or non-Muslims, more to internal traits rather than external circumstances, especially when the outgroup is perceived as threatening. *Social Identity Theory* (Tajfel & Turner, 1979) supports this reasoning by suggesting that individuals favor their ingroup, which might lead to biased interpretations of both positive and negative behaviors. Hence, it was hypothesized that both Muslim and non-Muslim students are more likely to express dislike toward members of different religious groups than toward those from their own group.

By introducing gender, key hypotheses were identified for exploration. First, it was proposed that non-Muslim students are more likely to express dislike toward Muslim boys than Muslim girls, due to negative religious stereotypes that associate Muslim males with aggression and threat (Wiemers, Di Stasio, & Veit, 2024). Furthermore, drawing on *Social Dominance Theory* (Pratto et al., 2006) and the *Subordinate Male Target Hypothesis* (Sidanius & Veniegas, 2003), non-Muslim boys might be more inclined to express dislike toward Muslim boys than Muslim girls.

Second, building on *Intergroup Threat Theory* (Stephan & Stephan, 2013), it was proposed that Muslims, especially Muslim boys, might reciprocate these negative attitudes due to their experiences of exclusion and discrimination experienced from non-Muslim peers. Thus, Muslim boys, more than Muslim girls, might exhibit greater dislike toward non-Muslims in general and towards non-Muslim boys in particular.

To analyze the longitudinal development of friendship and dislike networks, Stochastic Actor-Oriented Models (SAOMs; Ripley et al., 2024) were employed with German school-based network panel data (N = 1,487; Muslim students = 519). This approach captured how gender-specific behaviors influence the formation and persistence of interreligious dislike ties over time. The models considered the relational dependencies within the network, allowing for a nuanced understanding of how students' dislike relationships evolve across different waves of data collection.

The findings revealed the intricate dynamics of gendered dislike and its effects on Muslim and non-Muslim adolescents. Model 1 partially supported Hypothesis 1, revealing that Muslim students were more likely to report disliking non-Muslim peers than fellow Muslims, indicating an outgroup bias. However, non-Muslim students did not show a significant tendency to dislike Muslim peers over their own group members. Model 2A analyzed dislike dynamics by gender, testing Hypothesis 2.1. Contrary to expectations, non-Muslim students did not exhibit significant gender-based biases against Muslim boys. However, Muslim students were more likely to dislike non-Muslim boys over Muslim boys, indicating a gender-specific outgroup bias. Model 2B focused on the sender's gender, providing partial support for Hypothesis 3.1. It found that non-Muslim girls were more likely than non-Muslim boys to dislike Muslim peers, suggesting that female adolescents may exhibit distinct patterns of outgroup bias in interreligious contexts. In Model 3, cross-gender interactions were further explored. While non-Muslim boys did not show a stronger dislike for Muslim males, non-Muslim girls demonstrated a significant cross-gender outgroup bias, disliking Muslim boys more than non-Muslim boys. Muslim adolescents also showed cross-gender biases, particularly in their tendency to dislike non-Muslim peers, reflecting the complex interconnections of gender and religion in shaping adolescent social networks. Overall, the findings highlight the nuanced interplay between gender, religion, and outgroup biases within adolescent dislike networks, demonstrating how these intersecting social identities influence intergroup dynamics.

5.5.3. Study 3. Interreligious Bullying and Academic Achievement Among Muslim and Non-Muslim Early Adolescents in Germany.

In the third Study, the impact of interreligious bullying victimization on academic achievement was examined. While previous research has consistently shown that bullying negatively impacts academic performance (e.g., Juvonen et al., 2011; Nakamoto & Schwartz, 2010), there is less clarity regarding whether this impact varies depending on the characteristics of the bully and the victim. In particular, the literature has identified a general negative association between bullying and

academic outcomes across various demographics (e.g., Dorio et al., 2019), but the influence of religious affiliation on this relationship remains underexplored.

This Study explored whether interreligious bullying, where the perpetrator and victim have different religious backgrounds, might have a more pronounced negative effect on academic achievement compared to intrareligious bullying. Given the specific context of Germany, where Islam is a significant religious minority (Pfündel et al., 2021) and academic performance heavily influences educational track placement (Terrin & Triventi, 2023), a primary distinction was made between the effects of interreligious bullying victimization on the academic achievement of Muslim and non-Muslim students over time. Thus, the central research question addressed was:

Research Question 3: How does interreligious school bullying at a specific time point impact the academic achievement of Muslim and non-Muslim victims at a later time point?

In the investigation of the relationship between interreligious bullying victimization and academic achievement, the theoretical understanding was refined by differentiating between key mechanisms affecting this association. Firstly, it was proposed that general experiences of being bullied can undermine a student's sense of belonging and, consequently, negatively affect their academic performance. This hypothesis aligns with *Self-Determination Theory* (Deci et al., 1991), which emphasizes the importance of school belonging in academic motivation and achievement. Furthermore, drawing from *Social Identity Theory* (Tajfel & Turner, 1979), it was argued that bullying between students of different religious backgrounds might be perceived as a more significant threat to one's identity, thereby exacerbating the negative effects on academic achievement. Lastly, drawing from *Social Misfit Theory* (Wright et al., 1986), which posits that minority individuals who deviate from societal norms are more likely to be rejected, and *Social Dominance Theory* (Sidanius & Pratto, 1999), which suggests that minority groups might perceive intergroup conflicts as acts of oppression (Sidanius & Veniegas, 2003), it was hypothesized that the negative impact of

interreligious bullying would be particularly targeting Muslim victims. Thus, interreligious bullying might be interpreted by Muslim students as an attack on their religious identity and lead to more severe impacts on their sense of belonging, motivation, and ultimately, their academic achievement.

To test the hypotheses, longitudinal data from the CILS4EU project were utilized, which collected information on academic performance and bullying networks among adolescents in German schools, excluding Bavaria (Kalter et al., 2016). The study focused on students in ninth grade, approximately 13-14 years old, and analyzed data from two waves of collection. Wave 1, conducted from October 2010 to February 2011, provided the bullying victimization network, while Wave 2, conducted from September 2011 to June 2012, offered end-of-year academic grades for the 2010-2011 school year. The refined analytical sample comprised 2,320 students from 115 schools, including 1,466 Christians, 484 Muslims, 270 non-religious, and 100 pupils affiliated with other minority religions.

As first of three random intercept multilevel regression models, Model 1 demonstrated that students who were bullied during the 2010–2011 school year had significantly lower grades at the end of the year. Model 2 showed that interreligious bullying had a more substantial negative impact on academic achievement than intrareligious bullying. Model 3 indicated that, while the effects of intrareligious bullying were not significantly different across religious groups, Muslim students experienced a notably negative impact from interreligious bullying.

5.5.4. How Do the Three Studies Relate Together?

What are the antecedents and consequences of negative relationships for Muslim youth in Germany? The goal of this research was to understand the underlying social dynamics between Muslim and non-Muslim students in Western European schools, particularly how negative ties contribute to social divides along religious lines. Three studies progressively explored various factors influencing these interreligious social divisions, providing a comprehensive view of the antecedents of micro-level detrimental interactions and how these can lead to macro-level segregation with

negative consequences for students' academic achievement. Together, these studies help unpack the processes by which religion shapes peer relationships, the formation of in-groups and out-groups, and the challenges of promoting integration among Muslim and non-Muslim youth in Western Europe.

The first study examined the presence of religious homophily (the tendency of students to form friendships with peers of the same religion) and heterophily (the tendency to form dislike ties with peers of a different religion) among Muslim and non-Muslim pupils. This study drew on *Social Identity Theory*, which suggests that individuals derive self-esteem from favorable views of their in-group, often accompanied by stereotyping of the out-group. *Attribution Theory* further explains these dynamics as resulting from students' tendencies to attribute positive characteristics to their own group and negative characteristics to the out-group. In this context, a student's religious identity is not merely a social label but also influences social preferences and peer relationships. Evidence from Study 1 supported the theoretical expectation, based on *Integrated Threat Theory*, that existing interreligious dislike ties intensify the social divide by strengthening religious heterophily through the creation and maintenance of further interreligious dislike interactions. However, the study found that while interreligious dislike ties reinforced religious heterophily, they did not significantly impact religious homophily.

Do existing friendship and dislike ties impact future friendship and dislike networks among Muslim and non-Muslim students? In short, the study suggests that negative out-group experiences generate further interreligious dislike but do not necessarily inhibit the formation of interreligious friendships. When it comes to friendships, however, the findings provided limited or no support for positive intergroup interactions counteracting the effects of dislike ties or reducing religious homophily. A possible explanation for the limited impact of existing interreligious friendships is that friends might be perceived more as unique individuals who share additional commonalities, such as interests, values, or personality traits (i.e., multidimensional homophily, Block & Grund, 2014), rather than as representatives of their religious groups. This nuanced outcome highlights that dislike ties play a significant role in reinforcing religious heterophily, emphasizing the concept of "negative

asymmetry", where negative experiences have a more lasting and powerful influence on social relationships than positive ones. Nonetheless, the analyses focused on outgroup, but did not pay attention to the impact that ingroup positive and negative interactions could play in shaping these group boundaries (Estévez, Kisfalusi, & Takács, 2022). Moreover, a certain level of ties might be needed to influence homophilous and heterophilous tendencies. For instance, low quantities of positive ties might not be sufficient to shift ego's perceptions, while multiple friendships could be necessary for activating individual self-disclosure mechanisms related to intergroup positive contact. Then, future research should also explore the impact of in-group socialization and investigate potential threshold effects regarding the influence of prior interreligious relationships on out-group attitudes among Muslim and non-Muslim adolescents.

After establishing the presence of religious heterophily within the structured school environment, where students cannot easily avoid each other, and identifying its significant contribution to a broader pattern of religious segregation between Muslim and non-Muslim students, the second study analyzed how such dislike ties form.

What is the relevance of Islam to disliking behaviors? The findings revealed a discrepancy in interreligious dislike patterns. Specifically, Muslim students showed a notable out-group bias, expressing significantly more dislike toward non-Muslim peers than toward fellow Muslims. Non-Muslim students, however, did not display a similar bias in their dislike of Muslim peers. This pattern might reflect the heightened social awareness and sensitivity to minority status that Muslim students experience. *Attribution Theory* (Campbell & Sedikides, 1999) supports this view, suggesting that this heightened out-group bias is rooted in a perception of their group identity as threatened.

Do gender differences moderate interreligious dislike between Muslim and non-Muslim students? Analyses indicated that non-Muslim girls exhibit a stronger tendency to dislike Muslim boys compared to non-Muslim boys. This might reflect gendered anti-Muslim sentiments in Western societies, where Muslim men are stereotypically perceived as endorsing patriarchal norms (Wiemers, Di Stasio, & Veit, 2024). Hence, non-Muslim girls' negative attitudes toward Muslim boys might be

a reaction to perceived threats to gender equality (Choi, Poertner, & Sambanis, 2023). When examining the reciprocal nature of dislike from Muslim students, results highlighted significant patterns in cross-gender interactions, as both Muslim boys and girls exhibit a bias toward disliking non-Muslim girls and boys, respectively. This trend aligns with prior findings suggesting that Muslim youth, especially those with limited intergroup contact or high perceptions of discrimination, might uphold traditional gender norms (Maliepaard & Alba, 2016). Future studies could explore whether these interreligious dislike behaviors toward opposite-gender peers stem from social expectations around gender norms for both Muslim boys and girls. Additionally, future research should incorporate measures of intergroup attitudes to identify which Muslim and non-Muslim youth are particularly inclined toward interreligious dislike and to examine the reciprocal relationship between dislike network dynamics and intergroup attitudes (Takács, Flache, & Mäs, 2016).

As children and adolescents tend to avoid or bully those they dislike (Kisfalusi et al., 2022) and given the religious heterophily between Muslim and non-Muslim students reported in the first two studies, the third Study focused on the consequences of interreligious bullying victimization. Specifically, the main aim was to determine whether such bullying negatively impacts the *structural dimension* of integration for Muslim and non-Muslim victims, namely their academic achievement.

How does interreligious school bullying at a specific time point impact the academic achievement of Muslim and non-Muslim victims at a later time point? Using a rigorous empirical approach, results indicated that interreligious bullying decreased victims' subsequent academic performance, as measured by school grades at the end of the academic year, while same-religion victimization showed no such effect. However, unlike Christian, non-religious, and other-religion students, Muslim victims experienced a significantly stronger negative relationship between being bullied by different-religion peers and academic achievement compared to being bullied by same-religion peers. Aligned with *Social Dominance Theory*, these results offer insights into the role of Islamic affiliation in the relationship between bullying and academic performance, potentially helping to explain why Muslim students in Western Europe frequently fall behind their non-Muslim peers in

academic achievement (Ohlendor et al., 2017). Given that poor academic performance can lead to lasting disadvantages, such as reduced labor force participation and lower occupational attainment (Connor & Koenig, 2015), this study suggests that interreligious bullying victimization might hinder the integration of young Muslim victims. Further research should explore why interreligious bullying is particularly harmful and examine potential mediators, such as how both bullies and victims interpret these interactions and the extent to which interreligious bullying threatens the victim's identity. Network data and network-specific measures (Borgatti et al., 2022) could provide valuable insights for educational practitioners and policymakers to develop integration policies, with a focus on addressing interreligious bullying among Muslim adolescents as a critical step toward successful integration.

5.5.5. Moving Toward Inclusive Interreligious Networks

The findings from these Studies collectively reveal that Islamic identity acts as a critical determinant in shaping peer networks and social divides in schools. Muslim and non-Muslim affiliations influence students' relational choices, often leading to in-group favoritism and out-group bias, which together can reinforce segregation. The role of negative ties, strengthened by religious identity processes, emerges as a central factor in maintaining social divides. Even in the presence of positive interreligious ties, interreligious dislike relationships seem to carry more weight, creating a challenging context for integration within religiously diverse school settings. This pattern of “negative asymmetry” suggests that while positive experiences with out-group members can help reduce prejudices for some, interreligious dislike and bullying can have broad negative effects, hindering integration between Muslim and non-Muslim youth.

These findings have significant implications for understanding and addressing integration within diverse educational settings. They suggest that fostering positive intergroup interactions, while valuable, might not be sufficient to dismantle deeply rooted biases and religious social divides. Educational and policy interventions aimed at reducing segregation could benefit from focusing not

only on promoting interreligious friendships but also on addressing the sources of interreligious negative interactions. This might involve creating environments that discourage dislike and bullying ties through cooperative activities, intergroup dialogues, and structured opportunities for positive shared experiences among Muslim and non-Muslim youth (Abu-Rayya & Brown, 2023; Francis, McKenna, & Arweck, 2020; Cox, 2018; Hossain, 2017; Gómez, Munte, & Sorde, 2014). Moreover, addressing negative asymmetry in intergroup relations could involve promoting cultural and religious awareness and empathy-building exercises that challenge stereotypes and encourage students to see one another as individuals rather than as representatives of a religious or cultural group (Oyler et al., 2022; Reimer et al., 2021). Other network interventions, which take into account the roles of teachers (Qin et al., 2024a), parents (Qin et al., 2024b), and peers (Veenstra & Laninga-Wijnen, 2022) in the development of adolescents' social networks, could help mitigate the lasting influence of negative experiences, thereby contributing to a more inclusive environment (Huitsing, Dijkstra, & Veenstra, 2019).

In conclusion, this body of research sheds light on the complex dynamics that shape social relationships between Muslim and non-Muslim students, emphasizing how friendship and dislike ties co-evolve and reinforce religious boundaries. It underscores the power of religious identity in influencing social networks and highlights the enduring impact of negative intergroup experiences, such as interreligious dislike and bullying. Addressing these issues in educational settings will require multifaceted approaches that both encourage positive intergroup contact and work to mitigate the effects of intergroup negative relationships. By fostering environments that emphasize mutual respect and inclusivity, schools can play a vital role in reducing social divides, contributing to more cohesive and integrated students communities.

References

- Abu Khalaf, N., Woolweaver, A. B., Reynoso Marmolejos, R., Little, G. A., Burnett, K., & Espelage, D. L. (2023). The impact of Islamophobia on Muslim students: a systematic review of the literature. *School Psychology Review*, 52(2), 206-223.
- Abu-Rayya, H. M., & Brown, R. (2023). Living together: An integrated acculturation–contact strategy to promote ethnic harmony between young British Muslims and Anglo-Britons. *Group Processes & Intergroup Relations*, 26(1), 203-222.
- Agneessens, F. (2023). Negative ties and signed networks. In J. McLevey, J. Scott, & P. J. Carrington (Eds.), *The Sage Handbook of Social Network Analysis* (Chap. 37). SAGE Publications Ltd.
- Agneessens, F., & Labianca, G. J. (2022). Collecting survey-based social network information in work organizations. *Social Networks*, 68, 31-47.
- Agneessens, F., Trincado-Munoz, F. J., & Koskinen, J. (2022). Network formation in organizational settings: Exploring the importance of local social processes and team-level contextual variables in small groups using bayesian hierarchical ERGMs. *Social Networks*.
- Ahmed, S., & Matthes, J. (2017). Media representation of Muslims and Islam from 2000 to 2015: A meta-analysis. *International communication gazette*, 79(3), 219-244.
- Akgündüz, A. (2021). Germany's recruitment of workers from Turkey, 1960–1973—Some remarks. *International Migration*, 59(6), 234-237.
- Alba, R., & Foner, N. (2015). Strangers no more: Immigration and the challenges of integration in North America and Western Europe. *Princeton University Press*.
- Alba, R. (2005). Bright vs. blurred boundaries: Second-generation assimilation and exclusion in France, Germany, and the United States. *Ethnic and racial studies*, 28(1), 20-49.
- Allen, C. (2024). From Terrorists to Paedophiles: Investigating the Experience and Encounter of Islamophobia on Muslim Men in Contemporary Britain. In *The Palgrave Handbook of Gendered Islamophobia* (pp. 147-161). Cham: Springer International Publishing.

- Allport, G. W. (1954). *The nature of prejudice*. Addison-Wesley.
- Altinyelken, H. K. (2022). Muslim youth negotiating boundary maintenance between the sexes: A qualitative exploration. *Journal of Muslim Mental Health*, 16(2).
- An, W. (2015). Multilevel meta network analysis with application to studying network dynamics of network interventions. *Social Networks*, 43, 48-56.
- Árnadóttir, K., Lolliot, S., Brown, R., & Hewstone, M. (2018). Positive and negative intergroup contact: Interaction not asymmetry. *European Journal of Social Psychology*, 48(6), 784-800.
- Atlas, R. S., & Pepler, D. J. (1998). Observations of bullying in the classroom. *The journal of educational research*, 92(2), 86-99.
- Barker, E. D., Arseneault, L., Brendgen, M., Fontaine, N., & Maughan, B. (2008). Joint development of bullying and victimization in adolescence: Relations to delinquency and self-harm. *Journal of the American Academy of Child & Adolescent Psychiatry*, 47(9), 1030-1038.
- Barlow, F. K., Paolini, S., Pedersen, A., Hornsey, M. J., & Radke, H. R. (2012). M.; Harwood, J.; Rubin, M. y Sibley, CG, «The Contact Caveat: Negative Contact Predicts Increased Prejudice More Than Positive Contact Predicts Reduced Prejudice». *Personality and Social Psychology Bulletin*, (37), 1629-1643.
- Bates, D., Mächler, M., Bolker, B., & Walker, S. (2015). Fitting linear mixed-effects models using lme4. *arXiv preprint arXiv:1406.5823*.
- Beek, M., & Fleischmann, F. (2020). Religion and integration: does immigrant generation matter? The case of Moroccan and Turkish immigrants in the Netherlands. *Journal of Ethnic and Migration Studies*, 46(17), 3655-3676.
- Bell, D. A., Valenta, M., & Strabac, Z. (2021). A comparative analysis of changes in anti-immigrant and anti-Muslim attitudes in Europe: 1990–2017. *Comparative Migration Studies*, 9, 1-24.
- Benner, A. D., Wang, Y., Shen, Y., Boyle, A. E., Polk, R., & Cheng, Y. P. (2018). Racial/ethnic discrimination and well-being during adolescence: A meta-analytic review. *American*

Psychologist, 73(7), 855.

- Biggart, A., O'Hare, L., & Connolly, P. (2013). A need to belong? The prevalence of experiences of belonging and exclusion in school among minority ethnic children living in the 'White hinterlands'. *Irish Educational Studies*, 32(2), 179-195.
- Billiet, J., Eisinga, R., & Scheepers, P. (1996). Ethnocentrism in the low countries: a comparative perspective. *Journal of Ethnic and Migration Studies*, 22(3), 401-416.
- Binder, J., Zagefka, H., Brown, R., Funke, F., Kessler, T., Mummendey, A., ... & Leyens, J. P. (2009). Does contact reduce prejudice or does prejudice reduce contact? A longitudinal test of the contact hypothesis among majority and minority groups in three European countries. *Journal of personality and social psychology*, 96(4), 843.
- Björkqvist, K., Lagerspetz, K. M., & Kaukiainen, A. (1992). Do girls manipulate and boys fight? Developmental trends in regard to direct and indirect aggression. *Aggressive behavior*, 18(2), 117- 127.
- Blau, P. M. (1974). Presidential address: Parameters of social structure. *American sociological review*, 615-635.
- Block, P. (2015). Reciprocity, transitivity, and the mysterious three-cycle. *Social Networks*, 40, 163-173.
- Block, P., & Grund, T. (2014). Multidimensional homophily in friendship networks. *Network Science*, 2(2), 189–212.
- Boda, Z., Néray, B., & Snijders, T. A. (2020). The dynamics of interethnic friendships and negative ties in secondary school: The role of peer-perceived ethnicity. *Social Psychology Quarterly*, 83(4), 342–362.
- Boda, Z., & Néray, B. (2015). Inter-ethnic friendship and negative ties in secondary school. *Social Networks*, 43, 57–72.
- Borgatti, S. P., Everett, M. G., Johnson, J. C., & Agneessens, F. (2022). *Analyzing Social Networks Using R*. Sage.

- Borgatti, S. P., Carley, K. M., & Krackhardt, D. (2006). On the robustness of centrality measures under conditions of imperfect data. *Social Networks*, 28(2), 124-136.
- Bozorgmehr, M., & Ketcham, E. (2018). The integration paradox: Second-generation Muslims in the United States. In *Growing Up Muslim in Europe and the United States* (pp. 74–92). Routledge.
- Bracegirdle, C., Reimer, N. K., van Zalk, M., Hewstone, M., & Wölfer, R. (2022). Disentangling contact and socialization effects on outgroup attitudes in diverse friendship networks. *Journal of Personality and Social Psychology*, 122(1), 1.
- Brambor, T., Clark, W. R., & Golder, M. (2006). Understanding interaction models: Improving empirical analyses. *Political Analysis*, 14(1), 63-82.
- Brown, R. (2005). An integrative theory of intergroup contact. *Advances in Experimental Social Psychology*, 37.
- Brown, R. (2000). Social identity theory: Past achievements, current problems and future challenges. *European journal of social psychology*, 30(6), 745-778.
- Brown, R., Vivian, J., & Hewstone, M. (1999). Changing attitudes through intergroup contact: The effects of group membership salience. *European Journal of Social Psychology*, 29(5-6), 741-764.
- Brüß, J. (2008). Experiences of discrimination reported by Turkish, Moroccan and Bangladeshi Muslims in three European cities. *Journal of Ethnic and Migration Studies*, 34(6), 875-894.
- Buchmann, C., DiPrete, T. A., & McDaniel, A. (2008). Gender inequalities in education. *Annual Review of Sociology*, 34, 319-337.
- Buhs, E. S., Ladd, G. W., & Herald, S. L. (2006). Peer exclusion and victimization: Processes that mediate the relation between peer group rejection and children's classroom engagement and achievement?. *Journal of educational psychology*, 98(1), 1.
- Buhs, E. S., & Ladd, G. W. (2001). Peer rejection as antecedent of young children's school adjustment: An examination of mediating processes. *Developmental Psychology*, 37(4), 550.

- Campbell, W. K., & Sedikides, C. (1999). Self-threat magnifies the self-serving bias: A meta-analytic integration. *Review of General Psychology*, 3(1), 23–43.
- Card, N. A. (2010). Antipathetic relationships in child and adolescent development: a meta-analytic review and recommendations for an emerging area of study. *Developmental Psychology*, 46(2), 516.
- Card, N. A., Stucky, B. D., Sawalani, G. M., & Little, T. D. (2008). Direct and indirect aggression during childhood and adolescence: A meta-analytic review of gender differences, intercorrelations, and relations to maladjustment. *Child development*, 79(5), 1185-1229.
- Card, N. A., & Hodges, E. V. (2007). Victimization within mutually antipathetic peer relationships. *Social Development*, 16(3), 479-496.
- Carney, A. G., & Merrell, K. W. (2001). Bullying in schools: Perspectives on understanding and preventing an international problem. *School Psychology International*, 22(3), 364-382.
- Carol, S. (2016). Like will to like? Partner choice among Muslim migrants and natives in Western Europe. *Journal of Ethnic and Migration Studies*, 42(2), 261-276.
- Carol, S. (2014). The intergenerational transmission of intermarriage attitudes and intergroup friendships: The role of Turkish migrant parents. *Journal of Ethnic and Migration Studies*, 40(10), 1550-1571.
- Cartwright, D., & Harary, F. (1956). Structural balance: a generalization of Heider's theory. *Psychological review*, 63(5), 277.
- Cheadle, J. E., & Schwadel, P. (2012). The ‘friendship dynamics of religion,’ or the ‘religious dynamics of friendship’? A social network analysis of adolescents who attend small schools. *Social Science Research*, 41(5), 1198–1212.
- Chen, Y. (2008). *Muslim Uyghur students in a Chinese boarding school: Social recapitalization as a response to ethnic integration*. Lexington Books.
- Choi, D. D., Poertner, M., & Sambanis, N. (2023). The hijab penalty: Feminist backlash to Muslim immigrants. *American Journal of Political Science*, 67(2), 291-306.

- Claes, L., Luyckx, K., Baetens, I., Van de Ven, M., & Witteman, C. (2015). Bullying and victimization, depressive mood, and non-suicidal self-injury in adolescents: The moderating role of parental support. *Journal of child and family studies*, 24, 3363-3371.
- Coleman, J. S. (1994). A vision for sociology. *Society*, 32(1), 29-34.
- Connor, P., & Koenig, M. (2015). Explaining the Muslim employment gap in Western Europe: Individual- level effects and ethno-religious penalties. *Social Science Research*, 49, 191-201.
- Cook, J. B., Schwadel, P., & Cheadle, J. E. (2017). The origins of religious homophily in a medium and large school. *Review of Religious Research*, 59(1), 65–80.
- Cox, H. C. (2018). *The effects of mindfulness and relaxation on social bias and prejudicial behavior* (Doctoral dissertation, Long Island University, The Brooklyn Center).
- Craig, W. M. (1998). The relationship among bullying, victimization, depression, anxiety, and aggression in elementary school children. *Personality and individual differences*, 24(1), 123-130.
- Crick, N. R., & Dodge, K. A. (1996). Social information-processing mechanisms in reactive and proactive aggression. *Child development*, 67(3), 993-1002.
- Deci, E. L., Vallerand, R. J., Pelletier, L. G., & Ryan, R. M. (1991). Motivation and education: The self- determination perspective. *Educational Psychologist*, 26(3-4), 325-346.
- de Klepper, M. C., Labianca, G., Sleebos, E., & Agneessens, F. (2017). Sociometric status and peer control attempts: A multiple status hierarchies approach. *Journal of Management Studies*, 54(1), 1-31.
- Dhont, K., & Van Hiel, A. (2009). We must not be enemies: Interracial contact and the reduction of prejudice among authoritarians. *Personality and individual differences*, 46(2), 172-177.
- Dian, M., & Triventi, M. (2021). The weight of school grades: evidence of biased teachers' evaluations against overweight students in Germany. *Plos one*, 16(2), e0245972.
- Diehl, C., Fick, P., & Koenig, M. (2018). Religion und ethnische Bildungsungleichheiten: Empirische

- Befunde zu einem strittigen Zusammenhang. *Monatsschrift für Kriminologie und Strafrechtsreform*, 101(2), 112-139.
- Dixon, J., Tropp, L. R., Durrheim, K., & Tredoux, C. (2010). "Let them eat harmony" prejudice-reduction strategies and attitudes of historically disadvantaged groups. *Current Directions in Psychological Science*, 19(2), 76-80.
- Dollmann, J., Jacob, K., & Kalter, F. (2014). Examining the diversity of youth in Europe: A classification of generations and ethnic origins using CILS4EU data (technical report).
- Domínguez, S., & Hollstein, B. (Eds.). (2014). Mixed methods social networks research: Design and applications (Vol. 36). *Cambridge University Press*.
- Doosje, B., & Branscombe, N. R. (2003). Attributions for the negative historical actions of a group. *European Journal of Social Psychology*, 33(2), 235-248.
- Dorio, N. B., Secord Fredrick, S., & Demaray, M. K. (2019). School engagement and the role of peer victimization, depressive symptoms, and rumination. *The Journal of Early Adolescence*, 39(7), 962-992.
- Drouhot, L. G. (2021). Cracks in the melting pot? Religiosity and assimilation among the diverse Muslim population in France. *American Journal of Sociology*, 126(4), 795-851.
- Drouhot, L. G., & Nee, V. (2019). Assimilation and the second generation in Europe and America: Blending and segregating social dynamics between immigrants and natives. *Annual Review of Sociology*, 45, 177-199.
- Due, P., Holstein, B. E., Lynch, J., Diderichsen, F., Gabhain, S. N., Scheidt, P., & Currie, C. (2005). Bullying and symptoms among school-aged children: international comparative cross sectional study in 28 countries. *European journal of public health*, 15(2), 128-132.
- Eccles, J., Wigfield, A., Harold, R. D., & Blumenfeld, P. (1993). Age and gender differences in children's self-and task perceptions during elementary school. *Child development*, 64(3), 830-847.
- Ellemers, N., Kortekaas, P., & Ouwerkerk, J. W. (1999). Self-categorisation, commitment to the

- group and group self-esteem as related but distinct aspects of social identity. *European journal of social psychology*, 29(2-3), 371-389.
- Elwert, F., & Winship, C. (2014). Endogenous selection bias: The problem of conditioning on a collider variable. *Annual Review of Sociology*, 40, 31-53.
- Erentzen, C. A., Bergstrom, V. N., Zeng, N., & Chasteen, A. L. (2023). The gendered nature of Muslim and Christian stereotypes in the United States. *Group Processes & Intergroup Relations*, 26(8), 1726-1749.
- Esbensen, F. A., & Carson, D. C. (2009). Consequences of being bullied: Results from a longitudinal assessment of bullying victimization in a multisite sample of American students. *Youth & Society*, 41(2), 209-233.
- Eslea, M., & Mukhtar, K. (2000). Bullying and racism among Asian schoolchildren in Britain. *Educational Research*, 42(2), 207-217.
- Estévez, J. L., Kisfalusi, D., & Takács, K. (2022). More than one's negative ties: The role of friends' antipathies in high school gossip. *Social Networks*, 70, 77-89.
- Everett, M. G., & Borgatti, S. P. (2014). Networks containing negative ties. *Social networks*, 38, 111-120.
- Farooqui, J. F., & Kaushik, A. (2020). Situational analysis of Muslim children in the face of Islamophobia: Theoretical frameworks, experiences, and school social work interventions. In *Working with Muslim clients in the helping professions* (pp. 96-116). IGI Global.
- Fekkes, M., Pijpers, F. I., Fredriks, A. M., Vogels, T., & Verloove-Vanhorick, S. P. (2006). Do bullied children get ill, or do ill children get bullied? A prospective cohort study on the relationship between bullying and health-related symptoms. *Pediatrics*, 117(5), 1568-1574.
- Fekkes, M., Pijpers, F. I., & Verloove-Vanhorick, S. P. (2004). Bullying behavior and associations with psychosomatic complaints and depression in victims. *The Journal of pediatrics*, 144(1), 17-22.
- Finkelhor, D., Turner, H. A., & Hamby, S. (2012). Let's prevent peer victimization, not just bullying.

Child abuse & neglect.

- Fischer, C. S. (1982). What do we mean by 'friend'? An inductive study. *Social Networks*, 3(4), 287–306.
- Fisher, S., Middleton, K., Ricks, E., Malone, C., Briggs, C., & Barnes, J. (2015). Not just black and white: Peer victimization and the intersectionality of school diversity and race. *Journal of Youth and Adolescence*, 44(6), 1241-1250.
- Fiske, S. T., & Taylor, S. E. (1991). *Social cognition* (2nd ed.). McGraw-Hill.
- Fleischmann, F. (2022). Researching religion and migration 20 years after '9/11': Taking stock and looking ahead. *Zeitschrift für Religion, Gesellschaft und Politik*, 6(2), 347-372.
- Fleischmann, F., Leszczensky, L., & Pink, S. (2019). Identity threat and identity multiplicity among minority youth: Longitudinal relations of perceived discrimination with ethnic, religious, and national identification in Germany. *British Journal of Social Psychology*, 58(4), 971-990.
- Fleischmann, F., & Phalet, K. (2018). Religion and National Identification in Europe: Comparing Muslim Youth in Belgium, England, Germany, the Netherlands, and Sweden. *Journal of cross-cultural psychology*, 49(1), 44-61.
- Fleischmann, F., & Phalet, K. (2012). Integration and religiosity among the Turkish second generation in Europe: A comparative analysis across four capital cities. *Ethnic and Racial Studies*, 35(2), 320- 341.
- Foner, N., & Alba, R. (2018). Being Muslim in the United States and Western Europe: Why Is It Different?. In *Growing Up Muslim in Europe and the United States* (pp. 21-38). Routledge.
- Foner, N. (2015). Is Islam in Western Europe Like Race in the United States? In *Sociological Forum* 30(4), 885-899.
- Foner, N., & Alba, R. (2008). Immigrant religion in the US and Western Europe: Bridge or barrier to inclusion? *International migration review*, 42(2), 360-392.
- Fordham, S., & Ogbu, J. U. (1986). Black students' school success: Coping with the "burden of 'acting

- white””. *The Urban Review*, 18(3), 176-206.
- Fourgassie, L., Subra, B., & Sanitioso, R. B. (2024). Stereotype content of North African men and women in France and its relation to aggression. *Social Psychology Quarterly*, 87(1), 64-83.
- Francis, L. J., McKenna, U., & Arweck, E. (2020). Countering anti-Muslim attitudes among Christian and religiously unaffiliated 13-to 15-year-old students in England and Wales: testing the contact hypothesis. *Journal of Beliefs & Values*, 41(3), 342-357.
- Friemel, T. N. (2012). Network dynamics of television use in school classes. *Social Networks*, 34(3), 346–358.
- Funk, M. J., Westreich, D., Wiesen, C., Stürmer, T., Brookhart, M. A., & Davidian, M. (2011). Doubly robust estimation of causal effects. *American journal of epidemiology*, 173(7), 761-767.
- Galván, A., Spatzier, A., & Juvonen, J. (2011). Perceived norms and social values to capture school culture in elementary and middle school. *Journal of Applied Developmental Psychology*, 32(6), 346-353.
- Ganzeboom, H. B., De Graaf, P. M., & Treiman, D. J. (1992). A standard international socio-economic index of occupational status. *Social Science Research*, 21(1), 1-56.
- Gasparrini, A., Armstrong, B., & Kenward, M. G. (2012). Multivariate meta-analysis for non-linear and other multi-parameter associations. *Statistics in medicine*, 31(29), 3821
- Gastic, B. (2008). School truancy and the disciplinary problems of bullying victims. *Educational Review*, 60(4), 391-404.
- Glas, S. (2023). What gender values do Muslims resist? How religiosity and acculturation over time shape Muslims’ public-sphere equality, family role divisions, and sexual liberalization values differently. *Social Forces*, 101(3), 1199-1229.
- Glew, G. M., Fan, M. Y., Katon, W., Rivara, F. P., & Kernic, M. A. (2005). Bullying, psychosocial adjustment, and academic performance in elementary school. *Archives of pediatrics & adolescent medicine*, 159(11), 1026-1031.

- Gómez, A., Munte, A., & Sorde, T. (2014). Transforming schools through minority males' participation: Overcoming cultural stereotypes and preventing violence. *Journal of interpersonal violence*, 29(11), 2002-2020.
- Graf, S., Paolini, S., & Rubin, M. (2014). Negative intergroup contact is more influential, but positive intergroup contact is more common: Assessing contact prominence and contact prevalence in five Central European countries. *European Journal of Social Psychology*, 44(6), 536-547.
- Greif, J. L., & Furlong, M. J. (2006). The assessment of school bullying: Using theory to inform practice. *Journal of school violence*, 5(3), 33-50.
- Guveli, A., & Platt, L. (2023). Religiosity of migrants and natives in Western Europe 2002–2018: Convergence and divergence. *European Journal of Population*, 39(1), 9.
- Güveli, A., & Platt, L. (2011). Understanding the religious behaviour of Muslims in the Netherlands and the UK. *Sociology*, 45(6), 1008-1027.
- Gwozdz, W., Sousa-Poza, A., Reisch, L.A., Bammann, K., Eiben, G., Kourides, Y., Kovács, E., Lauria, F., Konstabel, K., Santaliestra-Pasias, A.M. & Vyncke, K., (2015). Peer effects on obesity in a sample of European children. *Economics & Human Biology*, 18, 139-152.
- Hainmueller, J. (2012). Entropy balancing for causal effects: A multivariate reweighting method to produce balanced samples in observational studies. *Political Analysis*, 20(1), 25-46.
- Hansen, R. (2011). The two faces of liberalism: Islam in contemporary Europe. *Journal of Ethnic and Migration Studies*, 37(6), 881-897.
- Harrigan, N. M., Labianca, G. J., & Agneessens, F. (2020). Negative ties and signed graphs research: Stimulating research on dissociative forces in social networks. *Social Networks*, 60, 1-10.
- Harrigan, N., & Yap, J. (2017). Avoidance in negative ties: Inhibiting closure, reciprocity, and homophily. *Social Networks*, 48, 126-141.
- Heider, F. (1958). *The psychology of interpersonal relations*. Wiley.
- Heider, F. (1946). Attitudes and cognitive organization. *The Journal of psychology*, 21(1), 107-112.
- Helbling, M., & Traunmüller, R. (2020). What is Islamophobia? Disentangling citizens' feelings

- toward ethnicity, religion and religiosity using a survey experiment. *British Journal of Political Science*, 50(3), 811-828.
- Helbling, M. (2014). Opposing muslims and the muslim headscarf in Western Europe. *European Sociological Review*, 30(2), 242-257.
- Hewstone, M., & Swart, H. (2011). Fifty-odd years of inter-group contact: From hypothesis to integrated theory. *British Journal of Social Psychology*, 50(3), 374-386.
- Higgins, M. J., Sävje, F., & Sekhon, J. S. (2016). Improving massive experiments with threshold blocking. *Proceedings of the National Academy of Sciences*, 113(27), 7369-7376.
- Hodson, G., Crisp, R. J., Meleady, R., & Earle, M. (2018). Intergroup contact as an agent of cognitive liberalization. *Perspectives on Psychological Science*, 13(5), 523-548.
- Hooijsma, M., Huitsing, G., Dijkstra, J. K., Flache, A., & Veenstra, R. (2020). Being friends with or rejected by classmates: Aggression toward same-and cross-ethnic peers. *Journal of Youth and Adolescence*, 49(3), 678-692.
- Hornsey, M. J. (2008). Social identity theory and self-categorization theory: A historical review. *Social and Personality Psychology Compass*, 2(1), 204-222.
- Hossain, K. (2017). Islamophobia: What Teachers Can Do to Reduce It in the Classroom. *Multicultural Education*, 25(1), 35-40.
- Hoxby, C. M. (2000). Peer effects in the classroom: Learning from gender and race variation. *National Bureau of Economic Research, working paper 7867*.
- Huisman, M., & Steglich, C. (2008). Treatment of non-response in longitudinal network studies. *Social networks*, 30(4), 297-308.
- Huisman, M., & Snijders, T. A. (2003). Statistical analysis of longitudinal network data with changing composition. *Sociological methods & research*, 32(2), 253-287.
- Huitsing, G., Dijkstra, J. K., & Veenstra, R. (2019). Social development and group processes: A social network application to bullying and network interventions. In *Psychosocial Development in Adolescence* (pp. 193-208). Routledge.

- Hummon, N. P., & Doreian, P. (2003). Some dynamics of social balance processes: bringing Heider back into balance theory. *Social networks*, 25(1), 17-49.
- Husnu, S., & Paolini, S. (2019). Positive imagined contact is actively chosen: Exploring determinants and consequences of volitional intergroup imagery in a conflict-ridden setting. *Group Processes & Intergroup Relations*, 22(4), 511-529.
- Iyengar, S., Lelkes, Y., Levendusky, M., Malhotra, N., & Westwood, S. J. (2019). The origins and consequences of affective polarization in the United States. *Annual Review of Political Science*, 22(1), 129–146.
- Jacob, K., & Kalter, F. (2013). Intergenerational change in religious salience among immigrant families in four European countries. *International Migration*, 51(3), 38-56.
- Jansen, M., Boda, Z., & Lorenz, G. (2022). Social comparison effects on academic self-concepts—which peers matter most? *Developmental Psychology*, 58(8), 1541.
- Jepsen, C., & Rivkin, S. (2009). Class size reduction and student achievement: The potential tradeoff between teacher quality and class size. *Journal of Human Resources*, 44(1), 223-250.
- Jugert, P., & Leszczensky, L. (2023). Friendships. *PsyArXiv Preprints*.
- Juvonen, J., Wang, Y., & Espinoza, G. (2011). Bullying experiences and compromised academic performance across middle school grades. *The Journal of Early Adolescence*, 31(1), 152-173.
- Kalter, F., & Foroutan, N. (2021). Race for second place? Explaining East-West differences in anti-muslim sentiment in Germany. *Frontiers in sociology*, 6.
- Kalter, F., Heath, A. F., Hewstone, M., Jonsson, J. O., Kalmijn, M., Kogan, I., & Van Tubergen, F. (2016). Children of Immigrants Longitudinal Survey in Four European Countries (CILS4EU) – Reduced version. Reduced data file for download and off-site use. *GESIS Data Archive, Cologne*, ZA5656 Data file Version 1.2.0.
- Karakus, M., Courtney, M., & Aydin, H. (2023). Understanding the academic achievement of the first-and second-generation immigrant students: A multi-level analysis of PISA 2018 data.

Educational Assessment, Evaluation and Accountability, 35(2), 233-278.

Kelley, H. H. (1967). Attribution theory in social psychology. In *Nebraska symposium on motivation*. University of Nebraska Press.

Kenworthy, J. B., & Miller, N. (2002). Attributional biases about the origins of attitudes: Externality, emotionality and rationality. *Journal of Personality and Social Psychology*, 82(5), 693.

Khuu, T. V., Schaefer, D. R., Umaña-Taylor, A. J., & Ryan, A. M. (2023). The Limitations of Intergroup Friendship: Using Social Network Analysis to Test the Pathways Linking Contact and Intergroup Attitudes in a Multigroup Context. *Socius*, 9, 23780231231161048.

King, G., & Nielsen, R. (2019). Why propensity scores should not be used for matching. *Political analysis*, 27(4), 435-454.

Kisfalusi, D., Hooijsma, M., Huitsing, G., & Veenstra, R. (2022). How dislike and bullying co-develop: A longitudinal study of negative relationships among children. *Social Development*, 31(3), 797-810.

Kisfalusi, D., Janky, B., & Takács, K. (2021). Grading in Hungarian primary schools: Mechanisms of ethnic discrimination against Roma students. *European Sociological Review*, 37(6), 899-917.

Kisfalusi, D., Janky, B., & Takács, K. (2019). Double standards or social identity? The role of gender and ethnicity in ability perceptions in the classroom. *The Journal of Early Adolescence*, 39(5), 745-780.

Kitts, J. A., & Leal, D. F. (2022). Reprint of: What is (n't) a friend? Dimensions of the friendship concept among adolescents. *Social Networks*, 69, 211–220.

Kogan, I., & Weißmann, M. (2020). Religion and sexuality: between-and within-individual differences in attitudes to pre-marital cohabitation among adolescents in four European countries. *Journal of Ethnic and Migration Studies*, 46(17), 3630-3654.

Koopmans, R. (2015). Religious fundamentalism and hostility against out-groups: A comparison of Muslims and Christians in Western Europe. *Journal of Ethnic and Migration Studies*, 41(1),

- Kornienko, O., & Rivas-Drake, D. (2022). Adolescent intergroup connections and their developmental benefits: Exploring contributions from social network analysis. *Social Development, 31*(1), 9–26.
- Koskinen, J., & Snijders, T. A. (2023). Multilevel longitudinal analysis of social networks. *Journal of the Royal Statistical Society Series A: Statistics in Society, 186*(3), 376–400.
- Kossinets, G., & Watts, D. J. (2009). Origins of homophily in an evolving social network. *American Journal of Sociology, 115*(2), 405–450.
- Kretschmer, D. (2024). Gender segregation in the friendship networks of Muslim youth in Germany: the role of chastity norms. *Ethnic and Racial Studies, 1*-27.
- Kretschmer, D., Lämmermann, K., & Leszczensky, L. (2024). How gendered religious norms contribute to the emerging gender gap in Muslim youths' interreligious friendships. *International journal of intercultural relations, 98*, 101919.
- Kretschmer, D., & Leszczensky, L. (2023). Stable or Dynamic? The Development of Muslims' and Non-Muslims' Friendship-Making Across Adolescence and the Emergence of Muslim Girls' In-Group Bias.
- Kretschmer, D., & Leszczensky, L. (2022). In-group bias or out-group reluctance? The interplay of gender and religion in creating religious friendship segregation among Muslim youth. *Social Forces, 100*(3), 1307-1332.
- Kretschmer, D., & Kruse, H. (2020). Neighbourhood effects on acculturation attitudes among minority and majority adolescents in Germany. *Urban Studies, 57*(16), 3363-3380.
- Kretschmer, D., Leszczensky, L., & Pink, S. (2018). Selection and influence processes in academic achievement—More pronounced for girls?. *Social Networks, 52*, 251-260.
- Kros, M., Jaspers, E., & van Zalk, M. (2021). Avoidance, antipathy, and aggression: A three-wave longitudinal network study on negative networks, status, and heteromisos. *Social Networks, 64*, 122–133.

- Kruse, H., & Kroneberg, C. (2019). More than a sorting machine: Ethnic boundary making in a stratified school system. *American Journal of Sociology*, 125(2), 431-484.
- Kuldas, S., Foody, M., & O'Higgins Norman, J. (2021a). Does ethnicity of victims and bullies really matter? Suggestions for further research on intra-ethnic bullying/victimisation. *International Journal of Bullying Prevention*, 4, 243–254.
- Kuldas, S., Dupont, M., & Foody, M. (2021b). Ethnicity-Based Bullying: Suggestions for Future Research on Classroom Ethnic Composition. *The Wiley Blackwell handbook of bullying: A comprehensive and international review of research and intervention*, 1, 252-272.
- Labianca, G., & Brass, D. J. (2006). Exploring the social ledger: negative relationships and negative asymmetry in social networks in organizations. *Academy of Management Review*, 31(3), 596-614.
- Laith, R., & Vaillancourt, T. (2022). The temporal sequence of bullying victimization, academic achievement, and school attendance: A review of the literature. *Aggression and Violent Behavior*, 64, 101722.
- Larson Jr, J. R. (1977). Evidence for a self-serving bias in the attribution of causality. *Journal of Personality*, 45(3).
- Lazarsfeld, P. F., & Merton, R. K. (1954). Friendship as a social process: A substantive and methodological analysis. In M. Berger (Ed.), *Freedom and Control in Modern Society* (pp. 18–66). Van Nostrand.
- Leszczensky, L., & Kretschmer, D. (2022). Religious friendship preferences of Muslim and non-Muslim students in German schools: Bright boundaries everywhere or contingent on the proportion of Muslim classmates? *Social Networks*, 68, 60–69.
- Leszczensky, L., Pink, S., Kretschmer, D., & Kalter, F. (2022). Studying youth' group identities, intergroup relations, and friendship networks: the friendship and identity in school data. *European Sociological Review*, 38(3), 493-506.
- Leszczensky, L., Flache, A., & Sauter, L. (2020). Does the share of religious ingroup members affect

- how important religion is to adolescents? Applying Optimal Distinctiveness Theory to four European countries. *Journal of Ethnic and Migration Studies*, 46(17), 3703-3721.
- Leszczensky, L., Maxwell, R., & Bleich, E. (2020). What factors best explain national identification among Muslim adolescents? Evidence from four European countries. *Journal of Ethnic and Migration Studies*, 46(1), 260-276.
- Leszczensky, L., & Pink, S. (2020). Are birds of a feather praying together? Assessing friends' influence on Muslim youths' religiosity in Germany. *Social Psychology Quarterly*, 83(3), 251–271.
- Leszczensky, L., & Pink, S. (2017). Intra-and inter-group friendship choices of Christian, Muslim, and non-religious youth in Germany. *European Sociological Review*, 33(1), 72-83.
- Leszczensky, L., & Pink, S. (2015). Ethnic segregation of friendship networks in school: Testing a rational-choice argument of differences in ethnic homophily between classroom-and grade-level networks. *Social Networks*, 42, 18–26.
- Li, L., Chen, X., & Li, H. (2020). Bullying victimization, school belonging, academic engagement and achievement in adolescents in rural China: A serial mediation model. *Children and Youth Services Review*, 113, 104946.
- Lomi, A., Snijders, T. A., Steglich, C. E., & Torló, V. J. (2011). Why are some more peer than others? Evidence from a longitudinal study of social networks and individual academic performance. *Social science research*, 40(6), 1506-1520.
- Lorenz, G., Salikutluk, Z., Boda, Z., Jansen, M., & Hewstone, M. (2021). The link between social and structural integration: Co-and interethnic friendship selection and social influence within adolescent social networks. *Sociological Science*, 8, 371–396.
- Lospinoso, J., & Snijders, T. A. (2019). Goodness of fit for stochastic actor-oriented models. *Methodological Innovations*, 12(3), 2059799119884282.
- Lynch, O. (2013). British Muslim youth: Radicalisation, terrorism and the construction of the “other”. *Critical Studies on Terrorism*, 6(2), 241-261.

- Mercken, L., Snijders, T. A., Steglich, C., & de Vries, H. (2009). Dynamics of adolescent friendship networks and smoking behavior: Social network analyses in six European countries. *Social science & medicine*, 69(10), 1506-1514.
- Maliepaard, M., & Verkuyten, M. (2018). National disidentification and minority identity: A study among Muslims in Western Europe. *Self and Identity*, 17(1), 75-91.
- Maliepaard, M., & Alba, R. (2016). Cultural integration in the Muslim second generation in the Netherlands: The case of gender ideology. *International Migration Review*, 50(1), 70-94.
- Martinovic, B., Van Tubergen, F., & Maas, I. (2009). Dynamics of interethnic contact: A panel study of immigrants in the Netherlands. *European Sociological Review*, 25(3), 303-318.
- Takács, K., Flache, A., & Mäs, M. (2016). Discrepancy and disliking do not induce negative opinion shifts. *PloS one*, 11(6), e0157948.
- Mazziotta, A., Rohmann, A., Wright, S. C., De Tezanos-Pinto, P., & Lutterbach, S. (2015). (How) does positive and negative extended cross-group contact predict direct cross-group contact and intergroup attitudes?. *European Journal of Social Psychology*, 45(5), 653-667.
- McAndrew, S., & Voas, D. (2014). Immigrant generation, religiosity and civic engagement in Britain. *Ethnic and Racial Studies*, 37(1), 99-119.
- McPherson, M., Smith-Lovin, L., & Cook, J. M. (2001). Birds of a feather: Homophily in social networks. *Annual Review of Sociology*, 27(1), 415-444.
- Meeussen, L., Agneessens, F., Delvaux, E., & Phaet, K. (2018). Ethnic diversity and value sharing: A longitudinal social network perspective on interactive group processes. *British Journal of Social Psychology*, 57(2), 428-447.
- Meleady, R., & Forder, L. (2019). When contact goes wrong: Negative intergroup contact promotes generalized outgroup avoidance. *Group Processes & Intergroup Relations*, 22(5), 688-707.
- Miller, D. T., & Ross, M. (1975). Self-serving biases in the attribution of causality: Fact or fiction? *Psychological bulletin*, 82(2), 213.
- Mir, S. (2009). Not too “college-like,” not too normal: American Muslim undergraduate women's

- gendered discourses. *Anthropology & Education Quarterly*, 40(3), 237-256.
- Mood, C., Jonsson, J. O., & Låftman, S. B. (2016). Immigrant integration and youth mental health in four European countries. *European Sociological Review*, 32(6), 716–729.
- Moody, J. (2001). Race, school integration, and friendship segregation in America. *American Journal of Sociology*, 107(3), 679–716.
- Mouw, T., & Entwisle, B. (2006). Residential segregation and interracial friendship in schools. *American Journal of Sociology*, 112(2), 394–441.
- Nakamoto, J., & Schwartz, D. (2010). Is peer victimization associated with academic achievement? A meta- analytic review. *Social Development*, 19(2), 221-242.
- Natvig, G. K., Albrektsen, G., & Qvarnstrøm, U. (2001). School-related stress experience as a risk factor for bullying behavior. *Journal of youth and adolescence*, 30(5), 561-575.
- Navarrete, C. D., McDonald, M. M., Molina, L. E., & Sidanius, J. (2010). Prejudice at the nexus of race and gender: an outgroup male target hypothesis. *Journal of personality and social psychology*, 98(6), 933.
- Norris, P., & Inglehart, R. F. (2012). Muslim integration into Western cultures: Between origins and destinations. *Political Studies*, 60(2), 228-251.
- Norwalk, K. E., Hamm, J. V., Farmer, T. W., & Barnes, K. L. (2016). Improving the school context of early adolescence through teacher attunement to victimization: Effects on school belonging. *The Journal of Early Adolescence*, 36(7), 989-1009.
- OECD (2019), PISA 2018 Results (Volume III): What School Life Means for Students' Lives, PISA, OECD Publishing, Paris.
- Offer, S. (2021). Negative social ties: Prevalence and consequences. *Annual Review of Sociology*, 47(1), 177-196.
- Ohlendorf, D., Koenig, M., & Diehl, C. (2017). Religion und Bildungserfolg im Migrationskontext: theoretische Argumente, empirische Befunde und offene Fragen. *Kölner Zeitschrift für Soziologie und Sozialpsychologie (KZfSS)* ; 69 (2017), 4.

- Olweus, D. (1994). Bullying at school: basic facts and effects of a school based intervention program. *Journal of child psychology and psychiatry*, 35(7), 1171-1190.
- Oyler, D. L., Price-Blackshear, M. A., Pratscher, S. D., & Bettencourt, B. A. (2022). Mindfulness and intergroup bias: A systematic review. *Group Processes & Intergroup Relations*, 25(4), 1107-1138.
- Pál, J., Stadtfeld, C., Grow, A., & Takács, K. (2016). Status perceptions matter: Understanding disliking among adolescents. *Journal of Research on Adolescence*, 26(4), 805-818.
- Pan, S. W., & Spittal, P. M. (2013). Health effects of perceived racial and religious bullying among urban adolescents in China: A cross-sectional national study. *Global Public Health*, 8(6), 685-697.
- Paolini, S., Harwood, J., Rubin, M., Husnu, S., Joyce, N., & Hewstone, M. (2014). Positive and extensive intergroup contact in the past buffers against the disproportionate impact of negative contact in the present. *European Journal of Social Psychology*, 44(6), 548-562.
- Paolini, S., Harwood, J., & Rubin, M. (2010). Negative intergroup contact makes group memberships salient: Explaining why intergroup conflict endures. *Personality and social Psychology bulletin*, 36(12), 1723-1738.
- Park, S., Lee, Y., Jang, H., & Jo, M. (2017). Violence victimization in Korean adolescents: Risk factors and psychological problems. *International Journal of Environmental Research and Public Health*, 14(5), 541.
- Parkhurst, J. T., & Asher, S. R. (1992). Peer rejection in middle school: Subgroup differences in behavior, loneliness, and interpersonal concerns. *Developmental Psychology*, 28(2), 231.
- Pettigrew, T. F. (2008). Future directions for intergroup contact theory and research. *International Journal of Intercultural Relations*, 32(3), 187–199.
- Pettigrew, T. F., & Tropp, L. R. (2008). How does intergroup contact reduce prejudice? Meta-analytic tests of three mediators. *European Journal of Social Psychology*, 38(6), 922–934.
- Pettigrew, T. F., & Tropp, L. R. (2006). A meta-analytic test of intergroup contact theory. *Journal of*

Personality and Social Psychology, 90(5), 751.

Pettigrew, T. F. (1979). The ultimate attribution error: Extending Allport's cognitive analysis of prejudice. *Personality and social psychology bulletin*, 5(4), 461-476.

Pew Research Center, (2017). The Growth of Germany's Muslim Population. *Pew Research Center, Washington*.

Pew Research Center, (2015). The Future of World Religions: Population Growth Projections, 2010-2050. *Pew Research Center, Washington*.

Pew Research Center, (2011). The Future of the Global Muslim Population. *Pew Research Center, Washington*.

Pfündel, K., Sticks, A., & Tanis, K. (2021). *Muslimisches Leben in Deutschland 2020: Studie im Auftrag der Deutschen Islam Konferenz* (Vol. 38, p. 237). DEU.

Phalet, K., Fleischmann, F., & Hillekens, J. (2018). Religious identity and acculturation of immigrant minority youth: Toward a contextual and developmental approach. *European Psychologist*, 23(1), 32.

Phalet, K., Maliepaard, M., Fleischmann, F., & Güngör, D. (2013). The making and unmaking of religious boundaries. *Comparative Migration Studies*, 1(1), 123-145.

Pistocchi, V., Triventi, M., & Agneessens, F. (2024). Interreligious Bullying and Academic Achievement Among Muslim and Non-Muslim Early Adolescents in Germany. *The Journal of Early Adolescence*, 02724316241273445.

Platt, L. (2016). Is there assimilation in minority groups' national, ethnic and religious identity?. In *Migrants and Their Children in Britain* (pp. 46-70). Routledge.

Plenty, S., & Jonsson, J. O. (2017). Social exclusion among peers: The role of immigrant status and classroom immigrant density. *Journal of Youth and Adolescence*, 46, 1275–1288.

Pratto, F., Sidanius, J., & Levin, S. (2006). Social dominance theory and the dynamics of intergroup relations: Taking stock and looking forward. *European review of social psychology*, 17(1), 271-320.

- Puhl, R. M., Peterson, J. L., & Luedicke, J. (2013). Weight-based victimization: Bullying experiences of weight loss treatment-seeking youth. *Pediatrics*, 131(1), e1-e9.
- Purdie-Vaughns, V., & Eibach, R. P. (2008). Intersectional invisibility: The distinctive advantages and disadvantages of multiple subordinate-group identities. *Sex roles*, 59, 377-391.
- Qin, X., Laninga-Wijnen, L., Steglich, C., Zhang, Y., Ren, P., & Veenstra, R. (2024). Parents on the Sidelines: The Role of Parental Directing in Chinese Adolescents' Friendship Dynamics Related to Academic Achievement, Aggression, and Prosocial Behavior. *The Journal of Early Adolescence*, 02724316241244419.
- Qin, X., Laninga-Wijnen, L., Steglich, C., Zhang, Y., Ren, P., & Veenstra, R. (2024). The Dominance of Liking: Uncovering Dyadic and Reputational Effects of Peer and Perceived Teacher Likes and Dislikes on Friendship Dynamics Among Chinese Adolescents. *Journal of Youth and Adolescence*, 1-14.
- Rambaran, J. A., Dijkstra, J. K., Munniksmma, A., & Cillessen, A. H. (2015). The development of adolescents' friendships and antipathies: A longitudinal multivariate network test of balance theory. *Social Networks*, 43, 162-176.
- Rawlings, C. M., & Friedkin, N. E. (2017). The structural balance theory of sentiment networks: Elaboration and test. *American Journal of Sociology*, 123(2), 510-548.
- Reimer, N. K., Love, A., Wölfer, R., & Hewstone, M. (2021). Building social cohesion through intergroup contact: Evaluation of a large-scale intervention to improve intergroup relations among adolescents. *Journal of Youth and Adolescence*, 50(6), 1049-1067.
- Ripley, R. M., Snijders, T. A. B., Boda, Z., Vörös, A., & Preciado, P. (2024). Manual for RSiena: A program for the estimation and simulation of actor-oriented models for network dynamics. *University of Oxford, Department of Statistics, Nuffield College*.
- Rivas-Drake, D., Saleem, M., Schaefer, D. R., Medina, M., & Jagers, R. (2019). Intergroup contact attitudes across peer networks in school: Selection, influence, and implications for cross-group friendships. *Child Development*, 90(6), 1898-1916.

- Rivera, M. T., Soderstrom, S. B., & Uzzi, B. (2010). Dynamics of dyads in social networks: Assortative, relational, and proximity mechanisms. *Annual Review of Sociology*, 36(1), 91–115.
- Ross, L. (1977). The intuitive psychologist and his shortcomings: Distortions in the attribution process. In *Advances in experimental social psychology* (Vol. 10, pp. 173-220). Academic Press.
- Roth, T. (2020). The role of religion, religiousness and religious participation in the school-to-work transition in Germany. *Journal of Ethnic and Migration Studies*, 46(17), 3580-3602.
- Rubineau, B., Lim, Y., & Neblo, M. (2019). Low status rejection: How status hierarchies influence negative tie formation. *Social Networks*, 56, 33–44.
- Russell, S. T., Sinclair, K. O., Poteat, V. P., & Koenig, B. W. (2012). Adolescent health and harassment based on discriminatory bias. *American Journal of Public Health*, 102(3), 493-495.
- Rutland, A., Killen, M., & Abrams, D. (2010). A new social-cognitive developmental perspective on prejudice: The interplay between morality and group identity. *Perspectives on Psychological Science*, 5(3), 279-291.
- Ryan, R. M., & Deci, E. L. (2000). Intrinsic and extrinsic motivations: Classic definitions and new directions. *Contemporary Educational Psychology*, 25(1), 54-67.
- Salmivalli, C., Kärnä, A., & Poskiparta, E. (2012). Development, evaluation, and diffusion of a national anti-bullying program, KiVa. In *Handbook of youth prevention science* (pp. 238-252). Routledge.
- Salmivalli, C., & Pöyhönen, V. (2012). Cyberbullying in finland. *Cyberbullying in the global playground: Research from international perspectives*, 57-72.
- Sapouna, M., De Amicis, L., & Vezzali, L. (2023). Bullying victimization due to racial, ethnic, citizenship and/or religious status: a systematic review. *Adolescent Research Review*, 8(3), 261-296.

- Schäfer, S. J., Simsek, M., Jaspers, E., Kros, M., Hewstone, M., Schmid, K., ... & Christ, O. (2022). Dynamic contact effects: Individuals' positive and negative contact history influences intergroup contact effects in a behavioral game. *Journal of personality and social psychology*, 123(1), 107.
- Schihalejev, O., Kuusisto, A., Vikdahl, L., & Kallioniemi, A. (2020). Religion and children's perceptions of bullying in multicultural schools in Estonia, Finland and Sweden. *Journal of Beliefs & Values*, 41(3), 371-384.
- Schimmel, A. (1992). *Islam: an introduction*. SUNY Press.
- Schmader, T., Major, B., & Gramzow, R. H. (2001). Coping with ethnic stereotypes in the academic domain: Perceived injustice and psychological disengagement. *Journal of Social Issues*, 57(1), 93-111.
- Seals, D., & Young, J. (2003). Bullying and victimization: prevalence and relationship to gender, grade level, ethnicity, self-esteem, and depression. *Adolescence*, 38(152).
- Shin, Y., & Raudenbush, S. W. (2011). The causal effect of class size on academic achievement: Multivariate instrumental variable estimators with data missing at random. *Journal of Educational and Behavioral Statistics*, 36(2), 154-185.
- Sidanius, J., & Veniegas, R. C. (2013). Gender and race discrimination: The interactive nature of disadvantage. In *Reducing prejudice and discrimination* (pp. 47-69). Psychology Press.
- Sidanius, J., & Pratto, F. (2001). Social dominance: An intergroup theory of social hierarchy and oppression. *Cambridge University Press*.
- Sidanius, J., & Pratto, F. (1999). Social dominance theory. *Handbook of theories of social psychology*, 2.
- Simonsen, K. B., & Bonikowski, B. (2020). Is civic nationalism necessarily inclusive? Conceptions of nationhood and anti-Muslim attitudes in Europe. *European Journal of Political Research*, 59(1), 114-136.
- Simsek, M., van Tubergen, F., & Fleischmann, F. (2022). Religion and intergroup boundaries:

- positive and negative ties among youth in ethnically and religiously diverse school classes in western Europe. *Review of Religious Research*, 64(1), 1-33.
- Sirin, S. R. (2005). Socioeconomic status and academic achievement: A meta-analytic review of research. *Review of Educational Research*, 75(3), 417-453.
- Smith, S., Maas, I., & Van Tubergen, F. (2014). Ethnic ingroup friendships in schools: Testing the by-product hypothesis in England, Germany, the Netherlands and Sweden. *Social Networks*, 39, 33-45.
- Snijders, T. A., & Kalter, F. (2020). *Religious diversity and social cohesion in German classrooms. A micro-macro study based on empirical simulations* (pp. 525-543). De Gruyter.
- Snijders, T. A. (2017). Stochastic actor-oriented models for network dynamics. *Annual review of statistics and its application*, 4(1), 343-363.
- Snijders, T. A., Lomi, A., & Torló, V. J. (2013). A model for the multiplex dynamics of two-mode and one-mode networks, with an application to employment preference, friendship, and advice. *Social networks*, 35(2), 265-276.
- Snijders, T. A., & Bosker, R. J. (2011). *Multilevel Analysis: An Introduction to Basic and Advanced Multilevel Modeling*. Sage.
- Snijders, T. A., Van de Bunt, G. G., & Steglich, C. E. (2010). Introduction to stochastic actor-based models for network dynamics. *Social networks*, 32(1), 44-60.
- Snijders, T. A., & Baerveldt, C. (2003). A multilevel network study of the effects of delinquent behavior on friendship evolution. *Journal of mathematical sociology*, 27(2-3), 123-151.
- Soehl, T. (2017). Social reproduction of religiosity in the immigrant context: The role of family transmission and family formation—evidence from France. *International Migration Review*, 51(4), 999-1030.
- Stäbler, F., Dumont, H., Becker, M., & Baumert, J. (2017). What happens to the fish's achievement in a little pond? A simultaneous analysis of class-average achievement effects on

- achievement and academic self-concept. *Journal of Educational Psychology*, 109(2), 191.
- Stadtfeld, C., Takács, K., & Vörös, A. (2020). The emergence and stability of groups in social networks. *Social Networks*, 60, 129–145.
- Stark, T. H. (2020). Indirect contact in social networks: Challenging common interpretations of the extended contact hypothesis. *Group Processes & Intergroup Relations*, 23(3), 441-461.
- Stark, T. H. (2015). Understanding the selection bias: Social network processes and the effect of prejudice on the avoidance of outgroup friends. *Social Psychology Quarterly*, 78(2), 127-150.
- Stark, T. H., Flache, A., & Veenstra, R. (2013). Generalization of positive and negative attitudes toward individuals to outgroup attitudes. *Personality and social psychology bulletin*, 39(5), 608-622.
- Steglich, C., Snijders, T. A., & Pearson, M. (2010). Dynamic networks and behavior: Separating selection from influence. *Sociological methodology*, 40(1), 329-393.
- Steiner, R. J., & Rasberry, C. N. (2015). Brief report: Associations between in-person and electronic bullying victimization and missing school because of safety concerns among US high school students. *Journal of Adolescence*, 43, 1-4.
- Stephan, W. G., & Stephan, C. W. (2013). An integrated threat theory of prejudice. In *Reducing prejudice and discrimination* (pp. 23-45). Psychology Press.
- Strabac, Z., Aalberg, T., & Valenta, M. (2014). Attitudes towards Muslim immigrants: Evidence from survey experiments across four countries. *Journal of Ethnic and Migration Studies*, 40(1), 100-118.
- Stuart, E. A. (2010). Matching methods for causal inference: A review and a look forward. *Statistical Science: a review journal of the Institute of Mathematical Statistics*, 25(1), 1.
- Tahir, H., Kunst, J. R., & Sam, D. L. (2019). Threat, anti-Western hostility and violence among European Muslims: The mediating role of acculturation. *International Journal of Intercultural Relations*, 73, 74-88.

- Tajfel, H., & Turner, J. C. (1979). The social identity theory of intergroup behavior. In S. Worchel & W. G. Austin (Eds.), *The Psychology of Intergroup Relations* (pp. 33–47). Monterey, CA: Brooks/Cole.
- Tatum, T. G., & Grund, T. U. (2020). Accusation and confession discrepancies in bullying: Dual-perspective networks and individual-level attributes. *Social Networks*, 60, 61-70.
- Taylor, D. M., & Jaggi, V. (1974). Ethnocentrism and causal attribution in a South Indian context. *Journal of cross-cultural Psychology*, 5(2), 162-171.
- Te Grotenhuis, M., & Scheepers, P. (2001). Churches in Dutch: Causes of religious disaffiliation in the Netherlands, 1937–1995. *Journal for the Scientific Study of Religion*, 40(4), 591-606.
- Terrin, É., & Triventi, M. (2023). The effect of school tracking on student achievement and inequality: A meta-analysis. *Review of Educational Research*, 93(2), 236-274.
- Tharp-Taylor, S., Haviland, A., & D'Amico, E. J. (2009). Victimization from mental and physical bullying and substance use in early adolescence. *Addictive behaviors*, 34(6-7), 561-567.
- Thijssen, L., van Tubergen, F., Coenders, M., Hellpap, R., & Jak, S. (2022). Discrimination of black and muslim minority groups in western societies: Evidence from a meta-analysis of field experiments. *International Migration Review*, 56(3), 843-880.
- Tippett, N., & Wolke, D. (2014). Socioeconomic status and bullying: A meta-analysis. *American journal of public health*, 104(6), e48-e59.
- Tolsma, J., van Deurzen, I., Stark, T. H., & Veenstra, R. (2013). Who is bullying whom in ethnically diverse primary schools? Exploring links between bullying, ethnicity, and ethnic diversity in Dutch primary schools. *Social Networks*, 35(1), 51-61.
- Toroslu, A., & Jaspers, E. (2022). Avoidance in action: Negative tie closure in balanced triads among pupils over time. *Social Networks*, 70, 353–363.
- Triventi, M. (2020). Are children of immigrants graded less generously by their teachers than natives, and why? Evidence from student population data in Italy. *International Migration Review*, 54(3), 765-795.

- Tropp, L. R., & Pettigrew, T. F. (2005). Relationships between intergroup contact and prejudice among minority and majority status groups. *Psychological science*, 16(12), 951-957.
- Tübbicke, S. (2022). Entropy balancing for continuous treatments. *Journal of Econometric Methods*, 11(1), 71-89.
- Turner, H. A., Finkelhor, D., Hamby, S. L., Shattuck, A., & Ormrod, R. K. (2011). Specifying type and location of peer victimization in a national sample of children and youth. *Journal of youth and adolescence*, 40, 1052-1067.
- Turner, R., & Hewstone, M. (2010). Attribution biases. In *Encyclopedia of Group Processes and Intergroup Relations*. SAGE Publications, Inc..
- Turner, R. N., Hewstone, M., & Voci, A. (2007). Reducing explicit and implicit outgroup prejudice via direct and extended contact: The mediating role of self-disclosure and intergroup anxiety. *Journal of personality and social psychology*, 93(3), 369.
- Turner, J. C., & Reynolds, K. J. (2003). The social identity perspective in intergroup relations: Theories, themes, and controversies. In R. Brown & S. Gaertner (Eds.), *Blackwell Handbook of Social Psychology: Intergroup Processes* (pp. 133–152). Blackwell.
- Turner, J. C. (1991). *Social influence*. Thomson Brooks.
- Umaña-Taylor, A. J. (2016). A post-racial society in which ethnic-racial discrimination still exists and has significant consequences for youths' adjustment. *Current Directions in Psychological Science*, 25(2), 111-118.
- Umaña-Taylor, A. J., Quintana, S. M., Lee, R. M., Cross Jr, W. E., Rivas-Drake, D., Schwartz, S. J., Syed, M., Yip, T., Seaton, E. & Ethnic and Racial Identity in the 21st Century Study Group. (2014). Ethnic and racial identity during adolescence and into young adulthood: An integrated conceptualization. *Child development*, 85(1), 21-39.
- Vaillancourt, T., Brittain, H. L., McDougall, P., & Duku, E. (2013). Longitudinal links between childhood peer victimization, internalizing and externalizing problems, and academic functioning: Developmental cascades. *Journal of Abnormal Child Psychology*, 41(8), 1203-

- Valente, T. W., & Vega Yon, G. G. (2020). Diffusion/contagion processes on social networks. *Health Education & Behavior*, 47(2), 235-248.
- van der Ploeg, R., Steglich, C., & Veenstra, R. (2016). The support group approach in the Dutch KiVa anti-bullying programme: effects on victimisation, defending and well-being at school. *Educational Research*, 58(3), 221-236.
- Van Es, M. A. (2016). Stereotypes and self-representations of women with a Muslim background. *Stereotypes and Self-Representations of Women with a Muslim Background*.
- Van Tubergen, F., & Sindradottir, J. I. (2011). The religiosity of immigrants in Europe: A cross-national study. *Journal for the scientific study of religion*, 50(2), 272-288.
- Van Zantvliet, P. I., Ivanova, K., & Verbakel, E. (2020). Adolescents' involvement in romantic relationships and problem behavior: The moderating effect of peer norms. *Youth & Society*, 52(4), 574–591.
- Vannucci, A., Fagle, T. R., Simpson, E. G., & Ohannessian, C. M. (2021). Perceived family and friend support moderate pathways from peer victimization to substance use in early-adolescent girls and boys: A moderated-mediation analysis. *The Journal of Early Adolescence*, 41(1), 128-166.
- Vansteenkiste, M., Lens, W., & Deci, E. L. (2006). Intrinsic versus extrinsic goal contents in self-determination theory: Another look at the quality of academic motivation. *Educational Psychologist*, 41(1), 19-31.
- Veenstra, R., & Laninga-Wijnen, L. (2022). Peer network studies and interventions in adolescence. *Current Opinion in Psychology*, 44, 157-163.
- Verkuyten, M., Voci, A., & Pettigrew, T. F. (2022). Deprovincialization: Its importance for plural societies. *Social Issues and Policy Review*, 16(1), 289-309.
- Verkuyten, M. (2021). Anti-Muslim sentiments in Western societies. In *The Routledge international handbook of discrimination, prejudice and stereotyping* (pp. 118-135). Routledge.

- Verkuyten, M., Thijs, J., & Gharaei, N. (2019). Discrimination and academic (dis)engagement of ethnic-racial minority students: A social identity threat perspective. *Social Psychology of Education, 22*(2), 267-290.
- Verkuyten, M. (2016). Further conceptualizing ethnic and racial identity research: The social identity approach and its dynamic model. *Child Development, 87*(6), 1796-1812.
- Verkuyten, M., & Thijs, J. (2010). Religious group relations among Christian, Muslim and nonreligious early adolescents in the Netherlands. *The Journal of Early Adolescence, 30*(1), 27–49.
- Verkuyten, M., & Yildiz, A. A. (2007). National (dis) identification and ethnic and religious identity: A study among Turkish-Dutch Muslims. *Personality and social psychology bulletin, 33*(10), 1448-1462.
- Verkuyten, M. (2005). Ethnic group identification and group evaluation among minority and majority groups: Testing the multiculturalism hypothesis. *Journal of personality and social psychology, 88*(1), 121.
- Verkuyten, M., & Thijs, J. (2002). Racist victimization among children in the Netherlands: The effect of ethnic group and school. *Ethnic and Racial Studies, 25*(2), 310-331.
- Vignoles, V. L. (2011). Identity motives. In *Handbook of Identity Theory and Research* (pp. 403-432). Springer, New York, NY.
- Voas, D., & Fleischmann, F. (2012). Islam moves west: Religious change in the first and second generations. *Annual review of sociology, 38*, 525-545.
- Voas, D. (2009). The rise and fall of fuzzy fidelity in Europe. *European Sociological Review, 25*(2), 155- 168.
- Volk, A. A., Dane, A. V., & Marini, Z. A. (2014). What is bullying? A theoretical redefinition. *Developmental Review, 34*(4), 327-343.
- Wiemers, S. A., Stasio, V. D., & Veit, S. (2024). Stereotypes about Muslims in the Netherlands: An Intersectional Approach. *Social Psychology Quarterly, 01902725231219688*.

- Wimmer, A. (2013). *Ethnic boundary making: Institutions, power, networks*. Oxford University Press.
- Wimmer, A., & Lewis, K. (2010). Beyond and below racial homophily: ERG models of a friendship network documented on Facebook. *American Journal of Sociology*, 116(2), 583–642.
- Wimmer, A. (2008). The making and unmaking of ethnic boundaries: A multilevel process theory. *American journal of sociology*, 113(4), 970-1022.
- Windzio, M., & Wingens, M. (2014). Religion, friendship networks and home visits of immigrant and native children, *Acta Sociologica*, 57(1), 59-75.
- Wittek, M., Kroneberg, C., & Lämmermann, K. (2020). Who is fighting with whom? How ethnic origin shapes friendship, dislike, and physical violence relations in German secondary schools. *Social Networks*, 60, 34–47.
- Wölfer, R., Caro, D. H., & Hewstone, M. (2019). Academic benefit of outgroup contact for immigrant and nonimmigrant students. *Group Processes & Intergroup Relations*, 22(3), 419–433.
- Wolke, D., Woods, S., Stanford, K., & Schulz, H. (2001). Bullying and victimization of primary school children in England and Germany: Prevalence and school factors. *British journal of psychology*, 92(4), 673-696.
- Woods, S., & Wolke, D. (2004). Direct and relational bullying among primary school children and academic achievement. *Journal of school psychology*, 42(2), 135-155.
- Wormington, S. V., Anderson, K. G., Schneider, A., Tomlinson, K. L., & Brown, S. A. (2016). Peer victimization and adolescent adjustment: Does school belonging matter? *Journal of school violence*, 15(1), 1-21.
- Wright, J. C., Giammarino, M., & Parad, H. W. (1986). Social status in small groups: Individual–group similarity and the social" misfit.". *Journal of Personality and social Psychology*, 50(3), 523.
- Ybarra, M. L., Espelage, D. L., Valido, A., Hong, J. S., & Prescott, T. L. (2019). Perceptions of middle school youth about school bullying. *Journal of adolescence*, 75, 175-187.

- Ysseldyk, R., Matheson, K., & Anisman, H. (2010). Religiosity as identity: Toward an understanding of religion from a social identity perspective. *Personality and Social Psychology Review*, 14(1), 60-71.
- Zwier, D., & Geven, S. (2023). Knowing me, knowing you: Socio-economic status and (segregation in) peer and parental networks in primary school. *Social Networks*, 74, 127-138.