Who (else) is Involved? -

How Voluntary Associations Connect and Separate Us

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Voluntary associations, such as sports clubs, cultural organizations, and hobby groups, are often praised for their ability to foster social cohesion by connecting people from different walks of life. Yet, whether they live up to these hopes critically depends on the representation of social groups in distinct (types of) voluntary associations and their social integration within them. To assess the extent to which voluntary associations facilitate intergroup contact, I develop a framework distinguishing between individuals' entry into, social experience in, and eventual exit of voluntary associations with different social compositions. Guided by this framework, each of the four stand-alone empirical chapters employs unique German and Dutch survey data to study how three major fault lines unfold in civic life. Findings indicate that (i) people's gender-homophilous friendship networks and traditional gender norms bring about gender segregation in civic life; (ii) joining voluntary associations is followed by increases in access to (high-status) social capital but differences in take-up rates and returns of involvement across socioeconomic groups implies that voluntary involvement hardly reduces social capital inequalities; (iii) there is ethnic segregation across and within voluntary associations and participants integrate less well in and are more likely to leave associations with more ethnic outgroup members; and (iv) socioeconomic inequalities in voluntary involvement among adolescents are strongest before the involvement histories of privileged adolescents get interrupted by their transition to university. Overall, the strong segregation across and within (types of) organizations along gendered, socioeconomic, and ethnic divides are reinforced rather than bridged in civic life. The empirical findings underscoring this conclusion not only advance research on the integrative potential of voluntary associations but also enrich a broader literature on segregation, social capital, intergroup relations, and social cohesion.

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1 Introduction

1.1. Social Structure and Voluntary Associations

Questions about social integration and social cohesion lie at the heart of sociological investigation. How and why do individuals differ in the extent to which they are connected to other people, groups, and society at large? How does meaningful contact across group boundaries arise and which consequences does such contact have for individuals' life chances and social cohesion? Many sociologists have addressed these questions by studying how individuals with different socio-demographic characteristics differ in terms of whom they interact with (Bourdieu 1984; DiPrete et al. 2011; Feld 1981; Lin 2000; Marsden 1987; McPherson, Smith-Lovin, and Cook 2001; Simmel 1908; J. A. Smith, McPherson, and Smith-Lovin 2014), as well as the consequences of these varying patterns of social integration for individuals and societies (Burt 2004; Coleman 1988; Granovetter 1973; Lin 2001a). Three stylized findings stand out in this vast literature:

Inequality in connectedness. Individuals and groups differ in the extent to which they are connected to others. While some maintain a large number of social ties and are strongly embedded in large-scale networks, others lack social connections and remain largely isolated. For example, whether individuals can build up an extensive and resourceful network hinges, among other things, on their socioeconomic resources (Lin, Ao, and Song 2009), their stage of life (Kalmijn 2012; Völker 2020), residential location (van der Laan et al. 2023), and personality (Tulin, Lancee, and Völker 2018), but also on generalized sentiments and attitudes towards their group and the composition of their local interaction context (Boda et al. 2023; Smith et al. 2016).

Homophily and segregation. Individuals disproportionately form ties with others who are similar to themselves—in part because they prefer to do so but to some extent also because

the structural opportunities in the settings they attend on a daily basis constrain their choice (Lazarsfeld and Merton 1954; McPherson et al. 2001). In other words, individuals often self-select into segregated settings in which they then form and maintain homophilous ties. Consequently, the prevalence of so-called 'bridging ties'—ties to people belonging to individuals' outgroups—is relatively low, cementing divides along socioeconomic, gendered, and ethnic/racial fault lines in society (J. A. Smith et al. 2014).

Strength of weak and bridging ties. However, ties bridging across these salient group boundaries are seen as beneficial for individuals and societies. Individuals who form and maintain ties to people who are different from themselves can access resources, information, and perspectives that are not available in their otherwise homophilous network. This can, in turn, help them to achieve goals in life and attain higher status (Burt 2004; Granovetter 1995; Lin et al. 2009). On the aggregate level, a higher frequency of bridging ties connecting different segments of society suggest higher levels of social cohesion: If different groups are interconnected by many bridging ties, the boundaries between them may become less salient and divisive (Schiefer and Van der Noll 2017): Information can flow more easily and people are more commonly exposed to different viewpoints and experiences—core features of well-functioning democracies.

Together, *inequality in connectedness* as well as *homophily and segregation* imply that people usually dwell in clusters localized in social space (Blau and Schwartz 1984; McPherson et al. 2001). These clusters differ in terms of the available resources, ideas, and viewpoints which typically do not represent the whole breadth of society at large. Segregated network structures have thus been argued to give rise to various social ills, such as exacerbated social inequality (DiMaggio and Garip 2011; McDonald 2011), group-specific stereotypical behavior (Raabe, Boda, and Stadtfeld 2019), and political polarization (Rawlings 2022). In the pursuit of preventing different segments of society from growing apart, a key role is attributed to

bridging ties. Such ties overcome salient boundaries and thereby enable social exchange between groups and are thus seen as an important ingredient of healthy intergroup relations and cohesive societies (Burt 2004; Van Der Meer and Tolsma 2014). Thus, to prevent different segments of society from growing apart, an important challenge for diversifying and increasingly unequal societies is to ensure everybody's integration into an interconnected web of social ties.

In this thesis, I aim to study the degree to which *voluntary associations* such as sports clubs, cultural organizations, religious associations, and community groups can help with this endeavor. Voluntary associations are commonly viewed as promoters of social integration and social cohesion because they can serve as meeting places for people with different backgrounds and thus have the potential to facilitate positive contact that bridges across salient fault lines for social associations.[1] Famously, Robert Putnam laments in 'Bowling alone' (2000) the decay of civil society across the United States, arguing that lower levels of voluntary involvement will threaten communities' social capital because people are encountering each other less often and trust each other less. The underlying idea is that voluntary associations constitute important meso-level entities that integrate individuals into the wider community beyond one's family and close friends, and even teach the participatory ethos of democracy (de Tocqueville 1969). Especially the 'bridging social capital' embedded in civic organizations is viewed as a crucial ingredient of well-functioning communities (Putnam 2000).

[1] While the vast majority of the literature attributes integrative and overall beneficial effects of large-scale voluntary involvement for both individuals and societies, there are also several studies pointing to a potential 'dark side' of social capital concerning the exclusion of outsiders, freeriding, and restrictions of individual freedom and mobility (Kleiner 2020; Portes 1998; Satyanath, Voigtländer, and Voth 2017).

Intergroup contact facilitated through voluntary associations is likely to be particularly fruitful for reducing prejudice, and improving intergroup attitudes and cohesion: Fellow football players and choir singers typically encounter each other as equals, pursue common goals, engage in intergroup cooperation and their interaction is usually organized by some authority (e.g., coach, conductor) promoting the advancement of the common goal. Allport (1954) states in his classic contact theory that these conditions are conducive for harnessing the potential of intergroup contact to reduce prejudice (see also Pettigrew 1998). And indeed a series of recent (quasi-) experimental studies have shown that intergroup relations improve when participants are randomly assigned to pursue activities typical for voluntary associations together with outgroup members (Laurence 2020; Lowe 2021; Mousa 2020).

Compared to other settings of daily interaction, such as neighborhoods, schools, or workplaces, voluntary associations are characterized by features that might enable them to be particularly efficient in facilitating contact between people from different walks of life: While attainment of these other context is typically highly contingent on financial means and formal qualifications, voluntary associations can usually be joined at relatively moderate financial costs and without any formal qualifications. Due to the possession of such resources being typically unequally distributed, many people simply cannot afford to live in neighborhoods that would provide opportunities to meet highly educated and wealthy individuals. Similarly, their formal qualifications are not sufficient to enter workplaces that would enable them to encounter those individuals as equals. By contrast, it is much easier for individuals with a lower socioeconomic status to join voluntary associations containing several highly educated and wealthy members than to meet them through these other settings.

Similarly, neighborhoods (Iceland and Wilkes 2006; Quillian 2012), schools (Fiel 2015), and workplaces (Tomaskovic-Devey 1993) are often segregated along ethnic and racial lines. Studies testify that many people explicitly avoid moving to neighborhoods– or send their

children to schools dominated by ethnic or racial outgroups, reducing these settings' potential to facilitate interethnic contact. When making these choices, people are usually very cautious and may be less willing to incur any perceived risks that they associate with the presence of outgroups in a given setting. By contrast, involvement in voluntary associations is typically less consequential and people might thus be more willing to select settings that involve more outgroup exposure.

Gender segregation does typically not occur across neighborhoods or schools, but is comparatively strong across occupations and in friendship networks (Charles 2011; Mehta and Strough 2009; Tomaskovic-Devey 1993; Van Bavel, Schwartz, and Esteve 2018). Moreover, ego-networks are characterized by substantial gender homophily, indicating that people more often interact with others of their own gender (J. A. Smith et al. 2014). To achieve greater gender parity, women and men would have to encounter each other as equals in more social settings. A first step towards this could be that they join the same voluntary associations, which involves lower stakes than, for example, training for a gender-atypical career.

Taken together, voluntary associations' high accessibility and low commitment requirements in terms of frequency and durability of involvement make them indeed promising vehicles for social integration and social cohesion. Their position between the public and personal sphere thus bears much potential for this role in facilitating *bridging ties*.

At the same time, voluntary associations are embedded in and linked to larger stratification and segregation systems: Individuals differ in their financial, social, and human capital, are subject to broader normative expectations, and are typically socialized into roles and identities linked to their social position. These aspects often affect whether individuals are involved in civic life and if so in which organizations. Moreover, the tendency to associate with those people who are similar to oneself (homophily) of course applies in civic settings too.

Consequently, some groups are systematically underrepresented in civic life and those who get involved will likely sort into (types of) associations dominated by their own ingroup. Some scholars therefore argue that civic life constitutes an arena in which preexisting inequalities and separations are amplified rather than reduced (Arneil 2006a, 2006b; Kleiner 2020). The stylized facts of *inequality in connectedness* as well as *homophily and segregation* might thus be reproduced in civic life, undermining voluntary associations' capacity to facilitate the formation of *bridging ties*. In sum, the jury is still out regarding whether civic life serves to bridge boundaries and thereby potentially reduce inequalities or whether it reinforces existing social cleavages.

Throughout this thesis, I therefore scrutinize the potential of voluntary associations to facilitate contact *bridging* across salient fault lines, such as gender, socioeconomic status, and ethnicity. In this context, I particularly focus on how patterns of *inequality* as well as *homophily and segregation* along these dimensions structure participation in civic life. In the following, I therefore present research that is guided by two overarching questions:

1. Who gets to participate in civic life and what are the implications of participatory inequalities for joiners' social networks?, or in short: Who is involved?
2. Whom do people get in contact with during their voluntary involvement and to what extent are there integrative or segregationist tendencies in civic life?, or in short: Who *else* is involved?

As previous research—with notable exceptions (e.g., McPherson and Smith-Lovin 1987; Popielarz and McPherson 1995; Wang and Morav 2021; Wiertz 2016)—typically goes little further than assessing static group differences in participation in voluntary associations, we have no definite answers to these guiding questions. For example, it remains unclear how inequalities change over time and differ across (types of) organizations, how they affect

socializing patterns inside organizations and thereby shape participants' access to social capital, and how different social dimensions interact with each other in this context. In chapters 2-5, I will investigate these and related queries to address the two overarching research questions.

1.2. Definition: What is Voluntary Involvement?

Voluntary involvement, as defined in this thesis, encompasses active participation in voluntary associations. Voluntary associations are also often referred to as "voluntary organizations", or "civic organizations"—terms I use interchangeably throughout this thesis to refer to formally established not-for-profit organizations that facilitate social interaction around a particular interest of their members. Examples for such associations include sports clubs, neighborhood groups, religious organizations, cultural associations, political parties and initiatives, as well as associations concerned with other issues in the social and environmental domain.

Active participation can take different forms. While some participants merely attend meetings of an voluntary association, others may further contribute through "formal" volunteering, i.e., through activities "in which time is given freely to benefit another person, group, or cause" (Wilson 2000:215). In practice, the boundaries between behaviors that clearly count as "volunteering" (e.g., serving as the treasurer of a sports club) or mere attendance of meetings (e.g., playing in one of the sports club's teams) are often blurred. They often go hand in hand with each other and many attendants take over voluntary tasks within the associations from time to time (e.g., organizing a sports camp). Owing to this thesis' focus on the relevance of voluntary involvement for social integration, the definition of voluntary involvement thus emphasizes the social embeddedness of individuals in formal and organized groups of co-participants rather than the particular activities they pursue. Nonetheless, it is important to note that this definition excludes links to voluntary associations consisting solely of monetary donations (sometimes coined "checkbook membership") as well as activities that may well

"benefit another person, group, or cause" (Wilson 2000:215) but are unrelated to any formal organization, such as helping relatives, friends, or neighbors—usually referred to as "informal volunteering" (Musick and Wilson 2008). I refer to individuals who are, according to the aforementioned definition, actively involved in voluntary associations as "participants" or "civic participants".

Voluntary involvement arguably encompasses a very diverse set of activities including, for example, playing handball, sorting groceries for a foodbank, and serving on the board of a local charity. This diversity of activities labeled as voluntary involvement has led some scholars to focus on certain organizational settings to study the social processes unique to them. Examples of such research include studies on the role of gender in youth sports clubs (Messner and Bozada-Deas 2009), the value of hospital volunteers (Handy and Srinivasan 2004), and the role of altruism among firefighters (Carpenter and Myers 2010). Acknowledging that different areas of involvement (e.g., sports, culture) and probably even various individual voluntary associations differ to some extent in their internal practices and logics, this thesis takes a broader, more structural perspective by studying voluntary involvement in all types of associations. The underlying rationale is that whatever activities (sports, music) are pursued, participants repeatedly get together with the co-members of their organization, thereby getting the chance to incorporate them in their personal social networks. Moreover, by studying involvement in a broad range of association types, I follow up on the vast majority of the literature on voluntary involvement which analyzes these activities together. However, where relevant, I explicitly account for potential differences between types of associations.

1.3. Public Debates about Voluntary Involvement

The goal of fostering voluntary involvement is generally supported across the political spectrum. Broadly speaking, the political left endorses the idea of distributing power to grassroots organizations and empowering and integrating underprivileged groups by encouraging them to form and join interest groups to organize their interests (Musick and Wilson 2008). For example, the British Labour party states in its Civil Society strategy: "Without a thriving civil society, democracy can't work. It is the glue that binds communities together and helps give voice to the voiceless, power to the powerless, and allows communities to take control of the decisions that affect them" (Labour party 2019). In a recent speech at the Civic Society Summit, Keir Starmer (2024) addressed representatives of voluntary associations suggesting that "it's people on the ground, people with skin in the game, who understand the problems best and have the best answers. You are the glue that bridges the gaps and binds government, business, and communities together". Conservative forces, in turn, emphasize the possibility to cut public welfare expenditures if communities can organize care and social support amongst themselves. The former British prime minister David Cameron, for example, laid out his vision in a speech on his 'Big Society' agenda in 2010: "The Big Society is about a huge culture change, where people (…) don't always turn to officials, local authorities or central government for answers to the problems they face, but instead feel both free and powerful enough to help themselves and their own communities." (Cameron 2010).[2] Tendencies of population ageing, financial stress on welfare states, and increased prevalence

[2] That voluntary associations often step in to provide services typically provided by the welfare state becomes particularly apparent in unforeseen situations. In Germany, for example, there was recently widespread civic mobilization for social support during the arrival of refugees from Syria in 2015 and Ukraine in 2022 as well as the Ahr-valley floodings in 2021 (Bayrischer Rundfunk 2017; Rhein Zeitung 2021; Süddeutsche Zeitung 2022). However, while volunteering activities responding to emerging demands spikes during such crises, the prevalence of general volunteering activities can suffer substantively, as testified, for example, during the onset of the COVID-19 pandemic in the United Kingdom (Dederichs 2023).

of loneliness have recently renewed the relevance of promoting voluntary involvement. Examples of recently implemented large-scale civic initiatives include the European Union (EU) Commission's ERASMUS+ program supporting sport projects across EU Member States (European Commission 2021) and the Joint Economic Committee's Policy Agenda for Social Capital, which aims at promoting American local community life (Joint Economic Committee 2021). Moreover, the German Ministry for Family Affairs, Senior Citizens, Women and Youth (2022) has recently launched a participatory process that will inform a new federal strategy for voluntary involvement and volunteering. Common to all these policy proposals across ideological camps is the proposition that widespread voluntary involvement will improve individuals' social integration across all segments of society and will foster stronger interconnectivity between them, build social capital in communities, and thereby foster social cohesion at large.

With this thesis, I aim to draw attention to the obstacles that stand in the way of voluntary associations' capacity to facilitate social cohesion by bringing people from different walks of life together. While my findings show that voluntary involvement indeed helps individuals to expand their social networks and thereby increase the interconnectivity of communities, they also suggest that not everybody gets involved and that civic life is typically segregated along salient fault lines. This implies that additional efforts are necessary to fulfil the hope that voluntary associations facilitate contact between people from different segments of society.

1.4. Empirical Setting

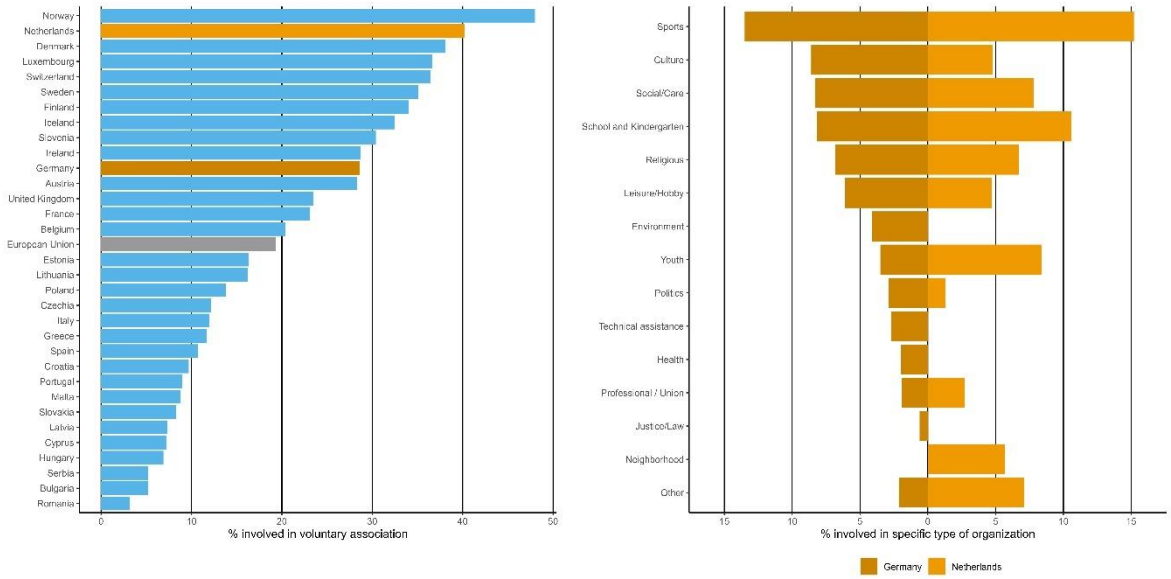
Empirically, I focus on Germany and the Netherlands, two countries in which voluntary involvement is relatively widespread and is seen as a vital part of the local culture. In the EU-SILC module on volunteering 2015, approximately 40% of the Dutch and 30% of the Germans

indicate voluntary involvement in any kind of organization over the past twelve months, clearly surpassing the mean among EU Member States (see left panel of Figure 1.1). To provide another point of comparison, in round 7 of the World Values Survey (Haerpfer et al. 2022), approximately 50% of all respondents in Germany and the Netherlands respectively indicated active membership in an organization, vis-à-vis 66% in the United States, 63% in Australia, 57% in Brazil, 53% in Canada, 26% in Japan, 18% in China, and 8% in Turkey (own calculation). National surveys fielded in 2019 with somewhat different wording of questions suggest that 47% of the Dutch and 40% of the Germans indicated voluntary involvement over the past year (Simonson et al. 2021; Statistics Netherlands 2020). They further show that 26% of Germans are involved at least several times per month and that 31% of the Dutch at least once in the last month, implying that a substantive share of those who indicate involvement over the last year participate relatively regularly.[3]

The right panel of Figure 1.1 shows the shares among the German and the Dutch population who are involved in specific areas. In both countries, sports is by far the most popular area of involvement. Moreover, cultural organizations (including music), social- and care groups, school- or kindergarten related associations, religious organizations, youth groups, and neighborhood associations constitute further common places for voluntary involvement.[4]

[3] In these national surveys, different procedures were implemented to determine whether a respondent was voluntarily involved: They asked for involvement in different types of organizations than the EUSILC study. Thus, the results from the comparative and national surveys should not be directly compared to each other.
[4] Note that the two national surveys employed differed somewhat in their classification of less commonly mentioned types of organizations, e.g., environmental organizations not explicitly mentioned in the Dutch survey.

Figure 1.1: Voluntary Involvement in Germany and the Netherlands



Note: The left panel presents aggregated data from the EU-SILC survey 2015 (Eurostat 2017). Respondents were asked whether they had engaged in any activities organized through an organization, a formal group or a club or did unpaid work for charitable or religious organizations. The right panel combines data from the 2019-waves of the German 'Freiwilligensurvey' (Simonson et al. 2021:90) and the Dutch 'Sociale Samenhang en Welzijn' survey (Statistics Netherlands 2020). Note that the category 'other' encompasses involvement in neighborhood groups in the German data and involvement in environmental, emergency, health, or justice/law organizations in the Dutch data. These publicly released estimates come without standard errors but the sample size for each country is large, suggesting that estimators will be precise. Respondents were at least 16 (EU-SILC), 15 (Sociale Samenhang en Welzijn), or 14 years old (Freiwilligensurvey).

1.5. Conceptual Framework: Voluntary Associations and Intergroup Contact

While voluntary associations often pride themselves on their inclusivity and their integrative power as emphasized in public debates, there are, in fact, several obstacles that undermine their capacity to facilitate intergroup contact. Such obstacles can appear at voluntary associations' *front door*—through which new members join, *indoors*—where people interact with each other inside the organization, and at their *back door*—through which participants leave their organization eventually. I thus study inequalities, homophily, and segregation at these three stages to assess potential limits to voluntary associations' integrative power.

Individuals enter through an association's *front door*, if it is easy and/or attractive for them to do so. Whether this is the case depends among other things on the extent to which the

association's characteristics match with an individual's resources and preferences, and whether there are existing social ties to active members. First, most people will only join organizations that are in spatial proximity to their place of residence, pursue activities that are of interest, charge affordable membership fees, and hold their meetings at suitable times. This suggests that people's neighborhood attainment (cf. Lam, Grasse, and McDougle 2023; Mohan and Bennett 2019), religion (Aksoy and Wiertz 2024; Bekkers 2010), income (Lancee and Van de Werfhorst 2012; Wilson 2012), and work schedules (Musick and Wilson 2008; cf. Qvist 2021) impose constraints on the set of organizations that are in principle available. Importantly, these characteristics are often linked to individuals´ socioeconomic status, ethnicity, and gender—the main social dimensions under consideration in this thesis.

Second, most people will only join a voluntary association if they are at least somewhat interested in its cause and if the organizations' social composition suggests they will be able to 'fit in'. It can be argued that each association occupies a specific social 'niche' that attracts a specific 'kind' of people (McPherson and Smith-Lovin 1987). For example, field hockey clubs in the Netherlands typically attract ethnic majority members with a higher socioeconomic status, while boxing clubs more often attract ethnic minorities and those with lower socioeconomic status. But even organizations of the same type can specialize in the needs of their social niche. For instance, two football clubs might differ in terms of the snacks in their canteen and the kind of music they put on before their games that cater to their members' taste and might make the organization appealing to potential joiners with different background characteristics. Thus, organizations' activities and general outlook make them attractive to individuals in certain social niches.

Third, it is easier and more attractive for individuals to enter through an organization's front door if they already know one or several members. In Germany, for example, around half of all volunteers indicated that they started to volunteer after they were asked to do so,

predominantly by existing members of an organization, who were often their own relatives, friends, or acquaintances (Müller, Hameister, and Lux 2017). Individuals who already know members of an organization are more likely to be aware of that organization and its full range of activities and can cultivate pre-existing social relations within the organizational realm. Furthermore, they may perceive involvement as more attractive because they can do it together with someone they know who might also help them to integrate in the organization. Since family, friendship, and acquaintanceship-networks are usually characterized by high levels of homophily (DiPrete et al. 2011; McPherson et al. 2001; J. A. Smith et al. 2014), existing members of organizations typically recruit new ones through the front door who are similar to the existing members of an organization (McPherson 1983; McPherson and Smith-Lovin 1987).

Finally, organizations' gatekeepers who guard their front doors have to approve the newcomers' request to join. Here, research has shown that ethnic minority members experience discrimination, whereby they are less likely to receive a positive response to their request for trial participation in football clubs (Gomez-Gonzalez, Nesseler, and Dietl 2021). Moreover, organizations often deliberately recruit more resourceful members in the expectation that they will be more beneficial to the organization (Bryant et al. 2003). Thus, organizations may also play an active role in making access to particular individuals easy and attractive.

In short, because of systematic differences in resources, interests, and social ties to members of voluntary associations across segments of society, and because organizations sometimes (deliberately) pick new members based on socio-demographic characteristics, entry through the front door is selective. As a result, people typically join voluntary associations that 'match' their socio-demographic profile, which induces segregation across organizations.

Once individuals have entered organizations through the front door, they can interact with their co-members *indoors*. The social dynamics inside voluntary associations have received little systematic scrutiny so far (see McPherson and Smith-Lovin 1987 for a notable exception). Their study as well as research on other relatively well-defined social contexts, such as classrooms in schools (Kroneberg, Kruse, and Wimmer 2021; Kruse 2016; McFarland et al. 2014; Smith et al. 2016) suggest that people form social ties to those who are similar to themselves even if dissimilar peers would be readily available.[5] Given that most individuals follow homophilous association tendencies, it becomes more difficult for individuals to form ties in settings dominated by their outgroups. In line with this idea, a recent study showed that refugee youth form fewer friendship ties when allocated to a classroom primarily consisting of ethnic majority peers vis-à-vis ethnically more diverse classrooms (Boda et al. 2023). Students in classrooms are typically subject to a relatively fixed attendance schedule that regulates how much time they spend in this context, whether they like it or not. By contrast, voluntary associations usually grant their members more freedom as to how many meetings they attend and whether they take up additional volunteer roles. Thus, socio-demographically 'typical' participants, i.e., those at the center of an organizations' social 'niche', not only form homophilous ties within the organization more easily, but may also enjoy the organization more and might thus devote more of their time and effort to it, further strengthening their integration. By contrast, those participants with characteristics making them more dissimilar to most of their co-members, i.e., those on the 'edges' of the organization's niche, find it more difficult to form ties inside the organization and therefore devote less time to it.

[5] An additional pathway through which segregation within organizations can take place is the stereotypical assignment of tasks to volunteers. For example, women and men might not come into contact with each other even if they belong to the same organization because they engage in stereotypically masculine or feminine tasks (Rotolo and Wilson 2007).

At some point, participants might leave their voluntary association through its *back door*. Whether they stay involved or drop out depends to a large extent on their experience indoors. If they have been able to neatly 'fit in', i.e., form strong bonds with the organization and its members, and perhaps even engage in additional volunteer work, they will likely stay involved for a relatively long period of time. On the contrary, those who face difficulties integrating in a particular organization might drop out earlier and possibly look for an alternative organization (Popielarz and McPherson 1995). At the same time, events in individuals' life courses can constrain their voluntary involvement, even if they had been perfectly happy with their organization. Given that the timing and experience of such events vary across sociodemographic groups (e.g., educational transitions, geographic mobility, childbirth, health problems), involvement trajectories can systematically draw certain groups away from involvement at certain ages. Importantly, these selective exit dynamics affect the social composition of organizations and thereby the dynamics at the front door and indoors. For example, if an ethnic majority-dominated organization loses its ethnic minority members more quickly, its social composition will swing even more toward the majority group. Thus, this organization will appear less attractive to minorities who might potentially be interested in joining because they may anticipate difficulties to fit into a heavily majority-dominated organization. Existing minority participants are faced with fewer ingroup co-members which may weaken their integration into the organization.[6]

Taken together, this conceptual framework illustrates how a multitude of social forces at organizations' front doors, indoors, and back doors can bring about segregation in civic life.

[6] Another driver of segregation at the backdoor is the tendency of socio-demographically more diverse organizations to dissolve altogether at higher rates as their homogeneous counterparts (McPherson and Smith-Lovin 1987).

In doing so, it suggests which obstacles may limit voluntary associations' capacity to facilitate social ties connecting different segments of society[7].

1.6. Contribution of this Thesis

Building upon this framework, this thesis advances the literature on voluntary associations by analyzing patterns of segregation and integration across and within associations. Explicitly differentiating between homophilous affiliation practices at the front door, indoors, and at the back door, the social composition of organizations and contacts within them are treated as key variables of interest. A series of older studies by McPherson and colleagues (McPherson, Popielarz, and Drobnic 1992; McPherson and Rotolo 1996; McPherson and Smith-Lovin 1986, 1987) and more recent work by Wiertz (2015, 2016) and Wang and Morav (2021) started to distinguish between joining and quitting and explicitly focused on organizations' social composition. Yet, they do not study whether exposure through the same organization (type) actually breeds meaningful contact—the key pathway for the development of bridging ties and improved intergroup relations. In other words, previous research has overlooked how the social dynamics inside organizations (*indoors*) are shaped by and affect the social processes at the *front*- and the *back door*. In this thesis, by contrast, I specifically study individuals' social integration into organizations and the consequences of their involvement for the sociodemographic composition of their broader social networks. In doing so, I assess how inequalities in voluntary involvement along socioeconomic, ethnic, and gendered lines ('*Who*

[7] Importantly, I do not argue that voluntary associations can never facilitate new bridging ties. However, given that segregation in civic life limits participants' exposure to outgroup members, opportunities for such ties are severely constrained.

is involved?') and segregation along these lines ('*Who else is involved?*') jointly shape civic organizations' footprints on the social composition of people's social networks.

Addressing these two main questions, my thesis clearly shows that voluntary associations do not automatically bridge social divides. This implies that widespread voluntary involvement does not necessarily bring different groups closer together. Communities might become more tight-knit if more people are civically active (cf. Putnam 2000), but the fault lines that structure social association in society will typically persist in civic life, too. Along all dimensions of inequality, there is substantive segregation across voluntary associations. Additionally, participants predominantly come in contact with co-members of their own ethnic group and gender, even if outgroup members are available in the (type of) organization they are involved in. Strikingly, I also show that organizations' ethnic composition affect their members' integration and durability of involvement.

I utilize fine-grained longitudinal survey data to study the dynamics of voluntary involvement and their effects on the formation on intergroup ties in greater detail than previous research. This has substantive and methodological advantages. From a substantive viewpoint, the data's longitudinal character permits to infer individuals' joining and leaving trajectories in chapters 2-4 which are crucial for distinguishing the dynamics at the front and back door. To date, studies explicitly differentiating between joining and quitting remain rare (Lim and Laurence 2015; Rotolo 2000; Wiertz 2016). The benefits of this approach become particularly apparent in Chapter 3, where I explicitly differentiate between the selection of individuals with abundant social capital into organizations and social capital gains after joining an organization. Moreover, survey data following individuals over several years enable me to examine individual-level changes in the intensity of voluntary involvement over a relatively long period of time and assess how these are shaped by major life events (see Chapter 5). In light of the lack of research on the *indoors* social dynamics, the great level of detail in these data sources

constitute an additional asset: Unique information about different types of relationships (e.g., coming in contact with someone [Chapter 2], considering someone as part of one's social circle [Chapter 3], knowing someone by name and discussing important matters with someone [Chapter 4]) allow me to study the role of voluntary associations in facilitating social ties.

From a methodological perspective, I exploit the longitudinal character of the data to improve upon inferential shortcomings in earlier research examining the consequences of voluntary involvement. Existing studies often rely on cross-sectional data and therefore suffer from confounder bias. Involvement in voluntary associations is, by definition, *voluntary* and people differ systematically in their likelihood of joining. Thus, instead of merely comparing outcomes across respondents, I also compare outcomes within respondents across different points in time or settings. In doing so, I alleviate most inferential concerns that typically limit the significance of existing studies and provide more informative estimates of the mechanisms of interest. For example, in Chapter 3, I compare individuals' social capital between two points in time—before and after they had joined an organization. In a similar vein, in Chapter 4, I utilize data including multiple organizations for a large subset of respondents to assess whether respondents' social integration depends on the social composition of the organization. Finally, the granularity of some of the data also permits addressing a common concern about measurement error in traditional survey modules on organizational involvement. Instead of lumping together a heterogeneous set of organizations under a few broad categories (e.g., sports clubs, cultural organizations, etc.), which is prone to misclassification (cf. Rap and Paxton 2021), I, in Chapter 2, use hand-coded respondents' answers to open-ended questions about respondents' voluntary involvement and derive more fine-grained types of organizations. This enables me to uncover much more of the gender segregation in civic life than would be possible with traditional data on broad categories of civic organizations.

Importantly, the contributions of this thesis not only advance our understanding of civic organizations but provide further support for the three stylized facts on social structure in the realm of civic life. My thesis shows that *inequalities in connectedness* and *homophily and segregation* extend to the context of civic life and that civic life sometimes even serves to reinforce them: Given that advantaged and well-connected individuals get involved more often, gaps in access to social capital and social connectedness are not reduced by voluntary associations. Moreover, participants sort into organizations in which they meet co-members who resemble themselves in terms of socioeconomic characteristics, ethnicity, and gender. In line with the idea of the *strength of weak ties*, it turns out that individuals with a low socioeconomic status, who are typically less likely to be involved in organizations, tend to expand their networks most. Getting in contact with high-status co-members in a leisure setting may allow them to access resources that can help them to 'get ahead'. Taken together, my thesis suggests that civic life constitutes an important piece of the larger puzzle of understanding how salient fault lines shape the structure of social life. In the spirit of cumulative social science, this thesis is thus not only guided by broader sociological theories, building on earlier studies, but its conclusions will hopefully also enrich future work about social association, inequality, cohesion, and integration (Gërxhani, De Graaf, and Raub 2022).

1.7. Overview of the Empirical Chapters

In what follows, I will briefly summarize the four empirical chapters in light of the conceptual framework. The scope of a single article does not allow for studying inequality, homophily and segregation at the front door, indoors, and at the back door for all social dimensions simultaneously. Thus, each of the four articles sheds light on one (or multiple) focal social dimension(s) of inequality (socioeconomic status, gender, ethnicity) and different elements of the conceptual framework (front door, indoors, back door). Table 1.1 illustrates which chapters

cover which framework element regarding a certain social dimension. Together, the individual chapters will paint a fuller picture of the role of inequality and homophily in civic life and address the guiding questions of this dissertation: *Who (else) is involved?* Note that three of the four chapters have been published in journal articles (Dederichs 2024; Dederichs and De Graaf 2023; Dederichs and Kruse 2023).

Table 1.1: Overview of the Empirical Chapters

	Gender	Socioeconomic Status	Ethnicity
Front door (joining)	2	3, 4, 5	4
Indoor (contact)	2	3	4
Back door (quitting)	2	5	4

Note: Chapter 5 provides a longitudinal perspective on the amount of time spent in voluntary associations among adolescents. While its empirical analysis does not directly distinguish between starting and quitting, supplemental analyses suggest that stopping involvement altogether is an important driver of the reduction of time spent in voluntary associations during adolescence.

Chapter 2 (entitled 'Gender Segregation in Civic Life: Women's and Men's Involvement in Voluntary Associations') analyzes how gendered *homophily and segregation* in voluntary associations comes about. Gender is among the most salient fault lines for social association outside the family and community activities are still carried out in line with traditional gender stereotypes. Thus, I examine how structural features of women's and men's networks outside of voluntary associations, and their endorsement of traditional gender norms influence decisions to join voluntary organizations with different gender compositions (front door). Moreover, this chapter studies patterns of indoors gender segregation whereby gender continues to structure social life even after civic participants entered an organization through the front door.

To this end, I employ data from the adult cohort of the German National Educational Panel Study (SC6-NEPS; N=5,114) and use multinomial regression models to study transitions into and out of voluntary associations within a timeframe of four years. The results reveal that gender segregation across organizations occurs predominantly when individuals join

voluntary associations through the front door, not when they terminate their involvements. The tendency towards transitions into voluntary associations in which one will belong to the gender majority is fueled by higher shares of same-gender friends. Among men, I also find that traditional gender norms are associated with stronger gender segregation. The persisting degree of gender segregation in voluntary associations reinforces the salience of gender as a fault line in social association. These findings imply that the social capital established within voluntary associations (indoors) is strongly gendered and that the activities pursued mostly align with gender stereotypes, exacerbating rather than bridging existing gender disparities.

In the third chapter (entitled 'Join to Connect? Voluntary Involvement, Social Capital, and Socioeconomic Inequalities'), I investigate how individuals' access to social capital (i.e., resources embedded in social networks) changes after they get involved in voluntary associations. Previous cross-sectional research suggests a strong link between involvement in voluntary associations and access to social capital. Yet, it remains unclear whether this correlation is driven by socialization or self-selection and how voluntary involvement affects the status composition of individuals' social capital. Thus, in this chapter, I explicitly disentangle how socioeconomic status and preexisting *inequalities in connectedness* affect who enters through the front door and how indoor social dynamics shape the socioeconomic composition of civic participants' social networks.

Here again, I rely on two waves of the German National Educational Panel Study (SC6-NEPS). I run fixed effects regression models adjusted by inverse probability of treatment weighting to estimate the effect of joining a voluntary association on individuals' stocks of social capital. Much of the cross-sectional association between voluntary involvement and social capital is driven by self-selection of social capital-rich individuals at the front door of voluntary associations; nonetheless, getting involved is generally followed by substantial increases in social capital as well. Especially, those with initially small stocks of social capital

and those with low socioeconomic status have most to gain from voluntary involvement in terms of social capital (especially high-status social capital) but are least likely to join. This implies that people indeed expand their networks indoors but that these social capital gains are heterogeneous across socioeconomic strata. On the one hand, these findings show that voluntary associations are places where low SES individuals can form bridging ties to high-status others, suggesting some integrative potential along the socioeconomic fault line. On the other hand, they highlight that individuals with lower socioeconomic status and little social capital are less likely to join, limiting their integrative potential. In sum, current patterns of voluntary involvement change inequalities in connectedness—measured by individuals' access to social capital—only to a limited extent.

The fourth chapter (entitled 'Pulling Together? Ethnic Segregation Across and Within Civic Organizations') analyzes how social dynamics indoors and at the back door of civic organizations are structured by participants' ethnic origin. Here, I pay special attention to ethnic *homophily and segregation across* and within organizations, as well as *inequalities in connectedness* of members across organizations with different ethnic compositions. I argue that the capacity of civic organizations to facilitate ties that bridge across ethnic boundaries is seriously limited by segregation dynamics across and within organizations. Previous research showed that ethnic groups typically differ in their involvement rates and that individuals tend to join organizations with larger shares of their ethnic ingroup. Yet, less is known about how ethnicity structures involvement patterns inside organizations and how it interacts with socioeconomic fault lines. Informed by ecological arguments about individuals' affiliation patterns, I link segregationist tendencies across and within voluntary associations.

I draw on data about respondents' involvement in voluntary associations and their social composition collected through two complementing modules of the Dutch LISS panel. To test the hypotheses about sorting across and within organizations, multinomial regression, linear

respondent fixed-effect regression models, and mediation analyses are employed. The results indicate that there is strong ethnic segregation across organizations whereby people are mostly involved in organizations containing large shares of ethnic in-group members, which persists after accounting for differences in educational attainment across ethnic groups and organizations. Moreover, there is ethnic segregation within organizations (i.e., indoors) in terms of which co-members participants are most frequently in touch with. Furthermore, the amount of strong and weak ties within organizations declines with the share of ethnic out-group members. This increases participants' likelihood of leaving organizations with more ethnic out-group members, reinforcing ethnic segregation across voluntary organizations through the back door. Taken together, these results suggest that homophilous sorting among civic participants seriously limits the potential of voluntary associations to bridge ethnic boundaries.

The fifth chapter (entitled 'Who Stays Involved? A Longitudinal Study on Adolescents' Participation in Voluntary Associations in Germany') analyzes how adolescents from different socioeconomic backgrounds leave organizations through the back door as they grow older, exposing disparities between these groups. Gaps in voluntary involvement between different socioeconomic groups imply that adolescents from less privileged backgrounds are systematically excluded from community networks and thus limit the potential of voluntary associations to bring youth from socioeconomically diverse backgrounds together. This paper does not focus explicitly on the social dynamics within voluntary associations. It instead analyzes how voluntary participation among adolescents with different socioeconomic backgrounds changes over time, thereby extending previous life course research on voluntary involvement to earlier life stages, which are formative for people's involvement at later stages of the life course.

The analyses rely on longitudinal data (CILS4EU and CILS4EU-DE) on 5,013 adolescents in Germany over the course of six years. Employing fixed-effects (FE) and mediated moderation models, I test hypotheses about the decline in voluntary participation. The results reveal that participation declines as adolescents grow older and that this decline is partially driven by educational transitions, especially transitions to higher tertiary education. Adolescents from higher socioeconomic strata are particularly likely to reduce their participation and leave their organizations altogether through the back door, in part because they are more likely to undergo transitions into higher tertiary education. Thus, the socioeconomic gap in participation as young people reach adulthood. In other words, participatory disparities – in itself constituting i*nequalities in connectedness* – are particularly pronounced during early adolescence when parents still have more influence on their offspring's leisure activity and educational transitions have not yet interrupted young people's voluntary involvement. This suggests that voluntary associations provide somewhat exclusive environments where youth of advantaged backgrounds can develop a civic-mindedness and ties to similar privileged peers while disadvantaged youth are often left out, especially at younger ages.[8]

I conclude this thesis with the sixth chapter, in which I summarize and integrate the results of the previous chapters. I describe how they address the aforementioned guiding research questions and also lay out their implications for the role of voluntary association within the broader debate around social integration. Finally, I discuss limitations of this thesis in conjunction with recommendations and concrete suggestions for future research on voluntary associations.

[8] In each of the empirical chapters, the main tables and figures are directly included in the text flow. Supplemental tables and figures are marked with an 'S' (e.g., Table S2 – 1) and can be found in the last subsection ('Supplement') of each chapter.

2 Gender Segregation in Civic Life: Women's and Men's Involvement in Voluntary Associations

This chapter is co-authored by Nan Dirk de Graaf and has been published in Gender & Society.

2.1. Abstract

The pervasive persistence of gender segregation has been documented in a myriad of social settings, implying that women and men primarily encounter peers of their own gender in daily life. While voluntary associations are often praised for their ability to bridge other social divides, previous research indicates substantive gender disparities in voluntary involvement. Yet we still know relatively little about the extent and origins of gender segregation in civic life. In this article, we study gender homophily in voluntary involvement and examine how structural features of friendship networks and traditional gender norms bring about gender segregation. Employing data from a German panel study (SC6-NEPS), we analyze cross-sectional patterns of gender segregation and run multinomial and binary logistic regressions to model joining and quitting transitions. Our results indicate substantive gender segregation across and within types of voluntary associations. The overall gender segregation is driven by homophilous transitions into associational contexts, not by selective quitting decisions. Gender-segregated friendship networks partially explain the tendency to join organizations dominated by one's own gender. Traditional gender norms are associated with more homophilous joining transitions among men, but not among women. Overall, these findings imply that civic life perpetuates the structural significance of gender.

2.2. Introduction

The pervasive persistence of gender segregation has been documented in different domains including workplaces, occupations, higher education tracks, as well as friendship and core discussion networks. Thus, except for the kinship setting, women and men continue to attain contexts that systematically provide more opportunities to associate with peers of their own gender in daily life (Charles 2011; England 2010; Levanon and Grusky 2016; Mehta and Strough 2009; S. Smith, Maas, and van Tubergen 2014; Tomaskovic-Devey 1993; Van Bavel et al. 2018). The persisting gender segregation slows down efforts toward gender equality because women and men typically have access to different resources through their social networks (McDonald 2011), engage in gender-typed behaviors and activities (Mehta and Strough 2009), and are encouraged by their peers to make gender-stereotypical life course decisions (Raabe et al. 2019). While much attention has been paid to how gender segregation comes about in the professional and private domain, we know relatively little about how gender is perpetuated as a social structure through people's leisure-time activities (Risman 2004, 2018).

Voluntary associations (i.e., locally bound organizations gathering people around different causes, including sports, culture, religion, and social issues) are commonly portrayed as vehicles for social capital formation and social integration that bring communities together and could potentially bridge social divides: They are in principle open to everybody and provide an institutionalized setting for cooperative action through active involvement ranging from mere participation to responsibility-carrying volunteer work (Putnam 2000). Thus, they could facilitate cross-cutting social ties among their members, provide access to social capital, and thereby improve job prospects down the line (Ruiter and De Graaf 2009). In this respect, civic life—the broad landscape of all voluntary associations—may serve to bring people from different walks of life closer to each other.

However, feminist scholars criticize such a conception of voluntary associations as all-rounded vehicles for community proliferation and point toward deeply gendered structures in civic life that solidify rather than bridge differences and inequalities between women and men. For example, Arneil (2006a) stresses that women have long been excluded from involvement in voluntary associations offering connections to individuals in powerful positions—despite their traditionally large investment in community social capital. To date, it is well documented that women and men are typically involved in different types of associations and perform different voluntary work (Gidengil and O'Neill 2006; McPherson and Smith-Lovin 1986; Messner and Bozada-Deas 2009; Norris and Inglehart 2006; Popielarz 1999; Rotolo and Wilson 2007; Wemlinger and Berlan 2016) that match broader gender stereotypes and extend traditional patterns of labor division to community life (e.g., women-dominated social care organizations, men-dominated voluntary fire brigade). Thus, voluntary associations not only constitute institutionalized settings where women and men are "doing gender" in everyday life, (publicly) giving off traditional imageries of femininity and masculinity (Messner and Bozada-Deas 2009; West and Zimmerman 1987), but they also seem to further segregate social networks by gender and hence provide different resources to women and men, solidifying broader gender inequalities (Arneil 2006a). For instance, associational contexts composed primarily of men may yield access to resources that are more valuable on the labor market (McDonald 2011; Molyneux 2002; Popielarz 1999; Son and Lin 2012).

Previous studies provide an important starting point for understanding gendered divides in civic life. However, they do not systematically examine the social processes that drive gender segregation, leaving calls for research on its structural and cultural origins unaddressed (Norris and Inglehart 2006; Popielarz 1999; Rotolo and Wilson 2007). Because these studies draw mainly on cross-sectional data on membership in relatively broad types of associations, we have no definite answer as to how and why gender segregation in civic life comes about.

Against this backdrop, our study makes two contributions. First, we corroborate and extend findings from a largely descriptive and cross-sectional literature on segregation across different types of associations (e.g., Norris and Inglehart 2006; Popielarz 1999). In doing so, we improve upon issues of measurement error in traditional voluntary participation survey modules by using respondents' open descriptions of their voluntary involvement (Rap and Paxton 2021), enabling us "to test accurately for gender effects on [the detailed] domain of volunteering" (Musick and Wilson 2008:184). We further extend this literature by examining gendered contact patterns within types of associations and assessing the role of joining and quitting transitions for overall gender segregation. Second, by studying how social networks and traditional gender norms bring about gender segregation, we examine how material and cultural factors, which are already known to structure gender inequalities in the private and professional sphere, reproduce gender as a social structure in civic life (Davis and Greenstein 2009; Ridgeway 2011; Risman 2004, 2018).

We test our hypotheses using large-scale panel data from a representative survey of adults in Germany, a country characterized by substantive gender inequalities and relatively high levels of voluntary involvement. Compared with many other European countries and the United States, in Germany, spouses are less likely to split the number of hours of paid work evenly and instead more frequently adopt a male breadwinner model involving women's part-time work. Moreover, occupational gender segregation is relatively strong, and men typically work in higher-paying occupations (Hook and Pettit 2016; Lütolf and Stadelmann-Steffen 2022), resulting in a comparatively large gender wage gap of 19 percent in Germany (Schmieder and Wrohlich 2021). Related to these persistent differences, most Germans tend to hold comparatively traditional gender ideologies within the European context (Grunow, Begall, and Buchler 2018).

Furthermore, in Germany, voluntary associations play an important role in people's leisure time and embeddedness in their local communities, as indicated by involvement rates higher than in two-thirds of European countries (Eurostat 2017), yet still lower than in the United States (Haerpfer et al. 2022). Traditionally, men participated more often in voluntary associations than women, and this gap used to be larger in Germany than in other European countries (Norris and Inglehart 2006; Peter and Drobnič 2013). Until recently, however, this gap closed almost entirely in Germany (Jacobsen et al. 2022; Simonson et al. 2021). Nonetheless, gender segregation across different types of organizations persists in Germany, as in most other countries. Although some areas of involvement are characterized by an equal representation of women and men (e.g., culture and music), many of the most popular areas are either men-dominated, such as sports, or women-dominated, such as religion, social issues, education (Norris and Inglehart 2006; Simonson et al. 2021). In short, we study the origins of gender segregation in civic life in a context characterized by high structural importance of voluntary associations and gendered patterns of voluntary involvement common in most countries.

2.3. Theory and Previous Research

In her framework "gender as a social structure," Risman (2004, 2018) shows that gender functions as a stratification system that enables and constrains actors at the individual, interactional, and macro levels but that this system is made of individuals who embody and "do" gender at the same time. In the context of civic life, this implies that both the gendered social structure and individuals' gendered selves may shape women's and men's choices regarding their voluntary involvement. Previous quantitative studies consistently demonstrate the existence of gender segregation in civic life; they show gender gaps in participation within relatively broadly defined types of associations in cross-sectional samples, but much of the segregation is not visible because segregation within these broad types is not addressed. We

systematize the analysis of gender segregation in civic life by showing that in addition to the well-known *segregation across types of associations*, there is also substantive *segregation within types of associations*, which together make up the *overall segregation* in civic life. We then distinguish between joining and quitting voluntary involvements and argue that two elements of the gender structure—gender-homophilous friendship networks and internalized convictions about gender relations—affect individuals' decisions to join associational contexts with specific gender compositions, which ultimately bring about gender segregation in civic life.

Segregation across types of associations refers to gender differences in involvement rates in different types of associations (i.e., categories of voluntary associations, such as sports or neighborhood organizations). Early work by McPherson and colleagues conceptualized such differences across types of associations as "localization" in social space (McPherson and Rotolo 1996; McPherson and Smith-Lovin 1986; Popielarz and McPherson 1995). Each type of voluntary association occupies a specific niche that attracts individuals with particular sociodemographic characteristics. Gender turned out as a particularly salient dimension in these analyses. Ever since, most research on gender segregation in civic life reports the overrepresentation of women in educational, health, religious, and social welfare associations and men's disproportional engagement in recreational, political, employment, and technical associations across countries (Inglehart and Norris 2003; McPherson and Smith-Lovin 1986; Norris and Inglehart 2006; Popielarz 1999; Rotolo and Wilson 2007; Wemlinger and Berlan 2016). We replicate and extend earlier cross-sectional research on gender segregation across types of associations by assessing the gender compositions of comparatively detailed types of associations.

Segregation within types of associations refers to gender differences in the exposure of women and men through a given type of association. That is, on top of women's and men's sorting

into different types of organizations, their attainment of specific associational contexts within organizational types (i.e., formal or informal subunits of an association, such as a team within a sports club or a socializing group within a religious organization) may induce additional gender segregation in civic life, which has been overlooked by previous quantitative research. For example, in a given type of organization, women may be more likely than men to encounter predominantly women, i.e., attain a women-dominated associational context, because they are (1) involved in a particular association of that type targeted at their own gender (e.g., women's choir), (2) involved in a subunit of an association of that type targeted at their own gender (e.g., women's team in a gender-integrated soccer club), or (3) engage in gender-stereotypical volunteer tasks that bring them in contact with other women in that association (e.g., preparing food in sports clubs; see Messner and Bozada-Deas 2009; Rotolo and Wilson 2007). In short, gender remains a salient boundary for social association even when women and men join the same type of association. We thus analyze gender differences in contact with women and men within the most popular types of associations.

Together, segregation across and within types of voluntary associations characterizes *overall segregation*: Gender differences in the exposure to women and men across different types of associations capture gender segregation in civic life in general. This overall level of segregation increases if women and men show stronger tendencies to be involved in different types of associations and if the extent to which they encounter mostly co-participants of their own gender through a given type of association rises. We focus on the overall segregation when testing our hypotheses because it assesses the general role of civic life in perpetuating gendered structures.

2.3.1. Joining and Quitting

Overall gender segregation in civic life can come about as individuals selectively *join* and *quit* associational contexts with different gender compositions—two distinct processes affected by

different parameters (McPherson and Rotolo 1996; Rotolo 2000; Wiertz 2016): Individuals may be more likely to join associational contexts with many co-participants of their own gender because they already know more existing members and follow their preferences for gender-stereotypical activities. By contrast, quitting is rather affected by the social dynamics inside voluntary associations. Because individuals tend to form ties to others who are similar to themselves, participants may find it more difficult to integrate into organizations in which they belong to the gender minority and drop out at higher rates, as suggested by ecological approaches (McPherson et al. 1992; Popielarz and McPherson 1995). We might additionally suspect higher quitting rates among women in men-dominated contexts because of discriminatory organizational structures (Cortina et al. 2013).

The most established drivers of occupational gender segregation—gendered hiring preferences and discrimination, as well as employees' stereotypical preconceptions about skills and occupations (Ridgeway 2011)—however, typically operate when individuals enter occupations, but selective exits induce segregation, too (Block 2023). Thus, it is important to pinpoint whether joining or quitting transitions induce segregation in civic life: If joining matters, organizational recruitment practices and individuals' gendered preconceptions of organizations may be potential leverages for social change; if quitting matters, gendered dynamics within organizations and their consequences for early dropouts could be further investigated to improve durable mixing in organizations. To assess the relative importance of starting and quitting transitions for gender segregation, we test two hypotheses:

H1a: Women are more likely than men to join women-dominated associational contexts; men are more likely than women to join men-dominated associational contexts.

H1b: Women are less likely than men to quit their involvement in women-dominated associational contexts; men are less likely than women to quit their involvement in men-dominated associational contexts.

We now turn to the drivers of the gendered joining transitions. Here, previous research went little further than observing that sociodemographic characteristics, such as higher age, lower education, and a lack of employment, are associated with membership in gender-segregated (vis-à-vis gender-integrated) voluntary associations (McPherson and Smith-Lovin 1986; Popielarz 1999). We thus investigate how the gendered structure of friendship networks and gender norms—representing material and cultural aspects of the gender structure (Risman 2004, 2018)—bring about gender segregation in civic life.

2.3.2. Friendship Networks

Social networks play a crucial role for involvement in voluntary associations and might be an important driver of segregation therein. Roughly half of the volunteers in Germany indicate that they started their involvement after being asked by others (Müller et al. 2017). The larger the individuals' social networks are, the more likely they are to be tied to others who are involved in or know about voluntary associations. Especially friendship ties to volunteers should encourage one's own probability of getting involved in at least four ways. First, involved friends provide access to (cultural) resources embedded in their voluntary associations, which may be a prerequisite for participation: Friends can serve as role models, for instance, by playing soccer and sparking a desire for it among their friends. Second, friends provide valuable information about possibilities of getting involved, thereby reducing the costs of finding the right voluntary association (e.g., time and effort). Third, they can enforce norms and expectations that encourage voluntary involvement and even involve the sanctioning of noninvolvement. Finally, people may evaluate voluntary involvement as more rewarding if their friends participate as well. In sum, the chances of being recruited are higher for people

with more friends or larger core discussion networks, as supported by previous research (Bekkers et al. 2008; McPherson et al. 1992). These mechanisms should particularly operate among strong ties, such as close friends who exert more influence on individuals' decisions than superficial acquaintances.

We apply these insights to study the causes of gender segregation in voluntary associations. In doing so, we shift the focus away from the link between network size and the propensity to be involved (in any voluntary association) to the relation between the gender composition of individuals' friendship networks (outside of the voluntary association) and the gender composition of the associational contexts they join. We argue that individuals get selectively recruited for those voluntary associations their friends are involved in. Thus, because of the gender-segregated nature of close friendship networks (e.g., Mehta and Strough 2009), women and men might join associational contexts dominated by their own gender: Gender-segregated friendship networks systematically enable and constrain women (men) in acquiring cultural resources related to and information about women-dominated (men-dominated) associational contexts. Moreover, they expose women and men to role models and norms that encourage involvement in these associations.

H2: The overall gender segregation in civic life can partly be explained by the gender composition of joiners' close friendship networks.

2.3.3. Gender Norms

Gender norms can be described as "ideas about how women and men should be and act" (European Institute for Gender Equality 2021). They encapsulate attitudes toward women's and men's social roles in daily life and are linked to beliefs related to gender (anti)egalitarianism—"attitudes privileging men over women" (Knight and Brinton 2017:1486)—and gender essentialism—the notion that women and men have innately

different skills and interests. Together, anti-egalitarian attitudes and essentialist beliefs establish a cognitive framework of gender norms under which women and men are expected to adhere to different social roles. These preconceptions shape individuals' understandings of their gendered selves and thus contribute to the structural significance of gender: Gender norms affect math performance (Salikutluk and Heyne 2017), choices of higher education tracks (Raabe et al. 2019), and employment patterns (Steiber and Haas 2012), ultimately contributing to gender segregation across educational tracks and occupations (Charles and Bradley 2009). In the context of civic life, we argue that individuals holding traditional gender norms should display more gender homophily when joining voluntary associations, building on arguments relating to the gendered perception of voluntary activities and the extension of existing social roles.

First, traditional gender norms might narrow the set of voluntary associations which are perceived as suitable for oneself. Akin to occupations, voluntary associations usually feature specific skills and target particular interests stereotypically associated with masculinity or femininity (Levanon and Grusky 2016; Rotolo and Wilson 2007). Religious, social care, and welfare organizations are often seen as encouraging stereotypically feminine traits such as nurturance, sensitivity, and supportiveness. Stereotypically masculine traits such as technical expertise, assertiveness, and physical strength are typically seen as more relevant in technical assistance organizations and many sports clubs. Within the broader domain of sports, there is widespread agreement on which sports are "masculine" (e.g., soccer, handball), "feminine" (e.g., gymnastics, dancing), or "neutral" (e.g., swimming). Whereas masculine-typed characteristics, such as strength, aggressiveness, or physical contact, are required by masculine sports, feminine sports feature feminine-typed characteristics, including aesthetics, expressivity, or grace (Chalabaev et al. 2013; Hardin and Greer 2009). Next to these essentialist perceptions, anti-egalitarian convictions might encourage women to join

associations that directly serve people in their community (e.g., social care) and men to join associations related to powerful positions (e.g., local political parties).

We argue that the more individuals internalize traditional gender norms about different roles of women and men, the more they view definitions of masculine and feminine voluntary activities as binding and are convinced that they will not be suited for or excel in gender-atypical activities. Moreover, they may be more inclined to infer the suitability of an associational context based on its gender composition and thus display a stronger tendency to restrict themselves to associational contexts dominated by their own gender. In line with these ideas, Norris and Inglehart (2006) found that individuals endorsing traditional gender norms are involved in fewer voluntary associations.

Second, gender norms affect how couples divide domestic and paid labor, which has implications for their involvement in voluntary associations. A review by Davis and Greenstein (2009) suggests that "the division of household labor in heterosexual couples . . . is related to the woman's gender ideology, the man's gender ideology, or both." A more traditional division of labor suggests gender-typed responsibilities according to which the woman's role is centered mostly around obligations surrounding domestic labor and (child)care, whereas the man's role is focused primarily on paid labor. These responsibilities are often extended in instrumental voluntary associations, such as parents' organizations and elderly/disabled care organizations vis-à-vis unions and professional organizations (Rotolo and Wilson 2007). Taken together, we expect segregation in joining transitions to be stronger among individuals holding more traditional gender norms.

H3: Gender segregation in joining transitions is stronger among individuals who hold traditional gender norms.

2.4. Data and Measures

We employ data from the adult cohort of the German National Educational Panel Study (SC6-NEPS; FDZ-LIfBi 2020) containing detailed information on respondents' involvement in up to three voluntary associations at two time points, t1 and t2 (i.e., 2013/14 and 2017/18) (Blossfeld, Roßbach, and von Maurice 2011). Respondents indicated in an open question the name or the detailed type of their voluntary association(s) (e.g., "Red Cross" or "Volleyball club") as well as a short account of the pursued activities and roles. For each respondent, we determined whether the descriptions of their voluntary involvement at t1 and t2 refer to the same or different associations and whether an involvement was started (not mentioned at t1, mentioned at t2), quit (mentioned at t1, not mentioned at t2), or sustained (mentioned at t1 and t2). We then categorized all affiliations into 43 distinct types of associations (see Table S2 - 1). Recent work suggests that respondents' own descriptions are considerably less error-prone compared with classical survey schemes, which often contain up to 25 percent misclassified affiliations (Rap and Paxton 2021). Moreover, allowing respondents to freely name a voluntary engagement avoids the bias toward more traditional forms of voluntary involvement that is common in many studies (Arneil 2006a). Additionally, the SC6-NEPS data contain information about the gender composition of respondents' associational context: the share of women among the co-participants one encounters in a given association (with the response categories: none, almost none, less than half, approximately half, more than half, almost all, and all). By assessing the gender composition of those co-participants our respondents come in contact with (e.g., players in one's soccer team) instead of the entire association (e.g., including the opposite gender teams one never interacts with), we get a more accurate measure of the gendered opportunity structure for the formation of meaningful ties in their specific associational context. In our analyses, we distinguish between men-dominated (less than half of one's fellow participants are women), gender-integrated (half of one's fellow participants

are women), and women-dominated associational contexts (more than half of one's fellow participants are women).[9]

Based on this information from two time points, we constructed a variable capturing respondents' joining transitions ("no new affiliation" [reference], "join a men-dominated associational context," "join a gender-integrated associational context," "join a women-dominated associational context"). Moreover, we determined for those who were involved at t1 whether they "remained involved" (reference) or "quit" their involvement. Multiple transitions can take place simultaneously (e.g., quitting one association while joining another one) but only five percent of the respondents in our sample underwent multiple transitions of the same type (i.e., joining two associations or quitting two associations). Among them, we select the transition of the voluntary association in which the respondent spent more time. Table S2 - 2 illustrates how the transition variables capture different affiliations at t1 and t2.

The gender composition of respondents' friendship network is assessed by the question, "How many of your close friends are women?" (response categories: none, almost none, less than half, approximately half, more than half, almost all, and all), which we treat as categorical in our analyses. Gender norms are measured with individuals' responses to the following five statements on four-point scales ranging from "strongly disagree" to "strongly agree": "Men are better suited to some jobs than women," "The share of women in politics should be as high as that of men," "Men and women should have the same duties in the home," "Women can use technical devices as well as men," and "It's the man's task to earn money and the woman's task to take care of the household and the kids." As in other studies (e.g., Salikutluk and Heyne 2017), we recoded the responses so that higher values indicate more traditional gender norms

[9] The reduction to three categories was necessary to ensure a sufficient number of involved women and men in each category.

and summarized them in an additive index ranging from 0 (most egalitarian) to 15 (most traditional). Principal component analysis confirmed that our items form a single factor with an eigenvalue above 1 (see Table S2 - 3). The factor loadings of each item exceed 0.3, which is often regarded as the threshold for reliable results (Hair et al. 1998).

Besides our main variables of interest, we control for respondents' age (in years), education (no university degree [reference], university degree), religiosity (not at all religious to very religious), place of residence (Western Germany [reference], Eastern Germany), occupational status (full-time employed [reference], part-time employed, in education, domestic work, retired, and unemployed),[10] place of birth (Germany [reference], abroad), and the presence of children 0–5, 6–13, and 14–18 years old in the household (no [reference], yes). All independent variables were measured before transitions into and out of voluntary associations took place, at or before t1, ruling out the possibility of reversed causality. Our analytic sample for the dynamic analysis consists of 2,526 men and 2,740 women with valid responses on all relevant variables who participated in the survey at both t1 and t2 (see Table S2 - 4). For the cross-sectional description of gender segregation across and within types of associations, we used all 4,947 observed affiliations nested within 3,636 voluntarily involved individuals at t1. At t1, respondents are between 26 and 69 years old.

While the NEPS data provide a great level of detail about individuals' voluntary involvement, it lacks information on the gender composition of individual voluntary associations (vis-à-vis types of associations and associational contexts). Such information would help to further disentangle the segregationist processes. Relying on types of associations will always contain some level of arbitrariness as to how these types are constructed—either when designing

[10] We used a do-file that identifies the main occupational activity at a given time from the NEPS spell data (Rompczyk and Kleinert 2017).

closed survey modules or when classifying responses to open survey questions. Nonetheless, we improve upon previous research by being transparent about how we construct these categories and leveraging information about contact patterns within associational contexts (see Table S2 - 1 and Table S2 - 2; Rap and Paxton 2021).

2.5. Analytic Approach

Our analysis involves three steps. First, we disentangle gender segregation *across* and *within* types of associations cross-sectionally. In doing so, we assess the gender composition of fine-grained types of associations as well as respondents' exposure to women and men through their associational contexts within these types of associations. Second, we analyze women's and men's joining and quitting probabilities for men-dominated, gender-integrated, and women-dominated associational contexts using regression models to test our hypotheses on selective joining and quitting (H1a and H1b). Third, we calculate women's and men's predicted probability differentials for joining men-dominated vis-à-vis women-dominated associational contexts. We analyze to which extent the gender composition of their friendship networks can account for the observed differences (H2) and whether the predicted probability differentials are associated with individuals' gender norms (H3).

The joining and quitting models rely on different samples "at risk" of undergoing the respective transition. While all respondents could potentially join an additional voluntary association between t1 and t2, only those who were involved at t1 can potentially quit their involvement. To study segregation in starting transitions, we run a multinomial regression estimating the log odds of joining an associational context with a particular gender composition depending on an individual's own gender (β_1), as shown in Equation 1 (Wiertz 2016). Joining no additional association constitutes the reference category (S_i=0). β_0 denotes the regression constant and denoted the gender coefficient; β_2 denotes a vector of coefficients for the selected set of covariates:

Equation 1: $\log\left(\frac{P(S_i=c)}{P(S_i=0)}\right) = \beta_0 + \beta_1 woman_i + \beta_2 X_i$

$with\ c \in \{men-dominated, gender-integrated, women-dominated\}$

To study segregation in quitting transitions, we estimate a binary logistic regression modeling the logged odds of quitting a voluntary involvement observed at t1 before the second interview at t2 vis-à-vis staying involved, as shown in Equation 2 (Wiertz 2016). The predictor variables include one's own gender (β_1), the gender composition of people one comes in contact with through the voluntary association at t1 (β_2), as well as the interaction of these terms (β_3), which allows the gender coefficient to vary by the composition. β_4 denotes a vector of coefficients of control variables. From these models, we derive average predicted probabilities of joining and quitting associational contexts with different gender compositions:

Equation 2: $\log\left(\frac{P(Q_i=1)}{P(Q_i=0)}\right) = \beta_0 + \beta_1 woman_i + \beta_2 c_i + \beta_3 c_i woman_i + \beta_4 X_i$

$with\ c \in \{men-dominated, gender-integrated, women-dominated\}$

It is important to note that our models cannot completely rule out potential confounding of unobserved variables. For example, a latent preference to socialize with women may positively affect the share of women in one's friendship network and one's probability of joining a women-dominated organization. However, such a preference is, to a large extent, the result of the gender composition of one's friendship network, so controlling for it would in fact suppress parts of the effect of interest. Yet, because we observe and account for a range of meaningful control variables and can credibly preclude the possibility of reversed causality, we are confident that our results provide informative estimates of the impact of different elements of the gender structure on segregation in civic life.

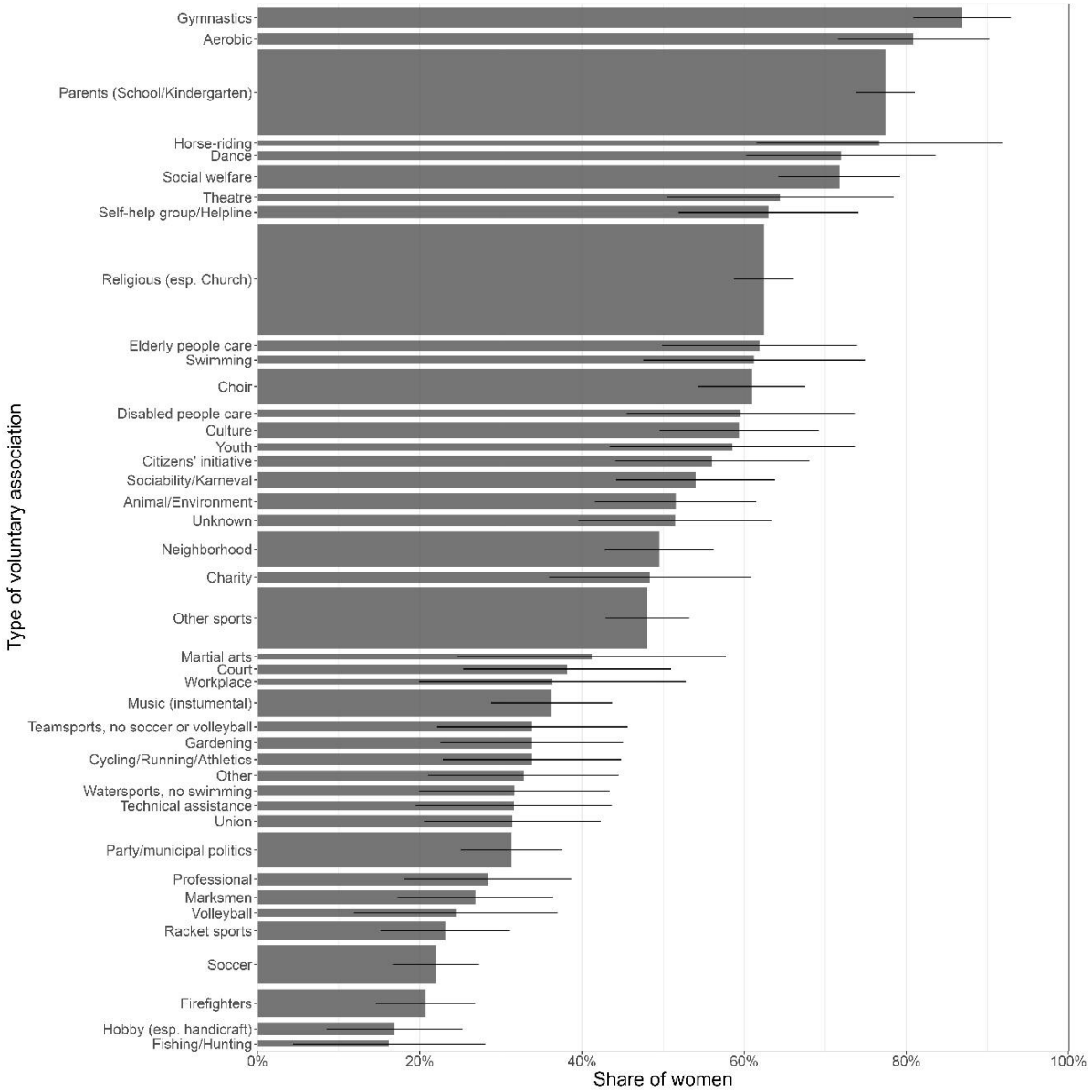
Additionally, our analytic approach does not capture any information about shorter involvement spells that begin and end between the two time points of the data collection.

Although this implies that we likely underestimate the share of individuals who join associations between t1 and t2, we do not expect that this would threaten our main conclusions: Both previous research (Rotolo 2000) and our quitting analysis suggest only minor differences in the duration of women's and men's involvement spells in women-dominated or men-dominated associational contexts. Nonetheless, in an additional set of analyses, we substituted the joining transitions with static involvement at t1 as the dependent variable. The findings match the results of the original analyses very closely, implying that overlooking short-lived involvements is unlikely to introduce major bias to our analyses (see Figure S2 - 1, Figure S2 - 2, and Table S2 - 5).

2.6. Results

Women and men are involved in civic life at similar rates (47 percent of women and 48 percent of men at t1; see Table S2 - 4). Yet Figure 2.1 reveals that different types of associations vary considerably in their gender composition. The width of the bars indicates the frequency at which each type of association was mentioned by the respondents. Women are overrepresented in parents', social care, and religious associations, indicating an extension of domestic care responsibilities. By contrast, men are disproportionally involved in political, employment, hobby, and technical associations featuring more agentic activities. Whereas men are also overrepresented in most sports associations offering team or racket sports, women constitute the majority of participants in gymnastics, aerobics, horse-riding, and dancing clubs. Most types of community and social associations have rather even gender distributions (neighborhood, sociability/carnival, and youth associations).

Figure 2.1: Share of Women Among Participants Across Different Types of Voluntary Associations



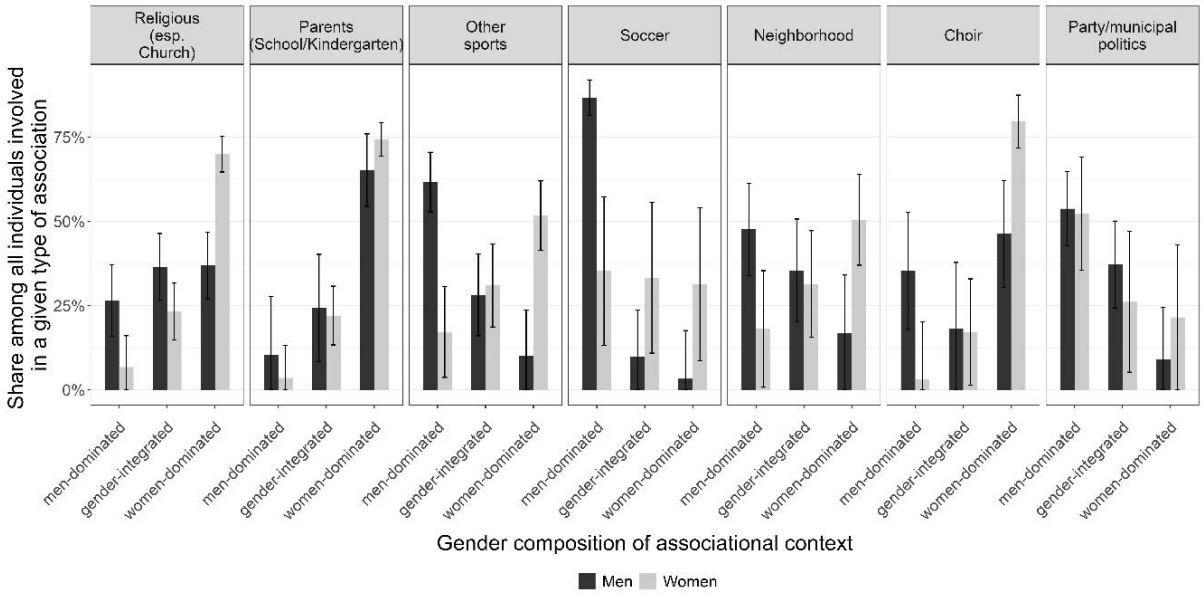
Note: Figure 2.1 is based on all available affiliations in the SC6-NEPS data set at t1 (4,947 affiliations nested within 3,636 respondents). In each type of association, at least 40 respondents are involved. Error bars represent 95% confidence intervals. The category "Unknown" refers to individuals for whom we could not identify the type of voluntary association because they only indicated their voluntary role (e.g., "treasurer"). The width of each bar reflects how many respondents indicated involvement in a given type of association. See Table S2 - 1 for a detailed description of the different types of associations.

We now turn to *segregation within types of associations* showing differences between women and men in their immediate exposure to co-members of their specific association, which would remain overlooked if only the gender distribution of different types of organizations was concerned. Figure 2.2 reveals strong gender segregation within five of the seven most

frequently mentioned types of associations.[11] For example, in religious associations, in which women tend to be overrepresented on average (see Figure 2.1), women more often attain women-dominated (70 percent) than gender-integrated (23 percent) or men-dominated associational contexts (7 percent). By contrast, men attain women-dominated (37 percent), gender-integrated (26 percent), and men-dominated contexts within religious associations (37 percent) at similar rates. There is also substantive gender segregation within neighborhood associations, which are, on average, characterized by relatively equal representation of women and men (see Figure 2.1). Both women and men are involved predominantly in associational contexts dominated by their own gender (see Figure 2.2). Similar patterns of segregation are apparent among soccer clubs, other sports associations, and choirs. They deviate substantively from a scenario in which women and men sort randomly into associational contexts implying that strong sorting mechanisms are at work within these types of associations. By contrast, in political and parents' associations, women and men are equally likely to be involved in men-dominated, gender-integrated, or women-dominated associational contexts, respectively. These types of associations might offer less scope for internal differentiation of women and men because their activities are largely organized around a relatively narrow set of tasks and advocacy efforts. In sum, however, Figure 2.2 suggests strong gender segregation within most types of associations.

[11] Similar analyses for types of associations with fewer involved respondents should be taken with caution due to limited statistical power.

Figure 2.2: Share of Women and Men in Men-Dominated, Gender-Integrated, and Women-Dominated Associational Contexts Within Seven Types of Associations



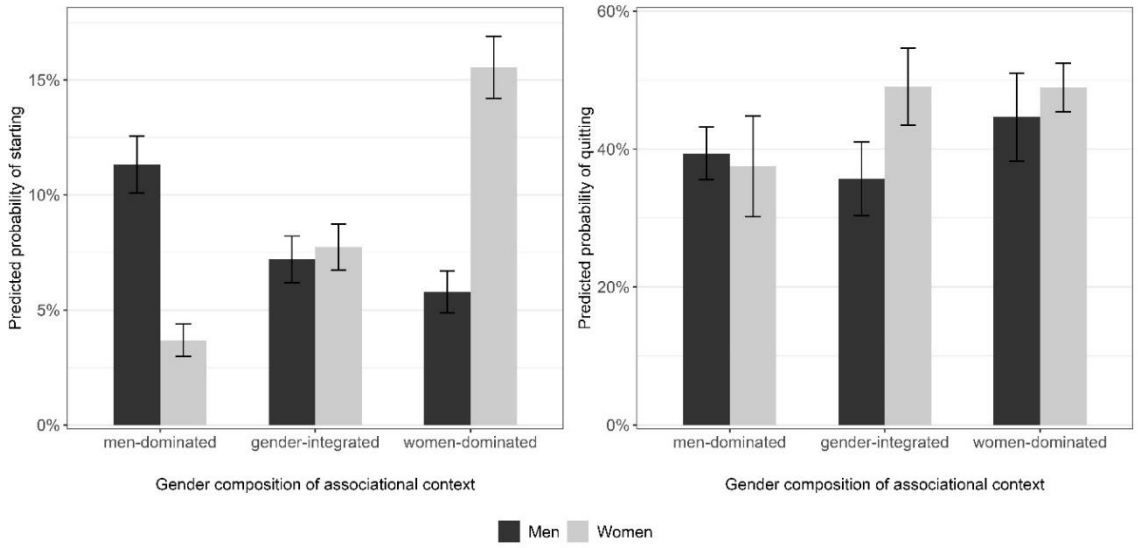
Note: The bars show the probability of being involved in a men-dominated, gender-integrated, or women-dominated associational context, conditional on being involved in the given type of association. Error bars represent 95 percent confidence intervals. The types of associations are ordered by the frequency at which they were mentioned by respondents, $N_{\text{Religious (esp. Church)}} = 662$, $N_{\text{Parents (School/Kindergarten)}} = 509$, $N_{\text{Other Sports}} = 362$, $N_{\text{Soccer}} = 232$, $N_{\text{Neighborhood}} = 212$, $N_{\text{Choir}} = 210$, and $N_{\text{Party/municipal politics}} = 210$.

Taken together, Figure 2.1 and Figure 2.2 suggest that segregationist patterns *across* and *within* types of associations work in tandem to divide civic life along gendered lines, underlining the structural importance of gender for people's leisure-time activities. It turns out that civic life is overall almost as strongly segregated as the close friendship networks observed in our data, implying that the capacity of voluntary associations to facilitate contact across gendered divides is seriously limited. That is, co-participants encountered in voluntary associations are nearly as likely to be of one's own gender as close friends are (see Figure S2 - 3).

To test our hypotheses about how gender segregation in civic life comes about, we now turn to a dynamic assessment of transitions into and out of associational contexts. Figure 2.3 shows women's and men's predicted probabilities of these transitions derived from multinomial and

binary logistic regression models containing only gender as a predictor.[12] In support of H1a, the left panel reveals that men and women systematically join voluntary associations through which they encounter people of their own gender. Men are about three times (or 8 percentage points) more likely than women to join men-dominated associational contexts ($p < .001$). Conversely, women are about 2.7 times (or 10 percentage points) more likely than men to join women-dominated associational contexts ($p < .001$). There are no meaningful gender differences in terms of joining gender-integrated associational contexts.

Figure 2.3: Starting and Quitting Transitions in Associational Contexts



Note: The underlying multinomial (left panel) and binary (right panel) regression models predict the probability of joining (left panel) and quitting (right panel) different associational contexts solely based on respondents' gender (see Table S2 - 6, Table S2 - 7, Table S2 - 8, Figure S2 - 4, and Figure S2 - 5). The bars depict average predicted probabilities, and the error bars represent 95 percent confidence intervals. The predicted probabilities for starting "no new affiliation" (reference category) is 76 percent among men and 73 percent among women (vis-à-vis 24/27 percent for starting any kind of affiliation) and are not shown in the left panel. The general likelihood of quitting (subsuming men-dominated, gender-integrated, and women-dominated associational contexts) is 64 percent among women and 55 percent among men (see Table S2 - 4).

If—in line with H1b—quitting transitions were a major source of gender segregation in voluntary associations, we would expect that men are more likely than women to quit women-

[12] Taking all control variables into account does not change the results meaningfully (see Table S2 - 6, Table S2 - 7, Table S2 - 8, Figure S2 - 4, and Figure S2 - 5).

dominated associational contexts and less likely to quit men-dominated associational contexts. However, the right panel of Figure 2.2 clearly deviates from this expectation. In men-dominated associational contexts, women and men are just as likely to quit their involvement (5 percentage point difference, $p = .658$). Similarly, there is no marked gender gap in the quitting propensity in women-dominated associational contexts (4 percentage points, $p = .250$). In gender-integrated associational contexts, however, we observe that women are about 1.4 times (or 13 percentage points) more likely to quit than men. This risk difference is considerably smaller than the differences in joining women-dominated and men-dominated associational contexts (3 and 2.7 times, respectively). Given the clear support for H1a and the lack of support for H1b, we conclude that selective starting, but not selective quitting, brings about gender segregation in civic life.

In Table 2.1, we turn to the drivers of selective joining by showing the differences in the predicted probabilities of joining a men-dominated versus a women-dominated associational context. Larger (absolute) differences correspond to stronger segregation. In the first row, these probability differentials are derived from the same baseline model as Figure 2.2, which contains only gender as a predictor. To illustrate, men's probability of joining a men-dominated associational context is 11.3 percent, and their probability of joining a women-dominated associational context is 5.8 percent. Thus, men are 5.5 percentage points more likely to join a men-dominated vis-à-vis a women-dominated associational context—a substantial difference given the probability of joining any associational context of 24 percent. Women's joining transitions are even more segregated than men's: They are 11.8 percentage points less likely to join a men-dominated vis-à-vis a women-dominated associational context, given an overall joining probability of 27 percent.

Table 2.1: Predicted Probability Differentials of Joining a Men-Dominated Versus a Women-Dominated Associational Context

	Men		Women	
	Predicted probability differential	SE	Predicted probability differential	SE
Baseline	0.055***	0.008	–0.118***	0.008
Baseline + networks	0.038***	0.009	–0.101***	0.009
Difference	0.017***	0.005	–0.017***	0.004
Relative reduction	31 %		14 %	
Overall probability of starting	0.24		0.27	

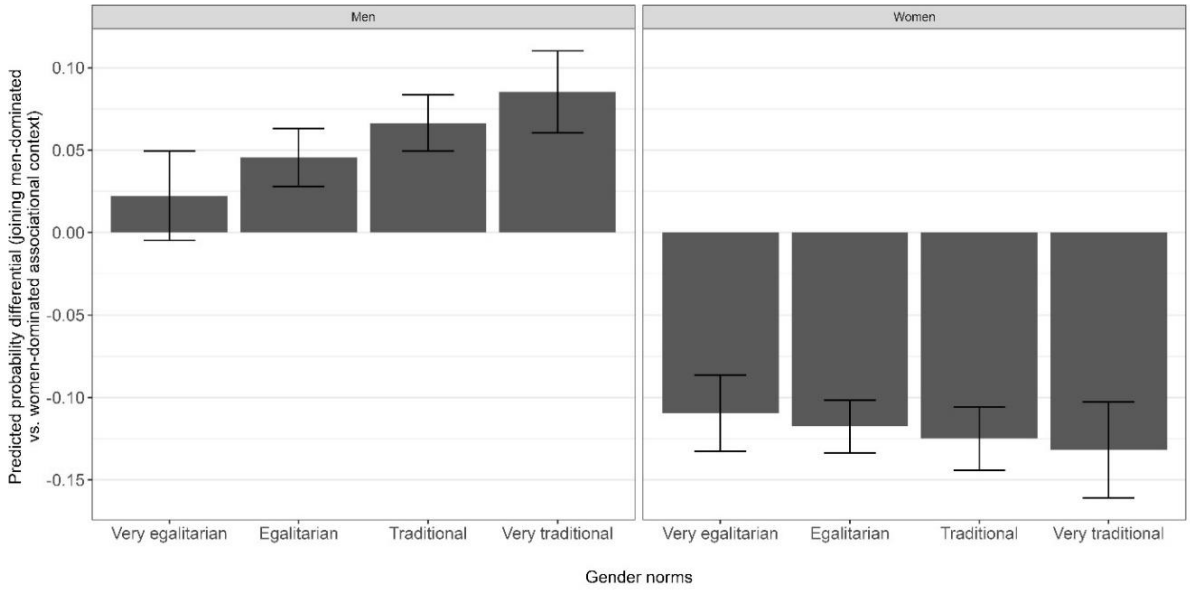
Note: ***Wald test for network variable is significant at $p < 0.001$. The delta method is applied to approximate the relevant standard errors for the probability differentials. The predicted probability differentials are derived from a set of multinomial regression models with gender as the only baseline independent variable (N = 5,266). Supplementary analyses suggest that the composition of people's social networks is not related to the probability of not joining any voluntary association.

If the observed gender segregation in joining transitions is driven partly by differences in women's and men's friendship networks (H2), the absolute differences in the probabilities to join men-dominated vis-à-vis women-dominated associational contexts should shrink after including the friendship network variable in the multinomial regression model. The second row of Table 2.1 supports this idea: After accounting for the gender composition of people's friendship networks, the differences in the predicted probabilities of joining a men-dominated vis-à-vis a women-dominated associational context amount to 3.8 percentage points among men and –10.1 percentage points among women. The difference between the two model specifications of 1.7 percentage points among both men and women suggests that differences in the gender composition of friendship networks account for about 31 percent of the segregation in joining transitions among men and for about 15 percent among women. Note that we excluded further control variables from the analysis to avoid overcontrolling for correlates of the gender composition of one's network, but adding them to the model does not change the results in any meaningful way (see Table S2 - 8 and Figure S2 - 4).

In Figure 2.4, we show the differences in predicted probabilities across quartiles of the gender norm index. Men in the most traditional quartile are 8.5 percentage points more likely to join men-dominated vis-à-vis women-dominated associational contexts. In contrast, this difference

is significantly smaller among those holding egalitarian (4.6 percentage points, difference between probability differentials = 3.9 percentage points, $p = 0.006$) or even very egalitarian gender norms (2.2 percentage points, difference between probability differentials = 6.3 percentage points, $p < 0.001$). Women join women-dominated vis-à-vis men-dominated associational contexts, as indicated by the negative predicted probability differentials. Yet the strength of these differences differs only to a limited and statistically insignificant degree across gender norm quartiles (e.g., the difference in probability differentials between very egalitarian and very traditional gender norm quartiles equals 2.3 percentage points, $p = .210$). In sum, we find support for H3 among men, but not among women.

Figure 2.4: Predicted Probability Differentials of Joining a Men-Dominated Versus a Women-Dominated Association



Note: The bars reflect the size of the predicted probability differential of joining a men-dominated versus a women-dominated associational context. For both women and men, the sample is divided into four quartiles depending on their gender norm index (labeled "very egalitarian," "egalitarian," "traditional," and "very traditional"). Error bars represent 95 percent confidence intervals. The underlying model does not contain any of the control variables, but introducing them does not change the results markedly (see Figure S2 - 5). Supplementary analyses also suggest that the people's gender norms are not related to the probability of not joining any voluntary association.

2.7. Discussion

The pervasive persistence of gender segregation in social settings, such as occupations, workplaces, and friendship networks, inhibits social association between women and men and thereby slows down efforts toward gender equality. Voluntary associations are often celebrated for their capacity to bridge social divides that prevail in these other domains by facilitating contact between people with different sociodemographic characteristics. Yet their capacity to bridge gendered divides is usually limited. Because previous research has typically been restricted to showcasing gender gaps in different types of associations (e.g., Norris and Inglehart 2006), questions remain about how gender segregation in civic life comes about and which role different elements of the gender structure play in this process (Risman 2004, 2018). In this article, we, therefore, analyzed detailed survey data to get a fuller picture of gender segregation in civic life and to assess its underlying reasons, which suggest strong links to gender inequalities in other domains.

In the descriptive part of our analysis, we find evidence for substantive *gender segregation across types of associations* using a detailed classification scheme: Political, hobby, and employment associations are composed primarily of men, whereas women are overrepresented in parents', social care, and religious associations. Sports associations are strongly segregated according to traditional conceptions of masculine- and feminine-typed sports. These patterns align with and expand upon findings of earlier studies on gender segregation in civic life (e.g., Norris and Inglehart 2006) and parallel women's and men's sorting into occupations featuring skills stereotypically associated with a particular gender (e.g., Levanon and Grusky 2016). Because women and men extend their respective involvement in care and paid work to voluntary associations, the gendered division of labor within households becomes more visible to others, potentially solidifying norms about women's and men's roles throughout the community.

There is also widespread *gender segregation within types of associations*. Within five of the seven most popular types of associations (i.e., religious organizations, soccer clubs, other sports clubs, neighborhood organizations, and choirs), women and men disproportionally encounter co-participants of their own gender. By contrast, we find little evidence for segregation within parents' and political associations. This suggests that instrumental associations may be less gender-segregated than expressive ones because participants work more strongly together toward a well-defined goal (e.g., the welfare of their children in school). In sum, however, these patterns demonstrate that sorting processes across and within fine-grained types of organizations jointly produce the overall gender segregation in civic life, which prevents women and men from "encountering one another as peers in the same position"—much like in the field of occupational and workplace segregation (Ridgeway 2011:97).

Furthermore, our results suggest that *overall gender segregation in civic life* is driven by selective joining rather than quitting transitions. Women and men systematically select into associational contexts in which their own gender is overrepresented. Especially among men, much of this tendency can be explained by the composition of their friendship network, supporting the notion that groups maintain their homogeneity because new members are recruited through homophilous social networks (McPherson and Rotolo 1996; McPherson and Smith-Lovin 1986). Thus, as in the labor market, gender-homophilous informal connections draw women and men into different organizational contexts, thereby inducing segregation (McDonald 2011; Trimble and Kmec 2011). Moreover, we find that the tendency to opt for men-dominated associational contexts is stronger among men holding traditional gender norms, paralleling associations of gender norms with more gender-stereotypical fields of study (Raabe et al. 2019), occupations (Steiber and Haas 2012), and household division of labor (Davis and Greenstein 2009). However, no such patterns are present among women. The

explanatory power of friendship networks and gender norms might be weaker among women because their care work-related voluntary involvement is closely tied to their children, and women often establish connections to voluntary associations regardless of their gender composition (e.g., parents' organizations or children's leisure associations) (Einolf 2018). Thus, their voluntary involvement depends more on the connections established by their children and is less contingent on their friendship networks or gender norms.

Taken together, our results underscore that gender manifests itself as a social structure in civic life (Risman 2004, 2018). Women and men are socialized into preconceptions of stereotypically feminine and masculine leisure activities and responsibilities related to their gendered selves and socialize predominantly with people of their own gender in daily life. These broader cultural and material structures guide their decisions to join organizations in which they "do" gender (West and Zimmerman 1987). We show that gender segregation across organizational contexts can persist even in the absence of mechanisms related to hiring discrimination, gendered sorting into educational tracks, and devaluation of feminine occupations, which are often cited as powerful drivers of occupational segregation (Ridgeway 2011).

2.8. Conclusion

Overall, gender segregation in civic life may thus further solidify the structural significance of gender in society. Civic life often perpetuates stereotypes and structural gender inequalities, which may hinder gender equality in other domains, too. For example, observing women in school-related organizations and men in the voluntary fire brigade may encourage children to unconsciously internalize stereotypical gender ideologies from an early age. Moreover, if women and men participate in different associational contexts, gender inequalities in access to social capital and related outcomes are potentially exacerbated (McDonald 2011; Popielarz 1999; Trimble and Kmec 2011). Efforts to build communities in which everyone can thrive

should thus be informed by evidence about the integration of women and men into voluntary associations and the underlying mechanisms of gender segregation in civic life, as provided, for example, in the present study (Arneil 2006a).

We encourage further research on gender segregation in civic life: Future work could test to which degree our findings in the German context are replicated in other countries. Moreover, studying multidimensional sorting mechanisms in civic life would improve our knowledge of how gender intersects with racial and socioeconomic fault lines. Finally, analyzing the implications of gender segregation in civic life for structural features of women's and men's social networks and gender gaps in social capital could further enrich our understanding of how gender operates as a social structure in civic life and beyond.

2.9. Supplement

This supplement consists of six parts. 2.9.1: Categorization and Coding of Voluntary Associations; 2.9.2: Principal Component Analysis; 2.9.3: Information about the Analytic Sample; 2.9.4: Cross-sectional Analysis of Gender Segregation; 2.9.5: Comparing Gender Segregation in Civic Life with Friendship Networks; and 2.9.6: Supplementary Information on Figure 2.3, Figure 2.4, and Table 2.1.

2.9.1. Categorization and Coding of Voluntary Associations

Most studies on voluntary involvement rely on surveys that use a list of a few predefined types of voluntary organizations to survey respondents' voluntary engagement. However, these conventional survey items would not allow us to accurately track gender segregation in civic life. For example, the GSS item reads: "*We would like to know something about the groups and organizations to which individuals belong. Here is a list of various kinds of organizations. Could you tell me whether or not you are a member of each type?"* The types then include

fraternal groups; service clubs; veterans' groups; political clubs; labor unions; sports groups; youth groups; school service groups; hobby or garden clubs; school fraternities or sororities; nationality groups; farm organizations; literary, art, discussion, or study groups; professional or academic societies; church-affiliated groups; and any other groups. Similar questions are used in other surveys. Such broad classifications underestimate gender segregation. For example, aerobic, horse-riding, soccer, and swimming clubs would all be subsumed under the category "sports groups" while having very different gender compositions.

With the data from the German National Educational Panel Study, however, we can partly circumvent these problems: In waves 6 and 10 of the NEPS survey, respondents were asked: "In our society, there are many ways of contributing in different areas. We are interested in finding out if you are actively involved in, for example, a club or an organization. This includes, for example, sports clubs, political parties, trade unions, or church communities. Have you been !!actively!! involved in one or more areas since the last interview?" If respondents answered "Yes," they were asked to describe their involvement (type of organization and activity). Independent of their answer to the initial question, respondents were reminded about other areas in which people typically get involved, including the voluntary fire service and rescue services, carnival associations, and welfare organizations; citizens' initiatives and citizens' clubs, parents' associations, theatre and music groups, initiatives for the unemployed, as a lay judge in a court of law, in organizations that visit the sick or in solidarity groups. Overall, respondents could mention up to three active involvements per time point. We excluded involvements for which respondents explicitly stated that they only donated money but were not involved in any other way.

Based on these open answers, we determined whether individuals were involved in the same organization at both time points, or whether they started or quit their involvement between t1 and t2, which correspond to waves 6 and 10 of the panel). We assumed that the type of

association was indeed the same if either the described activity is exactly the same (e.g., being the vice-president of the organization), and/or if the type of organization is exactly the same (e.g., soccer club), and/or if the types of organizations belong to the same field and one is the subdomain of the other (e.g., t1: I am coaching a handball team, t2: I am a coach in a sports club). We coded these involvements as fine-grained as possible to capture all starting and quitting transitions. Because many categories contained only very few observations, we compiled them into suitable umbrella categories (e.g., judo and karate were subsumed under "martial arts"). We set 40 observations as a benchmark for unique categories, which resulted in 43 distinct types of voluntary organizations (see Table S2 - 1).

Table S2 - 1: Types of Voluntary Associations

Type of associations (Category)	Organizations and groups included
Aerobic	Sports organizations with a focus on maintaining physical fitness in a course format (e.g., aerobic, yoga, rehabilitation programs)
Animal/environment	Organizations raising, educating, or rescuing animals (esp. dogs, bunnies, doves), local/national/international environmental organizations, such as Greenpeace
Charity	Local/national/international charities, organizations focusing on development aid
Choir	Choirs, church choirs
Citizen's initiative	Political citizen's initiatives, predominantly with a local focus
Court	Regional courts (especially as laymen judges)
Culture	Cultural organizations, art organizations, and museums
Cycling/running/athletics	Endurance sports, cycling, running, athletics, triathlon
Dance	Dancing schools and dancing clubs (classical/performance)
Disabled people care	Organizations caring for disabled people
Elderly people care	Organizations caring for elderly people
Firefighters	Voluntary fire brigade
Fishing/Hunting	Fishing and hunting organizations
Gardening	Gardening and allotment organizations
Gymnastics	Gymnastics and gymnastics for children
Hobby (esp. handicraft)	Various hobby clubs, such as model trains/planes, chess, motorcycling, and old-timer clubs
Horse-riding	Horse-riding and related sports organizations (e.g., vaulting)
Marksmen	Marksmen clubs
Martial arts	Judo, karate, and other martial arts clubs
Music (instrumental)	Bands, orchestras, and music clubs with instruments (excluding choirs)
Neighborhood	Neighborhood- and village organizations, organizations that preserve local traditions and organize community life, apartment, and housing organizations
Other	Other types of organizations with very few members (e.g., military/veterans)

Other sports	Other (less popular) sports organizations (e.g., hiking, bowling, climbing, skiing, golf), sports organizations for which the particular discipline was not specified
Social welfare	Social workers' organizations, migration and integration support, hospital volunteers, blood donation volunteers, poverty organizations
Parents (school/kindergarten)	Parents' representative organizations in schools and kindergartens, volunteer-run school libraries
Party/municipal politics	Parties, representation in municipal parliament, election volunteering
Professional	Professional associations, guilds, universities
Racket sports	Tennis, table tennis, squash, hockey, and badminton clubs
Religious (esp. church)	Christian, Muslim, Jewish, and other religious communities, mostly churches and faith-based organizations (e.g., Catholic Family Foundation)
Self-help groups/helpline	Self-help groups and psychological support providers (in person or via telephone)
Soccer	Soccer clubs
Sociability/carnival	Organizations that focus on sociability, especially carnival organizations
Swimming	Swimming clubs
Theatre	Theatre, theatre groups
Teamsports, no soccer or volleyball	Handball, basketball, American football, rugby clubs
Technical assistance	Technical assistance associations, such as technical relief aid and the Red Cross
Union	Labor unions
Unknown	Unknown (respondents only indicate their voluntary role, but no organization, e.g., treasurer)
Volleyball	Volleyball clubs
Watersports, no swimming	Sailing, canoeing, diving, and rowing clubs
Workplace	Voluntary organizations related to one's paid work, e.g., works committee
Youth	Youth organizations outside school/kindergarten, e.g., scouts, local youth centers

Table S2 - 2: (Illustrative) Example Transitions into and out of Voluntary Associations

ID	Timepoint t1			Timepoint t2			Transition variables	
	V1	V2	V3	V1	V2	V3	Start	Quit
1	Soccer (men-dominated, weekly)	-	-	Soccer (men-dominated, weekly)	Choir (gender-integrated, monthly)	-	Start in a gender-integrated association	Remain involved
2	Volleyball (gender-integrated, weekly)	-	-	Marksmen (men-dominated, weekly)	-	-	Start in a men-dominated association	Quit gender-integrated association
3	-	-	-	Choir (women-dominated, weekly)	Swimming (gender-integrated, monthly)	Hobby (men-dominated, less frequently)	Start in a women-dominated association	NA
4	Charity (gender-integrated, monthly)	-	-	Charity (gender-integrated, monthly)	-	-	No start	Remain involved
5	Aerobic (women-dominated, weekly)	Theatre (gender-integrated, monthly)	-	-	-	-	No start	Quit women-dominated association
6	Church (gender-integrated, weekly)	Soccer (men-dominated, monthly)	-	Church (gender-integrated, weekly)	-	-	No start	Remain involved

Note: Among those respondents who stayed involved in a given association, a few indicated changes in their gender composition. As these involvements only pertain to the analysis of quitting transitions (i.e., as a reference category of those who do not quit), we relied on the assessments of the gender composition at t1, i.e., the same time at which we observe the gender composition among those who do quit.

2.9.2. Principal Component Analysis

Table S2 - 3: Factor Loadings Among the Entire Sample and by Gender

Variable	All	Men	Women
Eigenvalue	1.810	1.841	1.734
Factor Loadings:			
Men are better suited to some jobs than women.	0.340	0.362	0.340
The share of women in politics should be as high as that of men. (reverse coding)	0.402	0.375	0.427
Men and women should have the same duties in the home. (reverse coding)	0.539	0.520	0.559
Women can use technical devices as well as men. (reverse coding)	0.473	0.477	0.465
It's the man's task to earn money and the woman's task to take care of the household and the kids.	0.467	0.484	0.416
N	5,266	2,526	2,740

Note: The principal component analysis suggested a single-factor solution as only one factor exceeded the eigenvalue threshold of 1. There are no major differences in the factor loadings between women and men.

2.9.3. Information about the Analytic Sample

Table S2 - 4: Descriptive Overview

Variable	Men		Women		t-value of mean difference	Time of measurement
	Mean	SD	Mean	SD		
Involved at t1	0.478	0.500	0.472	0.499	0.435	Wave 6 (t1)
Involved at t2	0.470	0.499	0.448	0.497	1.601	Wave 10 (t2)
Any joining between t1 and t2	0.243	0.429	0.270	0.444	-2.244	Waves 6-10 (t1/t2)
Any quitting between t1 and t2	0.548	0.498	0.635	0.482	-4.432	Waves 6-10 (t1/t2)
Women share among friends						
- All	0.002	0.044	0.060	0.238	-12.526	Wave 2 (t1 minus 4)
- Almost all	0.012	0.108	0.220	0.414	-25.379	Wave 2 (t1 minus 4)
- More than half	0.069	0.253	0.335	0.472	-25.758	Wave 2 (t1 minus 4)
- Half	0.478	0.500	0.324	0.468	11.514	Wave 2 (t1 minus 4)
- Less than half	0.278	0.448	0.041	0.197	24.494	Wave 2 (t1 minus 4)
- Almost none	0.101	0.301	0.014	0.118	13.596	Wave 2 (t1 minus 4)
- None	0.061	0.239	0.005	0.074	11.288	Wave 2 (t1 minus 4)
Gender norms	4.973	2.546	4.256	2.310	10.672	Wave 4 (t1 minus 2)
Born outside Germany	0.059	0.236	0.074	0.261	-2.190	Wave 1 (t1 minus 5)
Higher tertiary education	0.354	0.478	0.267	0.443	6.834	Wave 6 (t1)
Child < 6 years	0.112	0.381	0.115	0.385	-0.284	Wave 6 (t1)
Child 6–13 years	0.245	0.576	0.275	0.617	-1.825	Wave 6 (t1)
Child 14–18 years	0.181	0.448	0.188	0.455	-0.562	Wave 6 (t1)
Age (in years)	49.404	10.66	49.527	10.154	-0.428	Wave 6 (t1)
Religiosity	1.235	0.911	1.477	0.908	-9.646	Wave 3 (t1 minus 3)
Eastern Germany	0.190	0.392	0.216	0.411	-2.349	Wave 6 (t1)
Fulltime employed	0.702	0.457	0.367	0.482	25.887	Wave 6 (t1)
Parttime employed	0.081	0.273	0.319	0.466	-22.822	Wave 6 (t1)
In education	0.050	0.219	0.037	0.189	2.297	Wave 6 (t1)
Domestic work	0.019	0.135	0.119	0.324	-14.821	Wave 6 (t1)
Retired	0.112	0.315	0.109	0.311	0.347	Wave 6 (t1)
Unemployed	0.036	0.187	0.049	0.216	-2.340	Wave 6 (t1)
N	2,526		2,740			

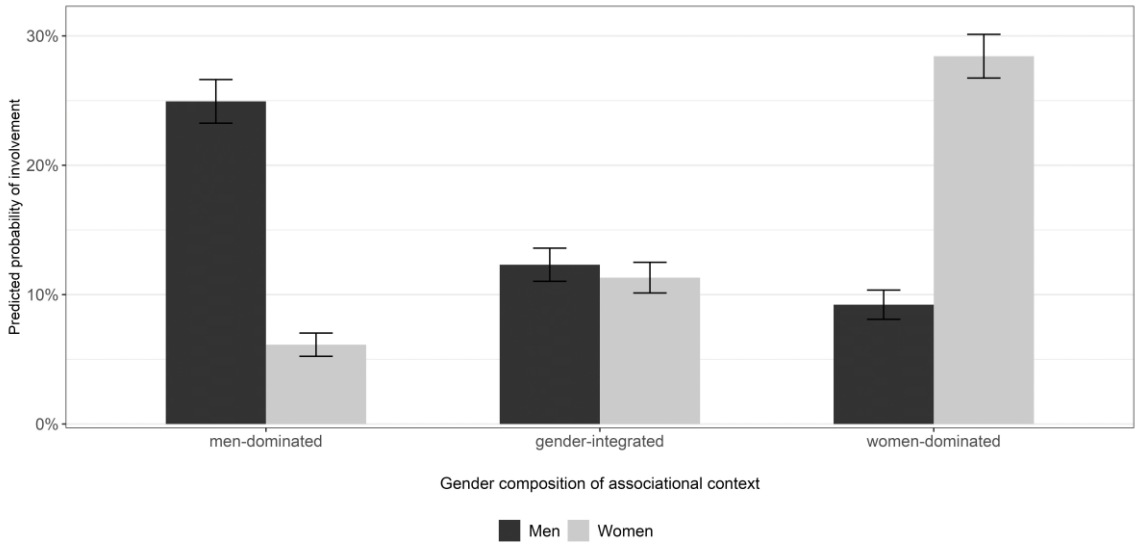
Note: The analytic sample consists of all respondents with valid responses to all variables listed who participated in the survey at t1 and t2. The variables measured before t1 can all be assumed to be relatively stable over time (gender composition of adults' close friendship network, gender norms, religiosity, and place of birth).

2.9.4. Cross-sectional Analysis of Gender Segregation

In this section, we re-analyze overall gender segregation in civic life using individuals' involvement at t1 rather than their joining transitions between t1 and t2 as the dependent variable. We thereby address the concern that systematically overlooking short-lived involvement spells in the analysis of joining transitions may bias our estimates of (the drivers of) gender segregation in civic life. Note, however, that these analyses of involvement at a given time point (t1) cannot rule out the possibility that (potentially long-lasting) involvement in an associational context with a particular gender composition may affect individuals' gender norms and the gender composition of their friendship network. The results of these analyses—for which spell duration is not an issue—resemble the findings of our joining analyses presented in the main text very closely. This is also consistent with the finding that joining rather than quitting transitions account for segregation in civic life.

Figure S2 - 1 resembles the left panel of Figure 2.3 in the main text. Women and men are more likely to join (Figure 2.3) and to be involved in (Figure S2 - 1) organizations in which their own gender is overrepresented. Both tendencies are stronger among women. Note that the shares of involved individuals are generally higher than the share of individuals who join associations between t1 and t2 but that the relative size of the bars remains relatively similar. The same applies to the predicted probability differentials in Table S2 - 5 and Figure S2 - 2.

Figure S2 - 1: Involvement in Associational Contexts with Different Gender Compositions



Note: The underlying multinomial regression model predicts the probability of involvement in different associational contexts at t1 solely based on respondents' gender. The bars depict average predicted probabilities and the error bars represent 95 percent confidence intervals. The predicted probabilities for "not being involved" (reference category) is 52 percent among men and 53 percent among women and are not shown.

Table S2 - 5 resembles Table 2.1 in the main text. The predicted probability differential shrinks by 31 percent for joining transitions (Table 2.1) and 29 percent for involvement (Table S2 - 5) among men, and by 14 percent for joining transitions (Table 2.1) and 17 percent for involvement (Table S2 - 5) among women.

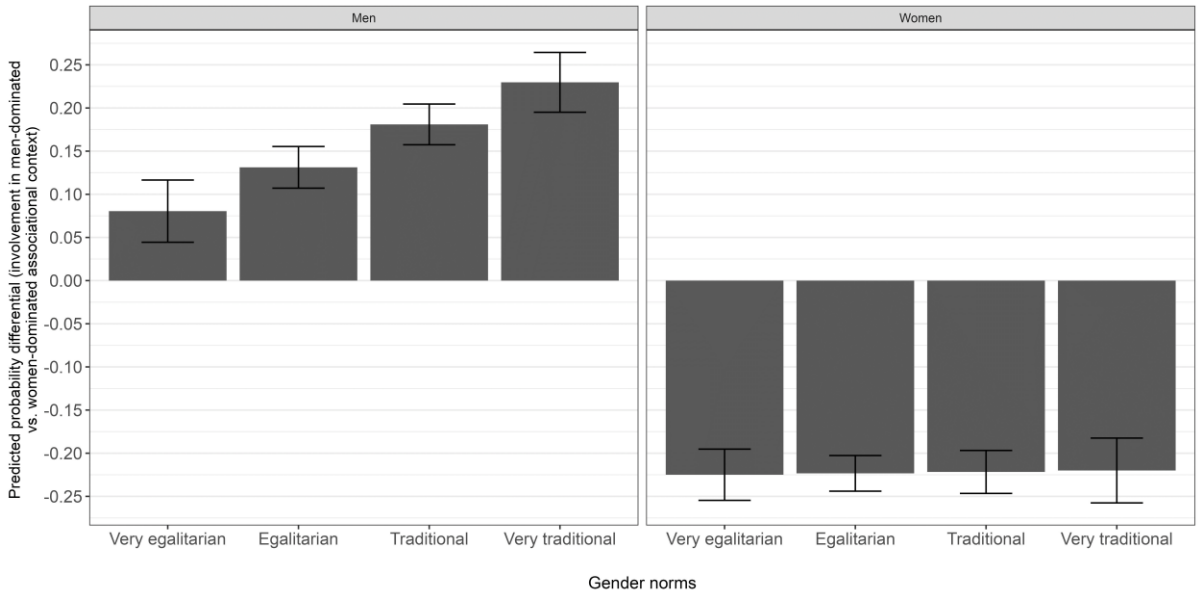
Table S2 - 5: Predicted Probability Differentials of Involvement in a Men-Dominated Versus a Women-Dominated Associational Context

	Men		Women	
	Predicted probability differential	SE	Predicted probability differential	SE
Baseline	0.157***	0.011	–0.223***	0.010
Baseline + networks	0.112***	0.013	–0.185***	0.012
Difference	0.045***	0.007	–0.038***	0.006
Relative reduction	29 %		17 %	
Overall Probability of involvement	0.48		0.47	

Note: ***Wald test for network variable is significant at $p < 0.001$. The delta method is applied to approximate the relevant standard errors for the probability differentials. The predicted probability differentials are derived from a set of multinomial regression models with gender as the only baseline independent variable ($N = 5{,}266$).

Figure S2 - 2 resembles Figure 2.4 in the main text. Among men, holding traditional gender norms is associated with the tendency to join (Figure 2.4) and to be involved in (Figure S2 - 2) men-dominated (vis-à-vis women-dominated) associational contexts. Among women, there is no association between gender norms and joining (Figure 2.4) or involvement in (Figure S2 - 2) men-dominated (vis-à-vis women-dominated) associational contexts.

Figure S2 - 2: Predicted Probability Differentials of Involvement in a Men-Dominated Versus a Women-Dominated Association

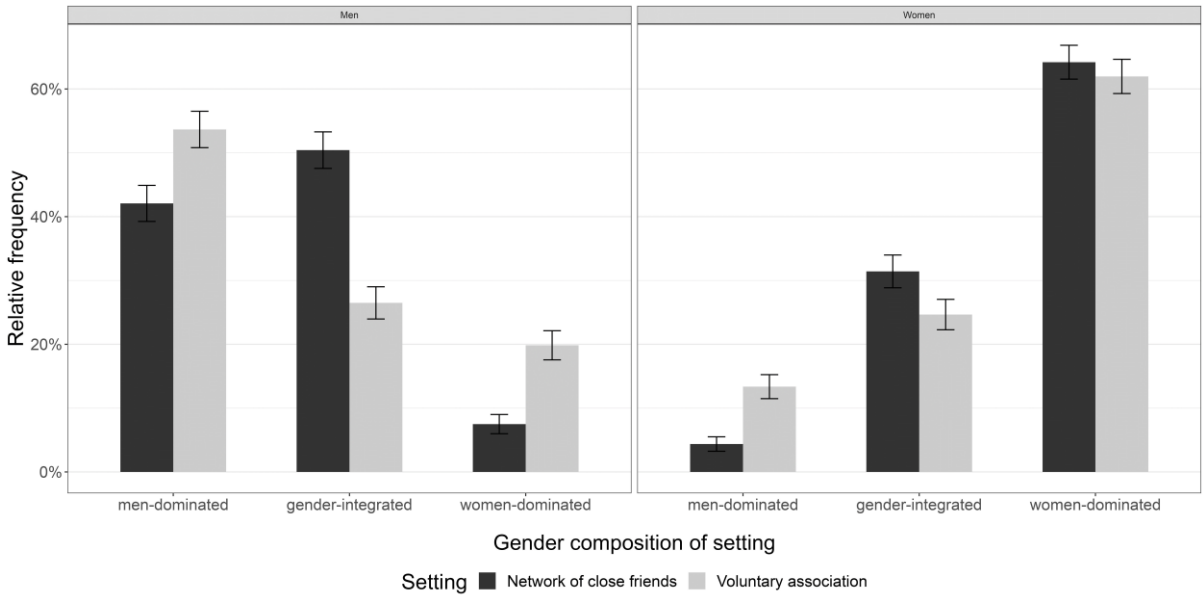


Note: The bars reflect the size of the predicted probability differential of being involved in a men-dominated versus a women-dominated associational context. For both, women and men, the sample is divided into four quartiles depending on their gender norm index (labeled “very egalitarian,” “egalitarian,” “traditional,” and “very traditional”). Error bars represent 95 percent confidence intervals. The underlying model does not contain any of the control variables.

2.9.5. Comparing Gender Segregation in Civic Life with Friendship Networks

In Figure S2 - 3, we benchmark the gender composition of people's associational contexts against the gender composition of their friendship networks. Men (left panel) are more likely to encounter primarily men or primarily women through their voluntary association than through their close friendship networks but are less likely to be part of a gender-integrated associational context vis-à-vis a gender-integrated friendship network. Among women (right panel), there are very minor differences between the gender composition of their friendship networks and associational contexts. Although women are somewhat more likely to encounter primarily men through their voluntary association than through their close friendship networks, the overall pattern suggests that these two settings are almost equally segregated. In sum, these patterns do not suggest that civic life would be less segregated by gender than friendship networks.

Figure S2 - 3 Gender Segregation in Civic Life and Friendship Networks



Note: Respondents were asked about the share of women among their close friends and among the people they come in contact with through their voluntary association. Here, we distinguish between men-dominated (response categories "none," "almost none," and "less than half"), gender-integrated (response category "about half"), and women-dominated (response categories "more than half," "almost all," and "all"). This figure is restricted to respondents for whom the gender compositions of their close friendship network and their associational context are observed.

2.9.6. Supplementary Information on Figure 2.3 and Figure 2.4 and Table 2.1

Table S2 - 6: Joining: Multinomial Logistic Regression Model (Left Panel of Figure 2.3)

	Joining men-dominated organization		Joining gender-integrated organization		Joining women-dominated organization	
	β	SE	β	SE	β	SE
Woman	–1.018***	0.120	0.107	0.106	1.025***	0.101
Intercept	–1.900***	0.053	–2.352***	0.078	–2.572***	0.086
N	5,266					

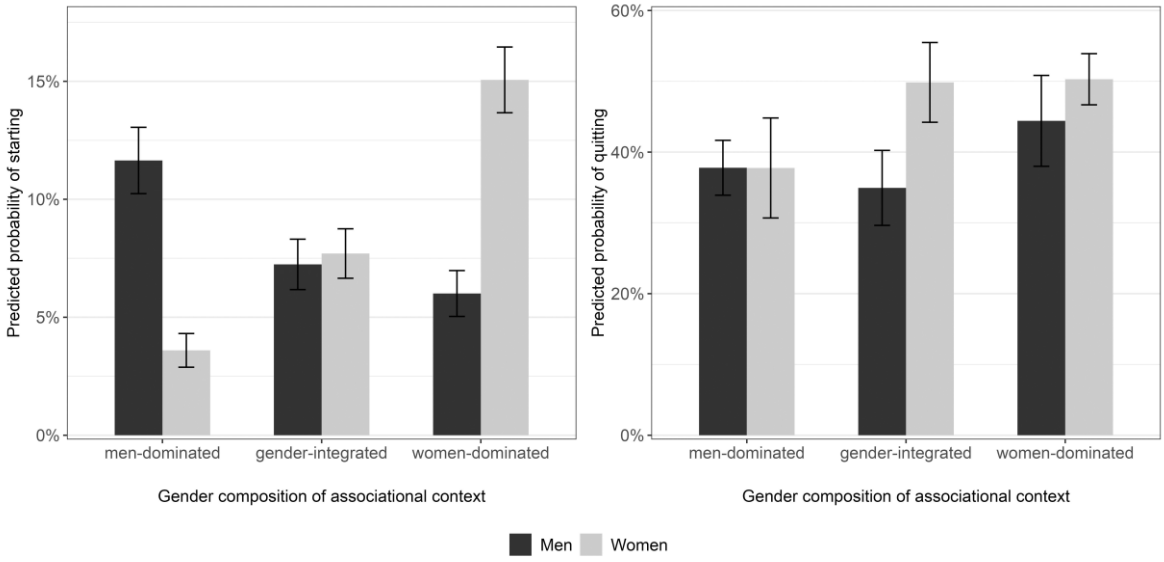
Note: Multinomial regression: Shown are logged odds of joining a particular type of voluntary organization. Reference category: not getting involved in any organization; SE, standard error; ***$p < 0.001$, **$p < 0.01$, *$p < 0.05$.

Table S2 - 7: Quitting: Bivariate Logistic Regression (Right Panel of Figure 2.3)

	Quit (1 = yes, 0 = no)	
	β	SE
Woman	0.079***	0.179
Type of organization (reference = men-dominated)		
gender-integrated	–0.157***	0.144
women-dominated	0.217****	0.155
Interactions		
Woman X gender-integrated	0.629***	0.243
Woman X women-dominated	0.251***	0.234
Intercept	–0.432***	0.082
N	2,431	

Note: Bivariate logistic regression: Shown are logged odds of joining a particular type of voluntary organization. Reference category: not getting involved in any organization; SE, standard error; ***$p < 0.001$, **$p < 0.01$, *$p < 0.05$.

Figure S2 - 4: Replication of Figure 2.3 in the Main Text Including Control Variables



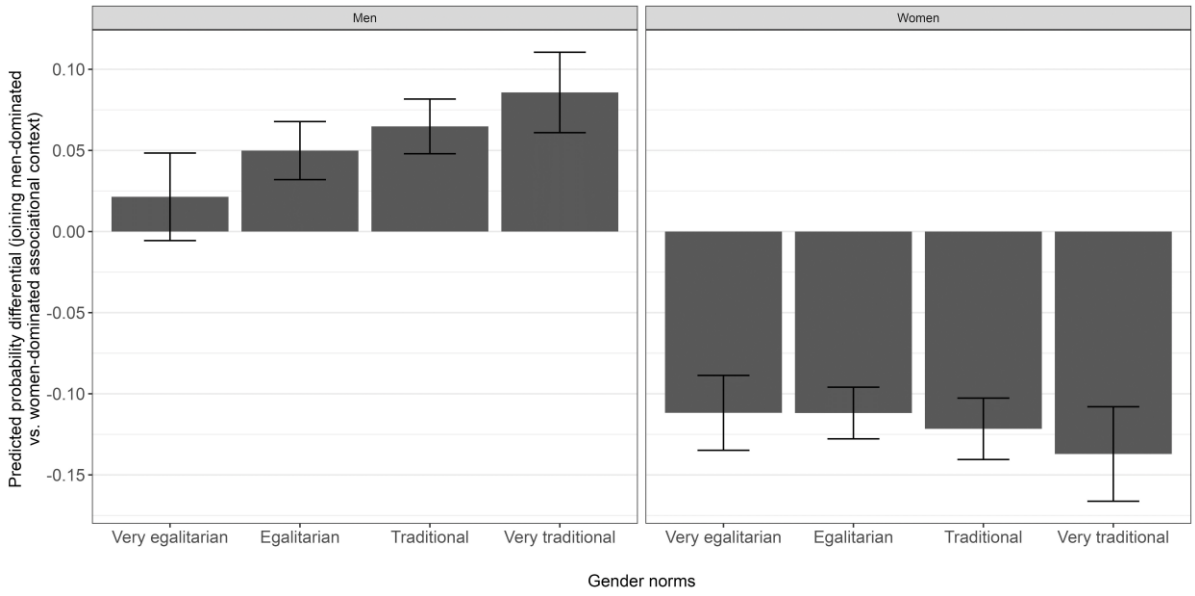
Note: The underlying multinomial models predict the probability of joining different associational contexts based on respondents' gender, age, education, religiosity, place of residence, presence of children 0–5, 6–13 and 14–18 years old in the household, occupational status, and place of birth. The bars depict average predicted probabilities and the error bars represent 95 percent confidence intervals.

Table S2 - 8: Joining: Network Hypothesis – Replication of Table 2.1 Including Control Variables

	Men		Women	
	Predicted probability differential	SE	Predicted probability differential	SE
Baseline	0.056***	0.0091	–0.114***	0.0082
Baseline + networks	0.038***	0.0100	–0.099***	0.0088
Difference	0.018***	0.0049	–0.015***	0.0039
Relative reduction	32 %		13 %	
Overall probability of starting	0.24		0.27	

Note: ***Wald test for network variable is significant at $p < 0.001$. The delta method is applied to approximate the relevant standard errors for the probability differentials. The predicted probability differentials are derived from a set of multinomial regression models additionally including respondents' age, education, religiosity, occupational status, place of birth, place of residence, and presence of children 0–5, 6–13, and 14–18 years old in the household as independent variables (N = 5,266).

Figure S2 - 5: Replication of Figure 2.4 Including Control Variables



Note: The bars reflect the size of the predicted probability differential of joining a men-dominated vs. a women-dominated associational context. For both, women and men, the sample is divided into four quartiles depending on their gender norm index (labeled "very egalitarian," "egalitarian," "traditional," and "very traditional"). Error bars represent 95 percent confidence intervals. The underlying multinomial models include respondents' gender, age, education, religiosity, place of residence, presence of children 0–5, 6–13, and 14–18 years old in the household, occupational status, and place of birth as independent variables.

3 Chapter 3: Join to Connect? Voluntary Involvement, Social Capital, and Socioeconomic Inequalities

This chapter has been published in Social Networks.

3.1. Abstract

Access to social capital is stratified by socioeconomic status and has been cross-sectionally linked to involvement in voluntary organizations. Yet, we know little about the origin and interplay of these empirical regularities. Regression analyses on German panel data (SC6-NEPS) reveal that people rich in social capital join organizations more often (selection). Furthermore, joiners access more and higher-status social capital after joining (socializing opportunities). Low-status individuals disproportionally extend their reach towards higher positions through involvement but join less often. Compared to a counterfactual situation in which nobody joins, current involvement patterns marginally reduce some socioeconomic inequalities in access to social capital.

3.2. Introduction

Social capital, defined as "resources embedded in social networks" (Lin and Erickson 2008:2), helps people to instrumentally attain important goals in life. Following Lin's (Lin 2001b:29) call for a theory of social capital that shows "how individual actors, through interactions and social networks, become differentially accessible to [...] structurally embedded resources", many studies have sought to understand the origins of structural inequalities in access to social capital. In this context, social capital is commonly measured by individuals' social ties to people in occupations associated with different socioeconomic status. Besides notorious social capital gaps along socioeconomic lines, a recurring finding in this literature is that involvement in voluntary organizations seemingly enhances individuals' stocks of social capital (Behtoui

2007; Benton 2016; Häuberer 2014; Lin et al. 2009; Otero, Völker, and Rozer 2021; van Tubergen and Völker 2015). Yet, previous work on the link between voluntary involvement and access to social capital exclusively builds on cross-sectional data. Thus, it cannot distinguish whether involvement stimulates access to social capital (socializing opportunities) or whether individuals with large stocks of social capital selectively join voluntary organizations (selection).

Moreover, we know little about the role of voluntary involvement for socioeconomic inequalities in access to social capital at the aggregate level. Although it is well-documented that individuals in socioeconomically advantageous positions have access to more (high-status) social capital to begin with (Otero et al. 2021; van Tubergen and Völker 2015) and are more likely to join voluntary organizations (Benton 2016; Gesthuizen and Scheepers 2012; Huang, Maassen van den Brink, and Groot 2009; Musick and Wilson 2008), it remains unclear whether current patterns of voluntary involvement increase or decrease socioeconomic inequalities in access to social capital: On the one hand, voluntary organizations might exacerbate inequalities as they predominantly attract individuals with high socioeconomic status (henceforth high-status individuals) and connect them with each other. On the other hand, the notion that voluntary organizations constitute meeting places for people with similar interests regardless of their socioeconomic background (cf. Putnam 2000) implies that low-status and high-status joiners encounter each other, which would overall equalize access to social capital.

Against this backdrop, I investigate the link between active involvement in voluntary organizations (i.e., responsibility-carrying volunteer roles as well as mere attendance of meetings) and access to social capital in light of socioeconomic inequalities, making two main contributions to the literature on inequalities in access to social capital. First, by differentiating between selection and socializing opportunity effects, I reassess the role of voluntary

involvement in the social capital attainment process. Second, I study how voluntary involvement shapes the status composition of individuals' social capital differently across socioeconomic positions and to which extent involvement affects inequalities in access to social capital, thereby interlinking participatory and socioeconomic perspectives on access to social capital.

Access to social capital is consequential: Individuals with larger stocks of social capital have lower risks of unemployment (Hällsten, Edling, and Rydgren 2017), earn higher wages (Lin et al. 2009), are more likely to be upwardly socially mobile (Chen 2009), are healthier (Yuan et al. 2021), and are more successful in buying or renting accommodation (Röper, Völker, and Flap 2009). Scholars have extensively discussed the magnitude of such effects on labor market returns and highlighted the importance of separating them from selection effects (Chen and Völker 2016; Lin 2001a; Mouw 2006). Voluntary involvement itself has also been linked to desirable individual outcomes such as improved well-being (Laurence 2021) and higher earnings (Qvist and Munk 2018; Ruiter and De Graaf 2009; Wilson, Mantovan, and Sauer 2020) – with the strength of these links varying with individuals' socio-demographic characteristics and social capital being cited as an important mechanism.

In this study, I draw on survey panel data on adults in Germany, a country with a relatively high rate of volunteering in the European context (Eurostat 2017). Based on fixed-effect regression models, I investigate how joining voluntary organizations affects changes in different features of respondents' ego-centric networks elicited with the position generator (i.e., a survey instrument that asks respondents whether there are people in particular occupations in their social circle; (Lin 2000). The results reveal that while much of the previously-studied cross-sectional association between voluntary involvement and social capital is driven by selection, joining is followed by increases in social capital, too. Joiners extend their networks by reaching higher—but not lower—positions in the socioeconomic

status hierarchy. Lower-status individuals get involved at lower rates but if they do, they gain disproportionally much high-status social capital. Compared to a counterfactual scenario in which nobody joins, current patterns of involvement leave socioeconomic inequalities in the number of accessed positions largely unchanged and somewhat reduce disparities concerning the status distribution of individuals' social capital.

3.3. Theoretical Background

Social capital has been conceived and measured in various ways (e.g., Bourdieu 1986; Coleman 1988; Putnam 2000). In this article, I follow research defining social capital as "resources embedded in social networks" (Lin 2000; Lin and Erickson 2008:2), measured by the number of ego's connections to alters in certain occupational positions in different locations in the status hierarchy. Assuming that alters' abilities to provide certain valuable resources are closely tied to their occupations, the position generator elicits structural differences in egos' access to resources typically located in particular socioeconomic strata (Lin 2001b).

3.3.1. Socializing Opportunities or Selection?

Ego-centric network size and involvement in voluntary organizations are associated, as testified by cross-sectional studies showing that involved individuals typically have larger friendship circles which they expect to receive more help from (e.g., Häuberer 2014; Kleiner 2020). Crucially, involved individuals have access to more social capital, i.e., a greater number of positions in the position generator, across many countries (Behtoui 2007) for Sweden; (Benton 2016) for the US; (Chen 2009) for Taiwan; (Enns, Malinick, and Matthews 2008) for Canada; (Lin et al. 2009) for China; (van Tubergen and Völker 2015) for the Netherlands. While many of these studies control for important predictors of social capital, they do not fully account for unobserved variables, such as personality traits, motivations, or resources, which may simultaneously affect individuals' stocks of social capital and involvement in voluntary

organizations. Thus, they cannot separate the effect of socializing opportunities (i.e., involvement opens up opportunities for socializing which increase access to social capital) from selection effects (i.e., individuals with initially high levels of social capital selectively get involved), leaving it open why we observe the strong association between voluntary involvement and social capital.

The socializing opportunities perspective posits that voluntary involvement boosts individuals' access to social capital. After entering voluntary organizations, joiners get exposed to many of their co-members and they can become acquainted with newly joined or previously unfamiliar co-members during their ongoing involvement. Thus, joiners may extend their social circle—which might otherwise predominantly consist of kin, friends, and coworkers—to their co-members, thereby potentially reaching previously inaccessible network clusters and novel resources (cf. Burt 2004; Granovetter 1973). Moreover, ties to co-members might also yield connections to their associates outside the organization, potentially granting access to additional resources. Thus, the socializing opportunities hypothesis reads:

H1a: Getting involved in a voluntary organization is followed by increases in social capital.

The selection perspective instead postulates that the association between voluntary involvement and social capital is primarily driven by the self-selection of individuals with large stocks of social capital into voluntary organizations and that involvement has no or only marginal effects on social capital. Involvement might not increase joiners' social capital because they usually spent relatively little time in voluntary organizations compared to other settings such as work or education. Moreover, there are opportunity costs of voluntary involvement: While being involved in voluntary organizations, individuals forgo opportunities for social capital acquisition in other leisure settings. Instead, individuals with larger and more

diverse social networks disproportionally select into voluntary organizations because they can use their social capital strategically to obtain information about voluntary organizations more easily (Son and Lin 2008) and thereby safeguard their position as well-connected actors (Bourdieu 1986). Well-connected individuals are also more likely to have peers in their network who are involved in voluntary organizations themselves, which increases their probability to be asked to join (Bekkers et al. 2008). Furthermore, people scoring higher on the big five extraversion scale have usually larger stocks of social capital and are more likely to be involved in voluntary organizations (Ackermann 2019; Tulin et al. 2018). Finally, individuals' socioeconomic positions have been simultaneously linked to access to social capital and voluntary involvement. Occupying an advantaged socioeconomic position often provides access to more social capital through one's professional and private networks (cf. Chen and Völker 2016; Mouw 2006) and is also linked to a higher probability of voluntary involvement (Musick and Wilson 2008). Following the selection perspective, I hypothesize:

H1b: Individuals with initially high levels of social capital are more likely to get involved in voluntary organizations.

3.3.2. Voluntary Involvement and the Status Composition of Individuals' Social Capital

The socializing opportunity perspective implies that the number of accessed positions increases after individuals join. Since access to positions higher up in the status hierarchy may yield larger benefits than access to lower positions (van der Gaag, Snijders, and Flap 2008; Lin 2001b), I now extend the socializing opportunities argument by studying how voluntary involvement affects the status *composition* of individuals' social capital. Core features of this composition include the status of the highest and lowest position accessed (i.e., upper and lower reachability) as well as the mean status of all accessed positions (i.e., average status).

Individuals in advantageous positions (e.g., higher education, higher socioeconomic status) are more likely to be involved in voluntary organizations (Benton 2016; Gesthuizen and Scheepers 2012; Huang et al. 2009; Musick and Wilson 2008; van Tubergen and Völker 2015). The flip side of this empirical regularity is that joiners' potential tie pool encompasses a disproportionate number of individuals in high-status occupations, on average. Thus, joiners in most organizations have abundant opportunities to form ties to high-status but not to low-status co-members. The status distribution of most joiners' co-members is therefore located higher up in the status hierarchy compared to their contacts in other settings (e.g., family, friends, neighbors). Hence, joiners can potentially extend their networks toward higher positions when forming ties within this selective pool of voluntarily involved individuals.

That said, the potential of voluntary organizations to facilitate access to status-distant high-status social capital may be limited by segregationist patterns across and within organizations: Individuals may predominantly join organizations composed of people with similar socioeconomic status and likely choose close confidants with similar socioeconomic status within their organization. Especially high-status individuals might perceive low-status joiners as less attractive interaction partners and thus may actively try to prevent contact with them (Bourdieu 1986). Yet, while segregation may limit the potential of voluntary organizations to facilitate status-distant social capital, it does not completely abolish it. Moreover, the common interest in activities typically pursued in voluntary organizations, such as sports, music, or religious practices, may help status-distant individuals bond. Furthermore, socioeconomic homophily across and within voluntary organizations has indeed been shown to be weaker compared to gender- and age homophily (McPherson and Smith-Lovin 1987). Hence, joiners will still, at least occasionally, encounter and interact with status-distant co-members in their voluntary organization. Precisely these status-distant ties grant joiners access to additional

resources (cf. Granovetter 1973). Thus, given the relatively high-status composition of voluntary organizations, I hypothesize:

H2: Getting involved in a voluntary organization is followed by an expanded reach toward positions higher up in the status hierarchy.

3.3.3. Socioeconomic Inequalities in Social Capital and Voluntary Involvement

The extent to which voluntary involvement facilitates access to novel high-status social capital may vary across socioeconomic groups that typically differ in their initial access to social capital: A growing body of cross-sectional studies identified pronounced inequalities in access to high-status, i.e., resource-rich, social capital along markers of socioeconomic inequality including educational attainment, job prestige, and class (Carrascosa 2023; Chen 2009; Lin et al. 2009; Lin, Fu, and Hsung 2017; Otero et al. 2021; van Tubergen and Völker 2015). These differences are generally attributed to homophily—the tendency to associate with similar others (McPherson et al. 2001)—and socioeconomic status–dependent structures that permit or prevent meeting opportunities (Blau 1977; van Tubergen and Völker 2015): Individuals with a high (low) socioeconomic status typically live in neighborhoods, attain workplaces, and maintain family networks that expose them to high-status (low-status) social capital (Otero et al. 2021). Additionally, one longitudinal study revealed that such socioeconomic inequalities in access to social capital widen over the life course (Völker 2020). Thus, deficits in access to high-status social capital are particularly common among low-status individuals (Benton 2016; Lin and Dumin 1986).

Marrying these considerations to the argument underlying hypothesis 2, I derive specific expectations about heterogeneity in the socialization effect across people in different socioeconomic positions. Low-status individuals, who often have deficits in access to high-status social capital through their family, work, or neighborhood, can fill these gaps once they

join a voluntary organization because it usually exposes them to more high-status alters than other difficult-to-switch settings. For example, it is far easier for a low-status individual to join a soccer club in which a lawyer is actively involved than to afford high rents to live in her neighborhood or to get hired at her workplace. While homophily suggests that they will form ties with high-status co-members at a lower rate than with low-status co-members within their organization (McPherson and Smith-Lovin 1987), they likely still come across and relate to high-status individuals more than in other contexts given the status composition of their co-members. Moreover, the cooperative activities in voluntary organizations (e.g., playing soccer or singing in a choir) may render status differences between members less salient compared to formalized hierarchies at work. Connecting with these status-distant co-members shifts the status distribution of low-status individuals' social circle upwards because similarly high-status social capital is less available to them through other contexts. In short, low-status individuals access novel (high-status) resources that have previously been out of their reach when joining voluntary organizations. Thus, their upper reachability and the average status of their social capital will increase.

By contrast, high-status individuals usually have access to high-status social capital even before joining voluntary organizations. Thus, their newly established ties to fellow high-status co-members will—to a large extent—provide redundant resources. Thus, high-status joiners will increase their reach toward higher positions only marginally by joining voluntary organizations. Moreover, the average status of their social capital should change little since their ties formed in the high-status organizational environment resemble their initial social networks.

H3: The lower individuals' socioeconomic status, the more they can extend their upper reachability and the average status of their social capital by joining voluntary organizations.

3.4. Data and Measures

I employ longitudinal data from the starting cohort 6 of the National Education Panel Study (NEPS), which is representative of the adult population in Germany (Blossfeld et al. 2011). Detailed information about respondents' voluntary involvement and their social capital is available at two time points four years apart from each other (t1, collected in 2013/14 and t2, collected in 2017/18).

3.4.1. Social Capital

Social capital is measured with the widely used and validated position generator. The position generator draws on the assumption "that most important resources are concentrated in particular parts of social structure" (Lin and Erickson 2008:9) and therefore elicits whether individuals sustain connections to certain occupational positions in the status hierarchy. This allows me to measure individuals' access to resources embedded in their wider social network including both, strong and weak ties (Lin 2001a)—a pivotal advantage over other egocentric network measures focused on fewer ties (e.g., name generator). The version of the position generator implemented in the NEPS reads: *"I will now read out a few professions. Please tell me if there is someone in your social circle who currently works in this profession. By 'social circle' I mean, for instance, your partner, your family, relatives, your friends, colleagues, or other acquaintances."* While alters known through voluntary organizations predominantly fall under the categories 'friends' or 'acquaintances', this question also includes respondents' other alters in the measurement of social capital which is important when pinpointing whether respondents access novel social capital through voluntary organizations that had been inaccessible through other contexts. Respondents were asked about 13 occupations associated with different socioeconomic status: transport worker (ISEI score: 29), mechanic (34), nurse (38), sales assistant (43), optician (48), police officer (56), bank clerk (56), social worker (65),

teacher (66), translator (68), engineer (74), doctor (80), and lawyer (85) (see Schulz, Horr, and Hoenig 2017 for further details).

Based on this information, I construct commonly-used variables measuring different properties of respondents' social circles. I operationalize social capital as the number of accessed positions. In terms of the composition of respondents' social capital, I extract the highest and the lowest ISEI score among each respondent's accessed positions to measure their upper- and lower reachability. Moreover, I measure the average status of an individual's social capital with the mean ISEI score of all accessed positions (cf. van der Gaag et al. 2008).

3.4.2. Voluntary Involvement

After being asked about their involvement in any kind of voluntary organization in an open-ended question, respondents indicated up to three active involvements at both time points, t1 and t2.[13] I determine for each involvement, whether it was started (i.e., not mentioned at t1, mentioned at t2), sustained (mentioned at t1 and t2), or quit (mentioned at t1, not mentioned at t2). Based on these data, I construct two dummy variables indicating whether an individual was involved in any voluntary organization at t1 (coded 0 in both waves if uninvolved at t1 and coded 1 in both waves if involved at t1) and whether an individual joined a new voluntary organization between t1 and t2. For the latter variable, those who stay uninvolved score 0 at t1 and t2 while those who get involved score 0 at t1 and 1 at t2.[14]

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[13] The question was worded as follows: *"In our society, there are many ways of contributing in different areas. We are interested in finding out if you are actively involved in, for example, a club or an organization. This includes, for example, sports clubs, political parties, trade unions, or church communities. Have you been actively involved in one or more areas since the last interview?"* If respondents answered with *"Yes"*, they were asked to describe their involvement (type of organization and activity). Independent of their answer to this initial question, respondents were reminded about other areas in which people typically get involved, including the voluntary fire/rescue services, carnival associations, welfare organizations, citizens' initiatives/clubs, parents' associations, theater and music groups, initiatives for the unemployed, as a lay judge, organizations visiting the sick or solidarity groups; and could then indicate (additional) involvements.

[14] 3% of the analytic sample started more than one involvement between t1 and t2. For these individuals, I selected the most time-consuming involvement. Dropping these individuals from the analyses does not change the results substantively.

3.4.3. Socioeconomic Status

Socioeconomic status is operationalized using the ISEI score of individuals' primary occupation at t1 capturing the education typically required for and the income derived from a job (International Socio-Economic Index of Occupational Status; Ganzeboom, de Graaf, and Treiman 1992).[15] I divide the sample into terciles (low, medium, and high socioeconomic status), which I treat as time-constant.

I control for respondents' *age* as well as a set of variables indicating events that might alter the propensity to join a voluntary organization and the gain or loss of social capital, including *starting* and *quitting professional jobs* and *romantic relationships*, *childbirth*, and *residential mobility*. These dummy variables take the value 0 at t1. If a certain event took place between t1 and t2, the respective variable takes the value of 1 at t2 and 0 otherwise. Moreover, I control for the *region* and the *population density* of respondents' places of residence (see section 3.8.1 of the supplement for further information on measurement and a descriptive overview).

3.5. Analytic Approach

To test my hypotheses, I run ordinary least squares (OLS) and person fixed-effects (FE) regressions. Subsequently, I compare socioeconomic inequalities in access to social capital under current patterns of voluntary involvement to a counterfactual situation characterized by the complete absence of voluntary involvement.

3.5.1. Ordinary Least Squares Regressions

I run OLS regressions for comparability with previous work (Behtoui 2007; Chen 2009; Lin et al. 2009; van Tubergen and Völker 2015). In line with these studies, I model the cross-sectional association between voluntary involvement and social capital using the entire sample

[15] The socioeconomic status of respondents who are currently not working is inferred from the ISEI score of their most recent employment.

at t1, controlling for potential time-constant confounders. I then restrict the analysis to the sample of those who are uninvolved at t1 (N = 3895), re-weight respondents by their inverse probability of being part of this sample (w_s) (see final part of section 3.8.1 of the supplement), and model the association between social capital at t1 and getting involved between t1 and t2. The resulting association purely shows selection because it cannot result from any socializing opportunity effect. I control for respondents' involvement before t1 as those who were active in the past might still have more abundant social capital due to socializing opportunities.

3.5.2. Fixed-Effects Regressions

To assess how getting involved in voluntary organizations affects changes in social capital (i.e., socializing opportunities), I estimate a set of FE-regression models accounting for the aforementioned time-varying control variables and using the sample of those respondents who did not indicate any voluntary involvement at t1 ($N_{respondents}$ = 3895; $N_{observations}$ = 7790). I thus exclude all respondents who were already involved at t1 and either remained involved in the same organization, switched to another organization, or quit their voluntary involvement altogether.[16] The remaining analytic sample consists of two groups—joiners (inactive at t1, active at t2) and non-joiners (inactive at t1 and t2). FE regression coefficient estimates rely exclusively on the subsample of units experiencing change—here the joiners—which is not necessarily representative of the entire analytic sample (Imbens and Angrist 1994; Miller, Shenhav, and Grosz 2021). I thus re-weight respondents based on the product of their inverse probability of being part of the analytic sample and their inverse probability of belonging to the group of joiners (w_{sj}) (see the final part of section 3.8.1 of the supplement).

[16] Individuals who were involved at t1 do not serve as an appropriate control group: Those sustaining their involvement might gain social capital throughout their involvement; those quitting or switching their involvement might not necessarily directly lose all ties to their former co-members.

The coefficients of these models can be interpreted as the effects of joining a voluntary organization on the respective social capital indicator among the entire population under two assumptions: First, increases in social capital during the observation window do not affect individuals' probability to join and the proposed link is not confounded by unobserved time-varying covariates (i.e., strict exogeneity of treatment assumption; Leszczensky and Wolbring 2022). Second, joiners and non-joiners follow similar long-term trajectories of 'natural' social capital accumulation over time. In other words, larger social capital gains among the joiners during the observation window are not due to specific characteristics (e.g., extraversion, higher education) that lead to larger yearly increases in social capital – independent of whether they join an organization or not (Rüttenauer and Ludwig 2020). While neither of these assumptions can be empirically tested with two-wave panel data, I refer to supplementary findings suggesting that reversed causality systematically drives the size of the coefficients in the Discussion (also see section 3.8.5 of the supplement). Moreover, by re-weighting respondents by their inverse probability to be a joiner in the sample, I can rule out that differences in the weighting variables put joiners and non-joiners on different social capital trajectories (see the final part of section 3.8.1 in the supplement).

3.5.3. Counterfactual Comparison

To study whether current patterns of involvement reduce or exacerbate inequalities in access to social capital I assess whether the inequality reductions implied by the disproportional social capital gains among low-status joiners outweigh the inequality increases implied by the selective take-up of involvement among high-status individuals. Using the analytic sample of respondents who were not actively involved at t1, I observe the distribution of social capital at t2 (i.e., after joiners had started their involvement and non-joiners stayed uninvolved). I compare this observed distribution to a counterfactual distribution that one would observe if nobody in that sample joined voluntary organizations between t1 and t2.

The estimation of this counterfactual distribution proceeds in two steps: First, each outcome of interest (i.e., social capital, upper reachability, average status) at t2 is regressed on the following predictors: dummy variables indicating respondents' joining decision and socioeconomic status, as well as their interactions to allow for status-specific social capital returns; the respective social capital indicator at t1; and other time-constant predictors including age at t1, gender, migration background, religiosity, big five personality traits, involvement before t1. Coefficients and idiosyncratic error terms from these models are extracted. Second, the joining dummy for all respondents is set to zero and each outcome of interest is predicted for each respondent using the model coefficients and idiosyncratic error terms extracted in the first step. Since nothing has changed for non-joiners, they have identical values in both distributions. Joiners, by contrast, score lower in the counterfactual distribution, in which they are deprived of the (status-specific) social capital returns they actually gained from voluntary involvement.

Note that this approach merely aims at approximating a world without voluntary involvement as a benchmark rather than providing exact causal estimates. For example, it cannot take into account that people might socialize in other—more informal—contexts instead of voluntary organizations if there was no involvement. This may change the availability of (especially high-status) social capital outside of voluntary organizations (cf. Kleiner 2020).

3.6. Results

Table 3.1 summarizes the distribution of social capital at t1 and the probability to get involved across socioeconomic groups. Different positions are accessible at varying rates depending on respondents' socioeconomic status: High-status individuals have access to a larger number of positions, reach positions located higher up in the status hierarchy, and access positions with a higher status, on average. Low-status individuals reach further down the status hierarchy.

Furthermore, high-status individuals are almost ten percentage points more likely than their low-status counterparts to get involved in a voluntary organization between t1 and t2.

Table 3.1: Social Capital and Voluntary Involvement Across Socioeconomic Status Groups

	Statistic	Socioeconomic status			Total
		Low	Medium	High	
Position					
Transport worker (29)	Mean	0.621	0.451	0.416	0.495
Mechanic (34)	Mean	0.749	0.652	0.601	0.667
Nurse (38)	Mean	0.773	0.803	0.790	0.789
Sales assistant (43)	Mean	0.818	0.763	0.645	0.742
Optician (48)	Mean	0.309	0.304	0.347	0.320
Police officer (56)	Mean	0.645	0.671	0.640	0.652
Bank clerk (56)	Mean	0.611	0.738	0.709	0.687
Social worker (65)	Mean	0.517	0.562	0.650	0.576
Teacher (66)	Mean	0.658	0.757	0.820	0.745
Translator (68)	Mean	0.222	0.279	0.367	0.290
Engineer (73)	Mean	0.639	0.765	0.885	0.763
Doctor (80)	Mean	0.627	0.726	0.832	0.729
Lawyer (85)	Mean	0.467	0.588	0.750	0.602
Summary statistics:					
Social Capital	Mean	7.621	8.160	8.479	8.086
Social Capital	SD	2.852	2.576	2.497	2.669
Upper reachability	Mean	78.112	81.098	82.988	80.727
Upper reachability	SD	10.331	6.743	4.545	7.851
Lower reachability	Mean	31.919	33.281	34.490	33.226
Lower reachability	SD	5.679	6.058	7.460	6.520
Average Status	Mean	54.075	56.993	59.428	56.824
Average Status	SD	6.314	5.153	5.077	5.953
Voluntary involvement					
Joining between t1 and t2	Mean	0.187	0.223	0.283	0.231
Joining between t1 and t2	SD	0.390	0.416	0.451	0.421
N		*1,430*	*1,330*	*1,135*	*3,895*

Note: All measures are obtained using the weights that adjust for the probability of being part of the analytic sample (w_s); Low, medium, and high status refer to the three ISEI terciles. All pairwise differences between status-terciles in the middle and final part of this table are statistically significant at $p < 0.001$.

In Table 3.2, each row represents a separate regression model. Only the coefficients of voluntary involvement are shown (see Table S3 - 3, Table S3 - 4, and Table S3 - 5 for the full models). The cross-sectional models on the full sample at t1 replicate the strong association between voluntary involvement and social capital discovered by previous research: Voluntarily involved individuals have on average access to 1.290 additional positions (M0, s.e. = 0.060), which amounts to almost 10 % of the entire social capital scale. Controlling for socioeconomic status, education, age, gender, migration background, big five personality traits, and involvement before t1 reduces this association to some extent (coef. = 0.863, M1, s.e. = 0.059), already hinting at the importance of selection. Model 2, which is restricted to the

sample of those who are uninvolved at t1 and thereby rules out any socializing opportunity effects, reveals a strong association between joining in the future and their social capital at t1 (coef. = 0.466, s.e. = 0.099), supporting hypothesis 1b: Individuals who will later self-select into voluntary organizations have more initial social capital—already before joining.

At the same time, the FE-models support the socializing opportunity hypothesis (1a): After joining a voluntary organization, respondents have on average access to additional 0.586 positions (M3, s.e. = 0.089). This increase can be regarded as substantial given that it implies a 7 % increase in the number of accessed positions for the average respondent access to 8.086 positions (see Table 3.1) and that it is much larger than all other coefficients of other potentially social-capital promoting life transitions (see Table S3 - 4). The socializing opportunity effect does not vary meaningfully across socioeconomic strata (M4, interaction coef. (medium) = 0.162, s.e. = 0.193, interaction coef. (low) = −0.007, s.e. = 0.187). The left panel of Figure 3.1 depicts the Average Marginal Effects derived from the FE models including these interaction effects for all socioeconomic status groups. Up to this point, we can conclude that the association between voluntary involvement and social capital established by earlier research is jointly driven by selection and enhanced socializing opportunities.

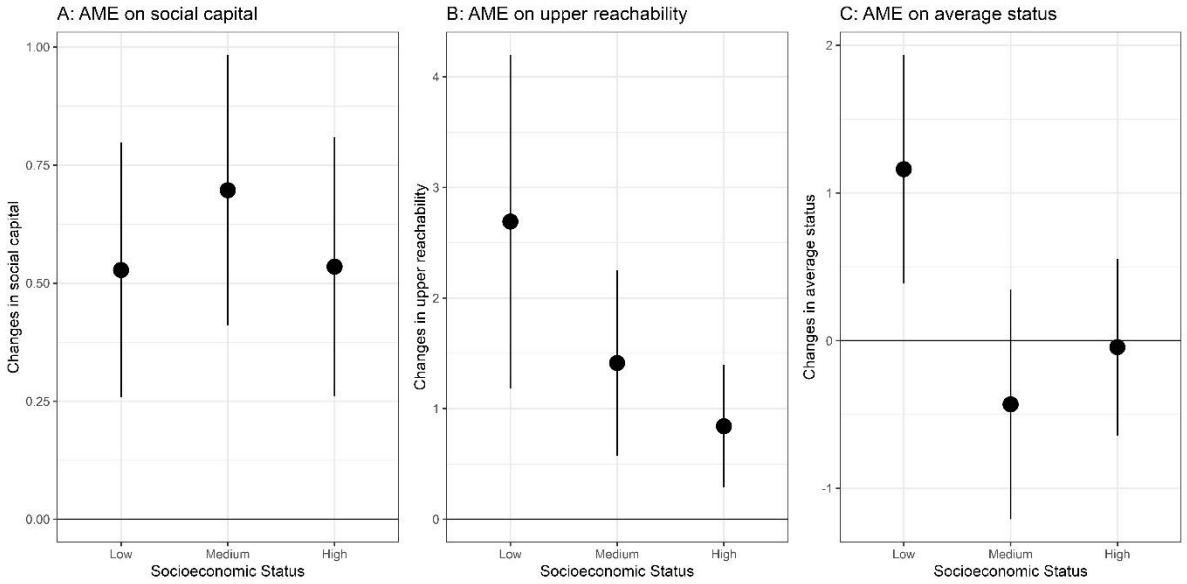
Table 3.2: Results from OLS- and FE-Regression Models

Model	Hypothesis	Outcome	Involvement		Involvement X medium SES		Involvement X low SES		Model type	Control variables	Weights	Sample
M0	-	Number of positions	1.290***	(0.060)					OLS	none	-	F_t1
M1	-	Number of positions	0.863***	(0.059)					OLS	time-constant	-	F_t1
M2	H1b	Number of positions	0.466***	(0.099)					OLS	time-constant	w_s	U_t1
M3	H1a	Number of positions	0.586***	(0.089)					FE	time-varying	w_{sj}	U_t1_t2
M4	H1a	Number of positions	0.535***	(0.140)	0.162	(0.193)	-0.007	(0.187)	FE	time-varying	w_{sj}	U_t1_t2
M5	H2	Upper Reachability	1.631***	(0.325)					FE	time-varying	w_{sj}	U_t1_t2
M6	H2	Lower Reachability	-0.549	(0.332)					FE	time-varying	w_{sj}	U_t1_t2
M7	H2	Average Status	0.220	(0.229)					FE	time-varying	w_{sj}	U_t1_t2
M8	H3	Upper Reachability	0.841***	(0.283)	0.572	(0.479)	1.851*	(0.801)	FE	time-varying	w_{sj}	U_t1_t2
M9	H3	Lower Reachability	-0.409	(0.558)	-1.019	(0.778)	0.605	(0.710)	FE	time-varying	w_{sj}	U_t1_t2
M10	H3	Average Status	-0.044	(0.305)	-0.387	(0.481)	1.205*	(0.480)	FE	time-varying	w_{sj}	U_t1_t2

Note: Involvement refers to 'involvement in voluntary organizations'; robust standard errors in parantheses; the reference category for the socioeconomic status is "high SES"; the OLS-models control for the following variables: socioeconomic status, education, age at t1, gender, migration background, religiosity, big five personality traits; the time-variant variables in the FE-models include age, starting a professional job, quitting a professional job, staring a romantic relationship, quitting a romantic relationship, child birth, residential mobility, region and population density of current place of residence; w_s adjusts for the probability of being part of the analytic sample; w_{sj} adjusts for the probability of being part of the analytic sample and the probability of selecting into identification (see part 1 of the supplement); F_t1 = full sample of all respondents only observed at t1 ($N_{respondents}$ = 7,395), U_t1 = those uninvolved at t1 only observed at t1 ($N_{respondents}$ = 3,895), U_t1_t2 = those who were uninvolved at t1 observed at t1 and t2 ($N_{respondents}$=3,895; $N_{observations}$ = 7,790).

In line with hypothesis 2, I find that individuals' upper reachability increases by 1.631 points on the ISEI scale (or 0.21 standard deviations) after they joined voluntary organizations (M5, s.e. = 0.325). This increase is considerably larger compared to the increases in upper reachability we observe after other major life changes typically facilitating exposure to a broader group of people such as starting a romantic relationship (+0.461) and residential mobility (+0.530; see Table S3 - 4). Furthermore, I find no statistically significant changes in their lower reachability (M6, coef. = −0.549 s.e. = 0.332), supporting the notion that joiners become acquainted with higher- rather than lower-status co-members. When pooling all socioeconomic groups together, the average status of joiners' social capital increases only marginally without reaching conventional levels of significance (M7, coef. = 0.220, s.e. = 0.229).

Figure 3.1: Average Marginal Effects of Joining a Voluntary Organization on Social Capital



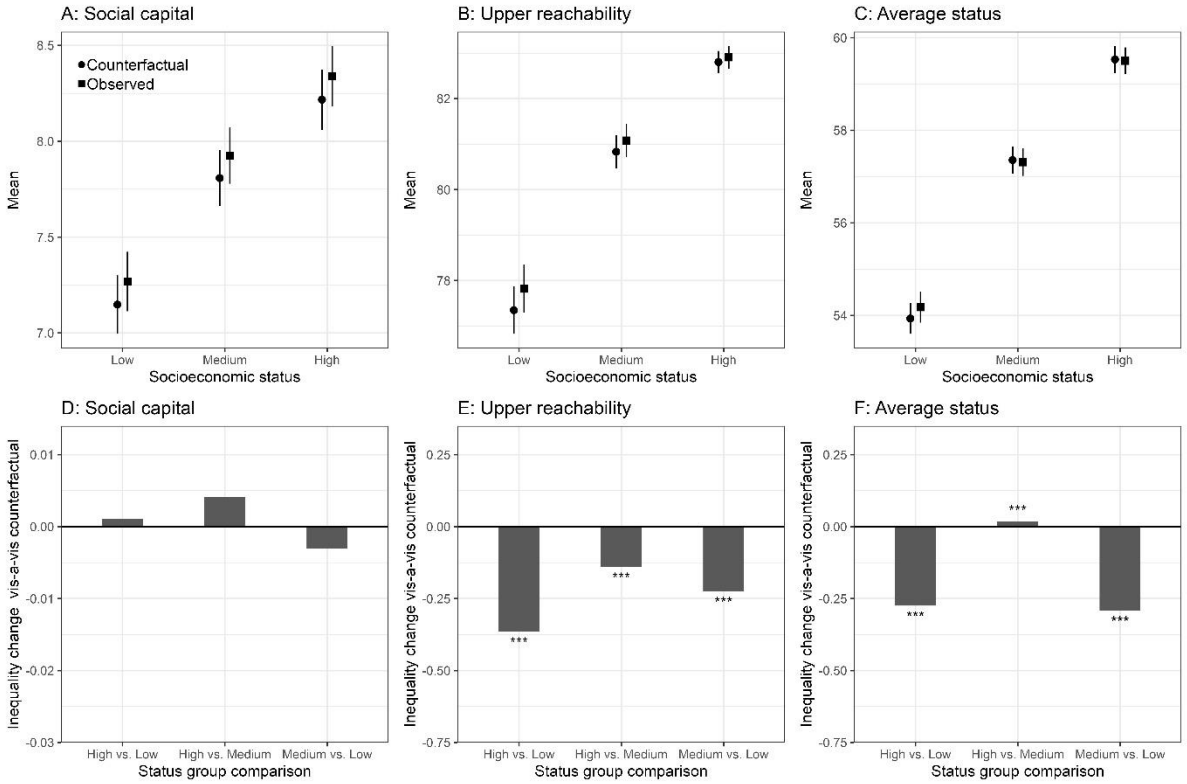
Note: Average marginal effects (AME) of joining a voluntary organization on changes in the respective social capital indicator by status-terciles; error bars indicate 95-percent confidence intervals; $N_{respondents}$=3,895 in each panel.

In support of hypothesis 3, increases in upper reachability after getting involved among low-status individuals are about three times as large as among their high-status counterparts (M8,

interaction coef. (low) = 1.851, s.e. = 0.801, see middle panel of Figure 3.1). Furthermore, I find that changes in individuals' lower reachability associated with voluntary involvement do not significantly differ between low- and high-status individuals (M9, coef. = 0.605, s.e. = 0.710). Finally, while high- and medium-status individuals do not experience any meaningful change in the average status of their social capital after joining, the average status of low-status individuals' social capital increases by 1.161 points on the ISEI scale, i.e., by 18 % of a standard deviation in that group (1.161/6.314 = 0.183) (M10, interaction coefficient (medium) = −0.387, s.e. = 0.481; interaction coefficient (low) = 1.105, s.e. = 0.480, see also right panel of Figure 3.1). Additional analyses (see Table S3 - 6, Table S3 - 7, Table S3 - 8, Table S3 - 9, and Table S3 - 10) revealed that these results differ little across different areas and intensities of involvement, even as previous studies suggest heterogeneity in the effects of voluntary involvement on other outcomes (Alexander et al. 2012; Qvist, Henriksen, and Fridberg 2018).[17]

[17] Unweighted analyses yield somewhat smaller, yet still substantive effects across models (see supplement section 3.8.4). Moreover, including time fixed effects does not change the results meaningfully. Separate models for women and men yield very similar results.

Figure 3.2: Comparison between the Counterfactual and the Observed Distribution of Social Capital, Upper Reachability and Average Status



Note: Respondents are weighted by their inverse probability of being in the analytic sample (w_s, see part 1 of the supplement); $N_{respondents}$ = 3,895 in each panel. Panels A-C: Circles represent estimates derived from the counterfactual distribution in which nobody is involved in any voluntary organization, squares represent estimates derived from the actually observed distribution. Panels D-F: Note that the y-scale used in panel D is different from those used in panels E-F for better visibility. Three asterisks (***) indicate statistical significance at p <0.001.

Turning to the counterfactual analysis, panels A-C in Figure 3.2 depict the means of the different social capital indicators for each status group in the counterfactual distribution (circles) and the actually observed distributions (squares). Compared to a scenario in which nobody got involved in voluntary organizations, individuals in all status groups access on average more positions (panel A) and reach further up (panel B). The average status of all accessed positions is higher among low-status individuals but somewhat lower among medium- and high-status individuals (panel C).

Panels D-E show by which margin social capital inequalities between status groups differ from a scenario without any voluntary involvement. Since all status groups gain access to more

positions by similar margins compared to the counterfactual scenario (see left panel of Figure 3.1 and panel A+D of Figure 3.2), changes in the inequality between these groups remain small and statistically insignificant. Inequalities concerning individuals' upper reachability are reduced by the observed patterns of voluntary involvement (see Figure 3.2, B+E): Compared to the counterfactual distribution, the magnitude of the difference in upper reachability between high- and low-status individuals decreases by 0.37 scale points in the observed distribution compared to the counterfactual distribution, suggesting that the disproportionate gains in upper reachability among lower status individuals (see Figure 3.1, B) outweigh the exacerbation of inequalities implied by their tendency to join voluntary organizations at lower rates. This reduction accounts for about 7 % of the overall magnitude of the inequalities between high- and low-status individuals (see Table 3.1: $\frac{0.37}{82.988-78.112} = \frac{0.37}{4.876} = 0.07$). Similarly, the inequalities between high- and medium-status individuals decrease by 0.14 scale points (or 8 %), and the inequalities between low- and medium-status individuals decrease by 0.23 scale points (or 8%).

Inequalities in average status between high- and low-status individuals decrease by 0.28 scale points (or 5 %) compared to the counterfactual scenario (see Figure 3.2, C+F). Similarly, inequalities between medium- and low-status individuals decrease by 0.29 scale points (or 10 %). Inequalities between high- and medium-status individuals, however, increase marginally (+0.02 scale points or 1 %). Recall that these counterfactual analyses take into account that individuals with lower occupational status get involved less often but if they do, they can expand their social capital more. Thus, they overall suggest that current patterns of voluntary involvement leave inequalities in access to social capital largely unchanged, while somewhat lessening inequalities in individuals' upper reachability and average status.

3.7. Discussion

Previous cross-sectional research identified pronounced socioeconomic inequalities in access to instrumental social capital and recurringly found strong associations between involvement in voluntary organizations and social capital (Benton 2016; Chen 2009; Lin et al. 2009; van Tubergen and Völker 2015). However, they neither address to which extent this association is driven by selection or socializing opportunity effects nor heterogeneity in the social capital gains across socioeconomic groups. Thus, they could ultimately not determine which role voluntary involvement plays for disparities in access to social capital (cf. Lin 2001b).

Against this backdrop, my analyses show that individuals indeed gain access to social capital after getting involved, but that the cross-sectional association between involvement and social capital presented in earlier studies is partly driven by the selection of social capital-rich individuals into voluntary organizations. Furthermore, after joining a voluntary organization, individuals access positions higher up (but not lower down) in the status hierarchy. This effect is particularly pronounced among low-status individuals, for whom voluntary organizations may provide a unique context in which they can connect with people in high-status occupations. By contrast, high- or medium-status individuals often already have access to the highest positions or face higher opportunity costs of voluntary involvement (i.e., more opportunities to acquaint high-status people outside voluntary organizations).

To address the question of whether present patterns of voluntary involvement overall exacerbate or reduce inequalities in access to social capital, I benchmarked the observed distribution of social capital against a counterfactual scenario in which nobody is involved in any voluntary organization. Compared to that scenario, present patterns of involvement do not change socioeconomic inequalities in the number of positions that people access but somewhat reduce disparities in the upper reachability and the average status of accessed positions. Taken together, the results imply that while joiners gain (high-status) social capital from voluntary

involvement, organizations have some (limited) capacity to equalize access to social capital as low-status individuals remain underrepresented.

Importantly, the results of this study are confined to the *access to* and not to the *use of* social capital (Lin 1999). Although access to more and higher-status social capital is generally predictive of economic outcomes (e.g., Chen and Völker 2016), it remains unclear to which extent social capital, besides other mechanisms related to signaling and skill acquisition, can account for the link between volunteering and labor market returns. Studies examining heterogeneity in the labor market returns to volunteering found either no differences across socioeconomic positions (Ruiter and De Graaf 2009) or larger returns among higher classes (Wilson et al. 2020). In this context, the finding that involvement enables particularly low-status joiners to extend their social capital towards higher positions may imply that either high-status joiners are better able to utilize their social capital on the labor market, or that social capital is more relevant for finding managerial or professional jobs. Furthermore, particularly high-status joiners might utilize also connections to occupants of positions they already access through their network. For example, even if one already knows a lawyer, knowing a second one with a different specialization might provide additional returns. From this perspective, the high-status social capital accessed through voluntary organizations might be only partially redundant for high-status joiners. Unfortunately, the present version of the position generator contains no information about alters' additional characteristics, does not capture ties to multiple people in a given occupation, and does not allow to determine whether a given tie was utilized.

In the FE models, I analyze changes in voluntary involvement and social capital and re-weigh individuals based on their inverse probability of getting involved. I thus control for the selection of individuals with abundant social capital into organizations and obtain estimates that are informative beyond the subgroup of people who select into identification (Miller et al.

2021). However, a causal interpretation of the socializing opportunity effects warrants caution: First, concerning the strict exogeneity assumption, individuals may join voluntary organizations as a consequence of gaining social capital outside of voluntary organizations within the observation window, implying reversed causality. However, since newly established ties to individuals who are not involved in voluntary organizations that are potentially of interest to a respondent will not affect their likelihood of joining, this mechanism likely only accounts for a small portion of the within-person association between voluntary involvement and access to social capital. Moreover, additional analyses among those who were actively involved at t1 showed that quitting one's voluntary involvement is associated with reduced access to social capital. Assuming that people's access to social capital in all domains of life should not increase their probability of quitting, this further supports the notion that voluntary involvement indeed affects access to social capital positively (see section 3.8.5 of the supplement). Regarding the possibility that unobserved time-varying variables may confound the link between voluntary involvement and social capital, sensitivity analyses reveal that an unobserved confounder would need to explain about 10% of the residual variance to bring the coefficient down to zero, which equals more than 7 times the effect of age or 30 times the effect of quitting a romantic relationship - see again section 3.8.5 of the supplement (Cinelli, Ferwerda, and Hazlett 2020). Second, it is conceivable that people with certain characteristics (e.g., extraversion) are overrepresented in the group of joiners while being on a steeper social capital trajectory regardless of their involvement - see the final part of section 3.8.1 of the supplement (cf. Rüttenauer and Ludwig 2020). However, re-weighing respondents by variables that may be informative of the extent to which people accumulate social capital between the two time points, should minimize such biases.

Future research may continue to systematically study social capital acquisition and usage longitudinally. It would be particularly interesting to study simultaneously how social capital

becomes accessible through voluntary organizations and how this is utilized on the labor market and in other domains by people in different socioeconomic positions. This would further enrich our knowledge of the nexus of voluntary involvement, social capital, and socioeconomic inequalities therein.

3.8. Supplement

This supplement consists of five parts. In part 3.8.1, I provide additional information on co-variates, show descriptive statistics for different subgroups of the sample, and describe the weighting procedure. In part 3.8.2, I show the full models for Table 3.2. In part 3.8.3, I re-estimate the main results for involvement in different areas and intensities. In part 3.8.4, I provide unweighted fixed-effect models. Finally, in part 3.8.5, I study the link between quitting and social capital and conduct sensitivity analyses for hypothesis 1a.

3.8.1. Measurement, Descriptive Statistics, and Weighting

Voluntary involvement is operationalized based on individuals' responses to an open question. Here, I lay out in more detail, how these responses were converted to the variables of interest:

Respondents received the following question in waves 6 and 10: *"In our society, there are many ways of contributing in different areas. We are interested in finding out if you are actively involved in, for example, a club or an organization. This includes, for example, sports clubs, political parties, trade unions, or church communities. Have you been actively involved in one or more areas since the last interview?"* If they responded with *"Yes"*, they could describe their voluntary involvement (type of organization and activity). Regardless of their response to the initial question, they were asked about other areas in which people typically get involved, including the voluntary fire service and rescue services, carnival associations, and welfare organizations; citizens' initiatives and citizens' clubs, parents' associations, theatre and music groups, initiatives for the unemployed, as a lay judge in a court of law, in organizations

that visit the sick or in solidarity groups. In sum, respondents were allowed to mention up to three involvements in each wave. Involvements in which respondents explicitly stated to only donate money and were not involved in any other way were excluded.

I then determined whether each respondent was involved in the same organization at both waves, or whether they started or quit their involvement between wave 6 and wave 10. We assumed that the type of association was indeed the same if either the described activity is exactly the same (e.g., being the vice-president of the organization), and/or if the type of organization is exactly the same (e.g., soccer club), and/or if the types of organizations belong to the same field and one is the subdomain of the other (e.g., wave 6: I am coaching a handball team, wave 10: I am a coach in a sports club). These involvements were coded as fine-grained as possible. Based on these data on each affiliation nested within respondents, I created the following variables:

- Active involvement at t1 (0 if no organization was mentioned at t1, 1 if any organization was mentioned at t1)
- Active involvement at t2 (0 if no organization was mentioned at t1, 1 if any organization was mentioned at t2)
- Joining between t1 and t2 (0 for everybody at t1, 0 at t2 if respondent joins no new organization until t2, 1 if respondent joins a new organization until t2). Note that this variable is only analyzed among those individuals not involved in any organization at t1 in the FE models.
- Quitting between t1 and t2 (0 for everybody at t1, 0 at t2 if respondent remains involved in the same organization until t2, 1 if respondent quits involvement in their organization). Note that this variable applies only to individuals actively involved at t1.

Only about 3% of the sample joins multiple organizations between t1 and t2. Excluding these respondents from the analyses does not change the results meaningfully.

Table S3 - 1: Operationalization of Control Variables

Variable	Operationalization	time-constant /-varying
Age	Number of months between birth and interview	time-varying
Starting professional job	0 respondent remains in the same job or continues without a job / 1 respondent enters a new job until t2	time-varying
Quitting professional job	0 respondent remains in the same job or continues without a job / 1 respondent quits their initial job until t2	time-varying
Starting romantic relationship	0 respondent remains in the same romantic relationship or continues without a romantic relationship / 1 respondent starts a new romantic relationship until t2	time-varying
Quitting romantic relationship	0 respondent remains in the same romantic relationship or continues without a romantic relationship / 1 respondent quits their initial romantic relationship until t2	time-varying
Childbirth	0 respondent has no new children born until t2 / 1 respondent has at least one new child born until t2	time-varying
Residential mobility	0 respondent stays within the same municipality / 1 respondent moves to a different municipality until t2	time-varying
Region	0 Western Germany / 1 Eastern Germany	time-varying
Population density	Logged number of inhabitants per square km in respondents' municipality	time-varying
Highest educational degree	1 ISCED Scores 0-2 / 2 ISCED Scores 3-4 / 3 ISCED Scores 5-6	time-constant
Woman	0 man / 1 woman	time-constant
Migration background	0 born in Germany and both parents born in Germany / 1 born abroad or at least one parent born abroad	time-constant
Religiosity	How religious are you? (treated continuously) 0 not religious at all / 1 rather not religious / 2 rather religious / 3 very religious	time-constant
Big Five personality traits	Big Five Inventory 10(+1)-item version (Rammstedt and John 2007), 2-3 items per personality trait, scale 1-5, Openness, Conscientiousness, Extraversion, Agreeableness, Neuroticism	time-constant
Involvement before t1	0 never before t1 / 1 once before t1 / 2 multiple times before t1	time-constant
Potential for voluntary involvement	How likely is it that you will get involved in voluntary organizations in the future? (treated continuously) 0 very unlikely / 1 rather unlikely / 2 rather likely / 3 very likely	time-constant

Table S3 - 2: Unweighted Means and Standard Deviations of all Variables at t1 and t2 Among Joiners and Uninvolved Individuals

		Involved at t1 (respondents not part of selection model M3 and all FE models)				Uninvolved at t1 (Sample for selection model M3 and all FE models)							
						Non-joiners				Joiners			
	Time	t1		t2		t1		t2		t1		t2	
		Mean	S.D.	Mean	S.D.	Mean	S.D.	Mean	S.D.	Mean	S.D.	Mean	S.D.
Time-varying variables	Social capital (Nr of accessed positions)	8.774	2.457	8.727	2.526	7.297	2.689	7.104	2.734	8.176	2.584	8.390	2.443
	Upper reachability	82.043	6.013	82.065	6.001	79.273	9.382	79.057	9.840	81.029	6.945	82.001	5.504
	Lower reachability	32.814	5.626	33.059	6.255	33.837	7.281	34.166	7.734	33.518	6.722	33.530	6.842
	Average status	57.472	4.932	57.633	5.033	56.251	6.825	56.382	7.193	57.383	5.719	57.677	5.280
	Voluntary involvement	0	0	0.324	0.468	0	0	0	0	0	0	1	0
	Start employment	0	0	0.332	0.471	0	0	0.304	0.460	0	0	0.331	0.471
	Quit employment	0	0	0.357	0.479	0	0	0.341	0.474	0	0	0.394	0.489
	Start romantic relationship	0	0	0.013	0.113	0	0	0.011	0.103	0	0	0.011	0.104
	Stop romantic relationship	0	0	0.05	0.217	0	0	0.061	0.240	0	0	0.082	0.275
	Childbirth	0	0	0.051	0.219	0	0	0.050	0.219	0	0	0.097	0.296
	Residential mobility	0	0	0.112	0.315	0	0	0.117	0.321	0	0	0.136	0.343
	Region (0=West, 1=East)	0.186	0.389	0.185	0.388	0.229	0.420	0.227	0.419	0.190	0.393	0.188	0.391
	Population density	5.917	1.198	5.920	1.189	6.127	1.278	6.125	1.268	6.016	1.228	5.967	1.211
	Age (in months)	605.484	122.199	654.661	122.160	601.567	126.033	651.050	125.944	592.395	134.374	641.710	134.256
Time-constant variables	Socioeconomic status												
	Low	0.284	0.451	0.284	0.451	0.350	0.477	0.350	0.477	0.269	0.444	0.269	0.444
	Medium	0.337	0.473	0.337	0.473	0.344	0.475	0.344	0.475	0.328	0.470	0.328	0.470
	High	0.379	0.485	0.379	0.485	0.305	0.461	0.305	0.461	0.402	0.491	0.402	0.491
	Education												
	ISCED 0-2	0.032	0.176	0.032	0.176	0.059	0.236	0.059	0.236	0.028	0.165	0.028	0.165
	ISCED 3-4	0.382	0.486	0.382	0.486	0.462	0.499	0.462	0.499	0.413	0.493	0.413	0.493
	ISCED 5-6	0.586	0.493	0.586	0.493	0.479	0.500	0.479	0.500	0.559	0.497	0.559	0.497
	Woman	0.499	0.500	0.499	0.500	0.510	0.500	0.510	0.500	0.538	0.499	0.538	0.499
	Migration background	0.114	0.318	0.114	0.318	0.155	0.362	0.155	0.362	0.132	0.339	0.132	0.339
	Religiosity	2.518	0.924	2.518	0.924	2.156	0.885	2.156	0.885	2.396	0.906	2.396	0.906
	Extraversion	3.495	0.894	3.495	0.894	3.248	0.937	3.248	0.937	3.408	0.919	3.408	0.919
	Openness	3.582	0.902	3.582	0.902	3.391	0.931	3.391	0.931	3.564	0.908	3.564	0.908
	Neuroticism	2.534	0.775	2.534	0.775	2.606	0.841	2.606	0.841	2.604	0.824	2.604	0.824
	Conscientiousness	4.064	0.716	4.064	0.716	4.025	0.722	4.025	0.722	4.036	0.717	4.036	0.717
	Agreeableness	3.603	0.584	3.603	0.584	3.571	0.608	3.571	0.608	3.564	0.596	3.564	0.596
	Involved before t1												
	Never	0.431	0.495	0.431	0.495	0.534	0.499	0.534	0.499	0.404	0.491	0.404	0.491
	Once	0.133	0.340	0.133	0.340	0.144	0.351	0.144	0.351	0.159	0.366	0.159	0.366
	Multiple times	0.436	0.496	0.436	0.496	0.322	0.467	0.322	0.467	0.438	0.496	0.438	0.496
	Potential for voluntary involvement	NA	NA	NA	NA	0.417	0.271	0.417	0.271	0.522	0.275	0.522	0.275
	N	*3,500*		*3,500*		*3,070*		*3,070*		*825*		*825*	

Note: No weights applied; Only respondents who were not involved at t1 were asked how likely they will get involved in a voluntary organization in the future (Potential for voluntary involvement).

Weighting: Previous research suggests that the propensity of being involved in voluntary organizations varies substantively with individuals' resources, structural opportunities, and psychological motivations and predispositions (Wilson 2012). Thus, the analytic sample, which is conditioned on those who are uninvolved at t1, is not representative of the target population of adults in Germany. To address this issue, I predict the probability of each respondent at t1 to end up in the analytic sample based on a logistic regression model containing their highest educational degree, socioeconomic status, gender, migration background, initial access to social capital, involvement history, self-rated potential to get involved, religiosity, and big 5 personality traits (openness, conscientiousness, extraversion, agreeableness, neuroticism) as predictors. I then calculate the sample weights as the inverse of this predicted probabilities: $w_s = \frac{1}{P(part\ of\ analytic\ sample=1)}$. All descriptive tables (Table 3.1 and Table S3 - 2), the OLS regression model M3 (Table 3.2 and Table S3 - 3), and the counterfactual simulations (Figure 3.2) rely on w_s. Note that the OLS regression models M1 and M2 do not include any weights because they are based on the entire sample at t1.

In FE regression analysis, another source of selection comes into play: FE-coefficients are estimated exclusively based on units with that experience change across observations. In the context of this study, this means that the effect of voluntary involvement would only identified among the subgroup of those respondents who voluntarily select into joining. To account for such 'selection into identification', I re-weight the FE-regressions (see models M4-M10 in Table 1 and Figure 1 in the main text, and Tables S2b and S2c in this supplement) by w_{sj}, the product of w_s and w_j—with w_j being the inverse probability of being 'treated' among the joiners and the inverse probability of remaining 'untreated' among the non-joiners (Miller et al. 2021):

$$w_{sj} = \begin{cases} w_s * \dfrac{1}{P(join = 1 \mid part\ of\ analytic\ sample = 1)}, & for\ joiners \\ w_s * \dfrac{1}{1 - P(join = 1 \mid part\ of\ analytic\ sample = 1)}, & for\ non-joiners \end{cases}$$

In doing so, I assign greater weight to respondents with characteristics that are negatively associated with the probability of getting involved (e.g., lower education, introvert personality) because they are underrepresented in the group among which the effect is identified.

Besides, re-weighting also partly addresses the issue of bias induced by slope differences: Individuals belonging to the groups of joiners and non-joiners might differ on their social capital trajectories, independently of whether they actually join an organization. For example, if the group of joiners is more extravert than the group of non-joiners and extraversion is associated with larger yearly increases in social capital, one would overestimate the effect of joining on social capital because the group of joiners would have gained more social capital during the observation window even if they had not joined. However, by re-weighting respondents by their inverse probability to be a joiner based on their extraversion (and other variables), I assign extroverts (with a steep social capital trajectory) a large weight in the non-joiner group (with a flatter social capital trajectory) and a small weight in the joiner group (with a steeper social capital trajectory). Thus, I account for the fact that extraversion (and any other observed weighting variable) put joiners and non-joiners on different social capital trajectories. While I acknowledge that there might still be other (unobserved) variables, I argue that the observed weighting variables account for most of the known potential differences in terms of social capital trajectories.

3.8.2. Full Models (OLS- and FE-Regression) Underlying Table 2

Table S3 - 3: Full Ordinary Least Squares Models

	Model 0 Number of positions		Model 1 Number of positions		Model 2 Number of positions	
Involvement at t1	1.290***	(0.060)	0.863***	(0.059)		
Joining between t1 and t2					0.466***	(0.099)
Socioeconomic status						
High (ref.)						
Medium			0.371***	(0.074)	0.368***	(0.103)
Low			0.417***	(0.081)	0.457***	(0.115)
Education						
ISCED 0-2 (ref.)						
ISCED 3-4			0.321*	(0.158)	0.387	(0.209)
ISCED 5-6			0.572***	(0.160)	0.660**	(0.215)
Age			0.000	(0.000)	-0.000	(0.000)
Woman			-0.099	(0.062)	-0.005	(0.089)
Migration background			-0.248**	(0.087)	-0.307**	(0.118)
Religiosity			0.271***	(0.034)	0.260***	(0.050)
Extraversion			0.396***	(0.033)	0.387***	(0.046)
Openness			0.241***	(0.033)	0.290***	(0.046)
Neuroticism			-0.069	(0.038)	-0.030	(0.052)
Conscientiousness			-0.013	(0.042)	0.028	(0.061)
Agreeableness			-0.031	(0.050)	-0.035	(0.072)
Involved before t1						
Never (ref.)						
Once			0.216*	(0.087)	0.305*	(0.122)
Multiple times			0.814***	(0.063)	0.897***	(0.091)
Eastern Germany			-0.703***	(0.078)	-0.597***	(0.108)
Population density			-0.253***	(0.024)	-0.212***	(0.033)
Constant	7.483***	(0.043)	5.686***	(0.379)	5.082***	(0.537)
N	*7,395*		*7,395*		*3,895*	

Note: Robust standard errors in parentheses, * p < 0.05, ** p < 0.01, *** p < 0.001; w_s adjusts for the probability of being part of the analytic sample in model 2 (see supplement section 3.8.1).

Table S3 - 4: Full Fixed-Effects Models (Models 3-6)

	Model 3 Number of positions		Model 4 Number of positions		Model 5 Upper Reachability		Model 6 Lower Reachability	
Involvement	0.586***	(0.089)	0.535***	(0.140)	1.631***	(0.325)	-0.549	(0.332)
Start employment	-0.050	(0.120)	-0.044	(0.120)	0.688	(0.388)	0.867	(0.611)
Quit employment	0.075	(0.115)	0.073	(0.114)	-0.386	(0.321)	-1.084	(0.600)
Start romantic rel.	-0.010	(0.508)	0.001	(0.503)	0.461	(1.412)	1.263	(1.047)
Quit romantic rel.	0.146	(0.186)	0.150	(0.186)	-0.481	(0.439)	-1.322	(0.843)
Resident. mobility	-0.049	(0.152)	-0.046	(0.152)	0.530	(0.653)	-0.352	(0.573)
Childbirth	0.284	(0.148)	0.289	(0.148)	0.251	(0.502)	-0.962	(0.502)
Age	-0.008***	(0.001)	-0.008***	(0.001)	-0.011*	(0.004)	0.017***	(0.004)
Eastern Germany	0.201	(0.263)	0.190	(0.265)	1.622	(1.214)	-0.503	(0.900)
Population density	-0.088	(0.082)	-0.092	(0.082)	0.323	(0.218)	0.440	(0.279)
Interaction:								
Involvement …								
X high status (ref.)								
X medium status			0.162	(0.193)				
X low status			-0.007	(0.187)				
$N_{respondents}$	*3,895*		*3,895*		*3,895*		*3,895*	
$N_{observations}$	*7,790*		*7,790*		*7,790*		*7,790*	

Note: Robust standard errors in parentheses, * p < 0.05, ** p < 0.01, *** p < 0.001, rel. = relationship; w_{sj} adjusts for the probability of being part of the analytic sample and the probability of selecting into identification (see supplement section 3.8.1).

Table S3 - 5: Full Fixed-Effects Models (Models 7-10)

	Model 7 Average Status		Model 8 Upper Reachability		Model 9 Lower Reachability		Model 10 Average Status	
Involvement	0.220	(0.229)	0.841**	(0.283)	-0.409	(0.558)	-0.044	(0.305)
Start employment	0.744*	(0.355)	0.633	(0.383)	0.807	(0.591)	0.682*	(0.344)
Quit employment	-0.676*	(0.340)	-0.396	(0.327)	-1.073	(0.586)	-0.675*	(0.330)
Start romantic rel.	0.127	(0.590)	0.310	(1.461)	1.139	(1.015)	-0.019	(0.603)
Quit romantic rel.	-0.830*	(0.407)	-0.578	(0.458)	-1.379	(0.837)	-0.910*	(0.403)
Resident. mobility	0.006	(0.374)	0.559	(0.651)	-0.365	(0.565)	0.012	(0.370)
Childbirth	-0.105	(0.439)	0.282	(0.494)	-0.992*	(0.502)	-0.109	(0.438)
Age	0.004	(0.003)	-0.010*	(0.004)	0.017***	(0.004)	0.005	(0.003)
Eastern Germany	0.669	(1.147)	1.797	(1.240)	-0.368	(0.886)	0.832	(1.131)
Population density	0.327	(0.177)	0.347	(0.218)	0.474	(0.280)	0.360*	(0.180)
Interaction:								
Involvement …								
X high status (ref.)								
X medium status			0.572	(0.479)	-1.019	(0.778)	-0.387	(0.481)
X low status			1.851*	(0.801)	0.605	(0.710)	1.205*	(0.480)
$N_{respondents}$	*3,895*		*3,895*		*3,895*		*3,895*	
$N_{observations}$	*7,790*		*7,790*		*7,790*		*7,790*	

Note: Robust standard errors in parentheses, * p < 0.05, ** p < 0.01, *** p < 0.001, rel. = relationship; w_{sj} adjusts for the probability of being part of the analytic sample and the probability of selecting into identification (see supplement section 3.8.1).

3.8.3. Results of Main Analysis by Area and Intensity of Involvement

Previous research studying consequences of voluntary involvement, such as organizational attachment and political participation (Alexander et al. 2012; Qvist et al. 2018) revealed that both, the area and the intensity of involvement matter for these outcomes. Thus, one might suspect that the effects on social capital might differ across areas and intensities as well. To assess whether the results differ indeed across different areas of involvement (i.e., 'sport', e.g., soccer-, athletics-, and swimming clubs; 'social', e.g., elderly care-, parents'-, and support associations, or 'other', e.g., religious-, community-, and gardening organizations) and between those who are involved at 'high intensity' (i.e., more than once a week) and those involved at 'low intensity' (i.e., up to once a week), I re-run the main analyses several times, each time including only uninvolved individuals and those involved either in the area (Table S3 - 6, Table S3 - 7, and Table S3 - 8) or at the intensity of interest (Table S3 - 9 and Table S3 - 10), while omitting respondents involved in other areas or at other intensity levels.

The categories for the involvement areas are derived from respondents' descriptions of their involvements. Sports organizations encompass, for example, soccer and athletics clubs; social organizations encompass parents' associations, self-help groups, and other welfare associations; the category 'other' refers to all other types of organizations, such as religious or community groups. Note that further distinguishing the arguably heterogeneous category of 'other' organizations would yield subsamples which are too small for obtaining reliable results.

The results for the three areas of involvement (see sports: Table S3 - 6, social: Table S3 - 7, other: Table S3 - 8) suggest that there is support for my hypotheses across these different areas of involvement. In all three sets of models, the main effects of involvement point in the same direction, are (more or less) similar in size, and remain statistically significant. Due to the smaller number of observations in each SES-involvement area combination, most interaction

effects lose their significance but their size relative to each other remains in line with the results presented in the main text.

Similarly, the results vary little by the intensity of voluntary involvement (see high intensity: Table S3 - 9, low intensity: Table S3 - 10) suggesting that meeting co-members occasionally may already be sufficient for expanding one's social capital. This resonates the arguments by Granovetter (1973) and Burt (2004) regarding the 'strength of weak ties' and 'structural holes': establishing occasional contact in voluntary organizations already leads to substantial increases in access to social capital. Again, due to the smaller number of observations in each SES-intensity combination, most of the interaction effects lose their significance but remain substantive in size.

Table S3 - 6: Results from OLS- and FE-Regression Models (Organizations in the Sports Area)

Model	Hypothesis	Outcome	Involvement		Involvement X medium status		Involvement X low status		Model type	Control variables	Sample
M0	-	Number of positions	1.335***	(0.067)					OLS	none	F_t1
M1	-	Number of positions	0.901***	(0.066)					OLS	time-constant	F_t1
M2	H1b	Number of positions	0.600***	(0.162)					OLS	time-constant	U_t1
M3	H1a	Number of positions	0.500***	(0.148)					FE	time-varying	U_t1_t2
M4	H1a	Number of positions	0.322	(0.261)	0.386	(0.369)	0.124	(0.324)	FE	time-varying	U_t1_t2
M5	H2	Upper Reachability	0.941*	(0.386)					FE	time-varying	U_t1_t2
M6	H2	Lower Reachability	-0.749	(0.676)					FE	time-varying	U_t1_t2
M7	H2	Average Status	-0.026	(0.402)					FE	time-varying	U_t1_t2
M8	H3	Upper Reachability	0.330	(0.512)	0.818	(0.831)	0.943	(0.826)	FE	time-varying	U_t1_t2
M9	H3	Lower Reachability	-1.121	(1.120)	-0.412	(1.668)	1.506	(1.480)	FE	time-varying	U_t1_t2
M10	H3	Average Status	-0.620	(0.605)	0.246	(0.962)	1.480	(0.845)	FE	time-varying	U_t1_t2

Note: Involvement refers to 'involvement in voluntary organizations in the sports area'; robust standard errors in parantheses; the OLS-models control for the following variables: socioeconomic status, education, age at t1, gender, migration background, religiosity, big five personality traits; the time-variant variables in the FE-models include age, starting a professional job, quitting a professional job, staring a romantic relationship, quitting a romantic relationship, child birth, residential mobility, region and population density of current place of residence; w_s adjusts for the probability of being part of the analytic sample; No weights applied; Individuals who are involved in a different type of organization are omitted from these models; F_t1 = full sample of all respondents only observed at t1 ($N_{respondents}$ = 5,961), U_t1 = those uninvolved at t1 only observed at t1 ($N_{respondents}$ = 3,317), U_t1_t2 = those who were uninvolved at t1 observed at t1 and t2 ($N_{respondents}$=3,317; $N_{observations}$ = 6,634, out of which 428 join an organization in the sports area).

Table S3 - 7: Results from OLS- and FE-Regression Models (Organizations in the Social Area)

Model	Hypothesis	Outcome	Involvement		Involvement X medium status		Involvement X low status		Model type	Control variables	Sample
M0	-	Number of positions	1.316***	(0.067)					OLS	none	F_t1
M1	-	Number of positions	0.888***	(0.066)					OLS	time-constant	F_t1
M2	H1b	Number of positions	0.459**	(0.164)					OLS	time-constant	U_t1
M3	H1a	Number of positions	0.648***	(0.164)					FE	time-varying	U_t1_t2
M4	H1a	Number of positions	0.600*	(0.261)	0.086	(0.381)	0.074	(0.353)	FE	time-varying	U_t1_t2
M5	H2	Upper Reachability	1.388**	(0.495)					FE	time-varying	U_t1_t2
M6	H2	Lower Reachability	-0.002	(0.518)					FE	time-varying	U_t1_t2
M7	H2	Average Status	0.179	(0.386)					FE	time-varying	U_t1_t2
M8	H3	Upper Reachability	0.742	(0.458)	0.200	(1.054)	2.312	(1.214)	FE	time-varying	U_t1_t2
M9	H3	Lower Reachability	0.111	(0.746)	-1.289	(1.111)	1.297	(1.281)	FE	time-varying	U_t1_t2
M10	H3	Average Status	-0.100	(0.605)	-0.693	(0.833)	2.059*	(0.888)	FE	time-varying	U_t1_t2

Note: Involvement refers to 'involvement in voluntary organizations in the social area'; F_t1 = full sample of all respondents only observed at t1 ($N_{respondents}$ = 6,003), U_t1 = those uninvolved at t1 only observed at t1 ($N_{respondents}$ = 3,313), U_t1_t2 = those who were uninvolved at t1 observed at t1 and t2 ($N_{respondents}$=3,313; $N_{observations}$ = 6,626, out of which 420 join an organization in the social area).

Table S3 - 8: Results from OLS- and FE-Regression Models (Organizations in Other Areas)

Model	Hypothesis	Outcome	Involvement		Involvement X medium status		Involvement X low status		Model type	Control variables	Sample
M0	-	Number of positions	1.290***	(0.064)					OLS	none	F_t1
M1	-	Number of positions	0.852***	(0.063)					OLS	time-constant	F_t1
M2	H1b	Number of positions	0.473***	(0.137)					OLS	time-constant	U_t1
M3	H1a	Number of positions	0.465***	(0.120)					FE	time-varying	U_t1_t2
M4	H1a	Number of positions	0.317	(0.206)	0.266	(0.281)	0.184	(0.277)	FE	time-varying	U_t1_t2
M5	H2	Upper Reachability	2.091***	(0.511)					FE	time-varying	U_t1_t2
M6	H2	Lower Reachability	-0.472	(0.425)					FE	time-varying	U_t1_t2
M7	H2	Average Status	0.388	(0.306)					FE	time-varying	U_t1_t2
M8	H3	Upper Reachability	1.060*	(0.351)	0.543	(0.561)	2.396	(1.319)	FE	time-varying	U_t1_t2
M9	H3	Lower Reachability	-0.421	(0.805)	-0.907	(1.090)	0.634	(0.991)	FE	time-varying	U_t1_t2
M10	H3	Average Status	-0.005	(0.438)	-0.229	(0.641)	1.287	(0.699)	FE	time-varying	U_t1_t2

Note: Involvement refers to 'involvement in voluntary organizations in other areas'; F_t1 = full sample of all respondents only observed at t1 ($N_{respondents}$ = 6,469), U_t1 = those uninvolved at t1 only observed at t1 ($N_{respondents}$ = 3,471), U_t1_t2 = those who were uninvolved at t1 observed at t1 and t2 ($N_{respondents}$=3,471; $N_{observations}$ = 6,942, out of which 736 join an organization in other areas).

Table S3 - 9: Results from OLS- and FE-Regression Models (High Involvement Intensity)

Model	Hypothesis	Outcome	Involvement		Involvement X medium status		Involvement X low status		Model type	Control variables	Sample
M0	-	Number of positions	1.317***	(0.065)					OLS	none	F_t1
M1	-	Number of positions	0.878***	(0.064)					OLS	time-constant	F_t1
M2	H1b	Number of positions	0.520***	(0.140)					OLS	time-constant	U_t1
M3	H1a	Number of positions	0.596***	(0.135)					FE	time-varying	U_t1_t2
M4	H1a	Number of positions	0.530*	(0.230)	0.103	(0.318)	0.097	(0.313)	FE	time-varying	U_t1_t2
M5	H2	Upper Reachability	1.330**	(0.482)					FE	time-varying	U_t1_t2
M6	H2	Lower Reachability	-0.469	(0.387)					FE	time-varying	U_t1_t2
M7	H2	Average Status	0.086	(0.304)					FE	time-varying	U_t1_t2
M8	H3	Upper Reachability	0.453	(0.360)	-0.122	(0.531)	2.595*	(1.233)	FE	time-varying	U_t1_t2
M9	H3	Lower Reachability	-0.674	(0.828)	-0.089	(0.992)	0.661	(0.942)	FE	time-varying	U_t1_t2
M10	H3	Average Status	-0.432	(0.464)	-0.424	(0.625)	1.849**	(0.708)	FE	time-varying	U_t1_t2

Note: Involvement refers to 'involvement in voluntary organizations with high intensity; Individuals who are involved with low intensity are omitted from these models; F_t1 = full sample of all respondents only observed at t1 ($N_{respondents}$ = 6,298), U_t1 = those uninvolved at t1 only observed at t1 ($N_{respondents}$ = 3,405), U_t1_t2 = those who were uninvolved at t1 observed at t1 and t2 ($N_{respondents}$=6,810; $N_{observations}$ = 3,405, out of which 670 get involved at high intensity).

Table S3 - 10: Results from OLS- and FE-Regression Models (Low Involvement Intensity)

Model	Hypothesis	Outcome	Involvement		Involvement X medium status		Involvement X low status		Model type	Control variables	Sample
M0	-	Number of positions	1.312***	(0.064)					OLS	none	F_t1
M1	-	Number of positions	0.886***	(0.063)					OLS	time-constant	F_t1
M2	H1b	Number of positions	0.419***	(0.124)					OLS	time-constant	U_t1
M3	H1a	Number of positions	0.579***	(0.106)					FE	time-varying	U_t1_t2
M4	H1a	Number of positions	0.540**	(0.168)	0.190	(0.240)	-0.085	(0.225)	FE	time-varying	U_t1_t2
M5	H2	Upper Reachability	1.836***	(0.414)					FE	time-varying	U_t1_t2
M6	H2	Lower Reachability	-0.630	(0.465)					FE	time-varying	U_t1_t2
M7	H2	Average Status	0.305	(0.304)					FE	time-varying	U_t1_t2
M8	H3	Upper Reachability	1.903**	(0.378)	0.994	(0.696)	1.307	(1.023)	FE	time-varying	U_t1_t2
M9	H3	Lower Reachability	-0.250	(0.735)	-1.559	(1.101)	0.501	(1.022)	FE	time-varying	U_t1_t2
M10	H3	Average Status	0.212	(0.391)	-0.346	(0.671)	0.686	(0.648)	FE	time-varying	U_t1_t2

Note: Involvement refers to 'involvement with low intensity; Individuals who are involved with high intensity are omitted from these models; F_t1 = full sample of all respondents only observed at t1 ($N_{respondents}$ = 6,540), U_t1 = those uninvolved at t1 only observed at t1 ($N_{respondents}$ = 3,560), U_t1_t2 = those who were uninvolved at t1 observed at t1 and t2 ($N_{respondents}$=7,120; $N_{observations}$ = 3,560, out of which 980 get involved at low intensity).

3.8.4. Unweighted Fixed-Effect Models

The goal of the fixed-effect models presented in sections 3.6 and 3.8.2 is to assess how social capital changes after joining voluntary organizations among the entire population of interest. To ensure representativity while running the fixed-effect models on a subsample of those who were not involved at t1, I thus re-weight respondents by their probability to (i) end up in the sample, i.e., not being involved at t1, and (ii) experience a change on the main independent variable of interest (cf. Miller et al. 2021), i.e., joining a voluntary organization until t2.

Below in Table S3 - 11 and Table S3 - 12, I provide the results of the same analyses without re-weighting to assess whether the observed patterns when only considering the population that actually joins voluntary organizations during the observation window covered by the data. These results largely resemble the results from the main analyses. While the effect of joining

a voluntary organization on social capital is somewhat smaller across most/all models, they remain substantive in size and also support the hypotheses.

Table S3 - 11: Full Fixed-Effects Models, Unweighted (Models 3-6)

	Model 3 Number of positions		Model 4 Number of positions		Model 5 Upper Reachability		Model 6 Lower Reachability	
Involvement	0.386***	(0.080)	0.400***	(0.120)	1.207***	(0.264)	-0.253	(0.300)
Start employment	-0.071	(0.095)	-0.069	(0.095)	0.997*	(0.388)	0.559	(0.376)
Quit employment	0.079	(0.090)	0.079	(0.090)	-0.703	(0.363)	-0.489	(0.352)
Start romantic rel.	-0.195	(0.353)	-0.186	(0.351)	0.064	(0.992)	0.941	(0.895)
Quit romantic rel.	0.132	(0.150)	0.136	(0.150)	-0.561	(0.586)	-0.700	(0.508)
Resident. mobility	-0.042	(0.109)	-0.042	(0.109)	0.393	(0.406)	-0.209	(0.411)
Childbirth	0.371**	(0.131)	0.371**	(0.131)	0.377	(0.472)	-0.758	(0.472)
Age	-0.004***	(0.001)	-0.004***	(0.001)	-0.006	(0.004)	0.009*	(0.004)
Eastern Germany	0.053	(0.315)	0.047	(0.315)	2.104	(1.132)	0.338	(1.127)
Population density	-0.020	(0.075)	-0.022	(0.075)	0.299	(0.262)	0.247	(0.302)
Interaction:								
Involvement …								
X high status (ref.)								
X medium status			0.048	(0.168)				
X low status			-0.105	(0.167)				
$N_{respondents}$	*3,895*		*3,895*		*3,895*		*3,895*	
$N_{observations}$	*7,790*		*7,790*		*7,790*		*7,790*	

Note: Robust standard errors in parentheses, * p < 0.05, ** p < 0.01, *** p < 0.001, rel. = relationship, no weights applied.

Table S3 - 12: Full Fixed-Effects Models, Unweighted (Models 7-10)

	Model 7 Average Status		Model 8 Upper Reachability		Model 9 Lower Reachability		Model 10 Average Status	
Involvement	0.193	(0.204)	0.666*	(0.286)	-0.285	(0.510)	-0.032	(0.295)
Start employment	0.802**	(0.277)	0.986*	(0.388)	0.549	(0.375)	0.790**	(0.276)
Quit employment	-0.515*	(0.261)	-0.702	(0.363)	-0.495	(0.352)	-0.519*	(0.260)
Start romantic rel.	-0.344	(0.699)	0.025	(0.998)	0.884	(0.890)	-0.402	(0.700)
Quit romantic rel.	-0.738	(0.408)	-0.585	(0.587)	-0.722	(0.507)	-0.764	(0.408)
Resident. mobility	0.046	(0.299)	0.400	(0.406)	-0.212	(0.411)	0.047	(0.299)
Childbirth	-0.009	(0.370)	0.391	(0.471)	-0.763	(0.471)	-0.008	(0.369)
Age	0.002	(0.003)	-0.006	(0.004)	0.009*	(0.004)	0.002	(0.003)
Eastern Germany	1.375	(0.740)	2.139	(1.133)	0.382	(1.127)	1.421	(0.740)
Population density	0.281	(0.209)	0.296	(0.262)	0.257	(0.302)	0.287	(0.210)
Interaction:								
Involvement …								
X high status (ref.)								
X medium status			0.633	(0.422)	-0.455	(0.648)	-0.112	(0.400)
X low status			1.094*	(0.553)	0.638	(0.649)	0.894*	(0.417)
$N_{respondents}$	*3,895*		*3,895*		*3,895*		*3,895*	
$N_{observations}$	*7,790*		*7,790*		*7,790*		*7,790*	

Note: Robust standard errors in parentheses, * p < 0.05, ** p < 0.01, *** p < 0.001, rel. = relationship, no weights applied.

3.8.5. The Link between Quitting and Social Capital and Sensitivity Analysis

The FE regression models combined with the chosen weighting approach account for confounding driven by between-individual differences in voluntary involvement. For example, I control for the fact that individuals who have initially large initial stocks of social

capital are more likely to join voluntary organizations. Yet, to interpret the coefficient in model 3 as a causal socializing opportunity effect, one needs to assume strict exogeneity of the independent variable of interest, i.e., joining a voluntary organization. This implies the absence of (i) reversed causality and (ii) any unobserved (time-varying) variables that confound the within-person association between voluntary involvement and social capital (e.g., changes in mental health).

Regarding (i), I run an additional model in which the possibility of reverse causality can be ruled out more credibly thereby aiming to increase the confidence in the causal mechanism of interest (volunteering boosts social capital). I conduct an additional test among those who were already involved at t1: If involvement indeed boosts social capital, we should expect that those who stay involved (0) gain more social capital over time compared to those who quit (1), since they have more opportunities to socialize with co-members. It can credibly be assumed that having access to social capital in all domains of life does not decrease the probability of quitting (and thereby produce a negative association between social capital and quitting). If anything, previous research suggests that having more social ties outside organizations increases the likelihood of quitting (McPherson et al. 1992). The results of the model below () indicate that quitting is associated with significantly more negative social capital trajectories among those who were initially involved, indicating that involvement indeed boosts social capital. Note that this effect is smaller than the joining effect because quitting does immediately take away all social ties established in voluntary organizations but primarily inhibits the opportunity to form new ones (e.g., to newly joined co-members).

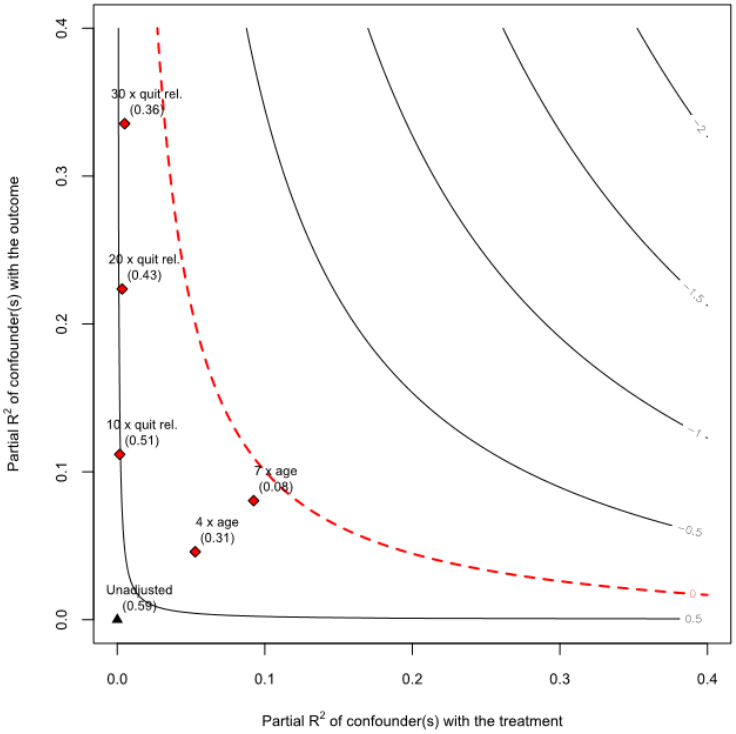
Table S3 - 13: Quitting Voluntary Involvement and Access to Social Capital

	Social capital (Number of accessed positions)	
	Coef.	S.E.
Quit voluntary involvement	-0.235**	(0.080)
Start employment	0.111	(0.099)
Quit employment	0.016	(0.097)
Start romantic relationship	0.428	(0.281)
Quit romantic relationship	0.024	(0.152)
Residential mobility	0.023	(0.120)
Childbirth	0.282	(0.159)
Age	-0.001	(0.001)
Region (0=West, 1=East)	-0.187	(0.338)
Log(Population density)	0.039	(0.079)
$N_{observations}$	*7,000*	
$N_{respondents}$	*3,500*	

Note: Only respondents who are 'at risk' of quitting, i.e., who are actively involved in a voluntary organization at t1, are included in this model; robust standard errors in parantheses.

Since it is impossible to test assumption (ii), I conduct sensitivity analyses that specify how much confounding would need to be added in order to bring the effect of interest down to zero (Cinelli et al. 2020). The results of the sensitivity analysis suggest that unobserved confounding variables would need to explain at least 10.03% of the residual variance of the outcome and the treatment to bring the estimate down to zero (i.e., the robustness value RV equals 0.1003). Figure S3 - 1 provides a graphical representation. The axes show the hypothetically added partial R^2 of the unobserved confounder with the outcome and the treatment, respectively. The contours depict what effect size "would have been obtained in the full regression model including unobserved confounders with such hypothetical strengths" (Cinelli et al. 2020:12). A confounder 7 times the size of age or 30 times the size of quitting a romantic relationship would not suffice to eliminate the observed effect of voluntary involvement on social capital (see Figure S3 - 1) suggesting the robustness of the observed socialization effect to unobserved confounders.

Figure S3 - 1: Sensitivity Analysis of the Socialization Effect



Note: The red line indicates how strong the correlation with a confounder with the treatment and the outcome would need to be in order to bring the main effect of joining on social capital to zero.

4 Chapter 4: Brittle Bridges: Ethnic Segregation Across and Within Civic Organizations

This chapter is co-authored by Dingeman Wiertz.

4.1. Abstract

Civic organizations are often depicted as vehicles for social integration: Since they gather people around common interests and have relatively low entry barriers, they may facilitate interactions that bridge social divides prevailing in other domains. However, this hopeful portrayal rests on several critical yet largely untested assumptions. This study, therefore, investigates the bridging potential of civic organizations, focusing on ethnicity as a key social boundary. Using unique Dutch survey data, we show that: (i) There is strong ethnic segregation *across* organizations, which persists after accounting for socioeconomic differences between individuals and organizations; (ii) There is ethnic segregation *within* organizations in participants' contacts with co-members; (iii) Participants integrate less well in organizations with more ethnic outgroup members and are more likely to leave them. In sum, homophilous sorting dynamics when people join, interact within, and leave organizations limit their capacity to facilitate positive interethnic contact. Additional efforts are thus necessary for civic organizations to fully live up to their bridging potential and contribute to the integration of ethnic minorities rather than reinforcing existing divides.

4.2. Introduction

Civic organizations such as sports clubs, leisure groups, and cultural associations are often portrayed as vehicles for social integration in diversifying societies, as anybody could, in principle, get involved in their activities. Pundits and policymakers hope that civic

organizations act as meeting places for people from different backgrounds, thus facilitating positive intergroup contact, fostering generalized trust, and contributing to a more cohesive and inclusive society (Putnam 2000; Schiefer and Van der Noll 2017; Stolle and Rochon 1998). Notwithstanding more skeptical views, arguing that civic organizations reinforce existing social divisions (e.g., Brady, Scholzman, and Verba 1999), notions about the integrative power of civic organizations remain extremely popular. In the United States, for example, the Joint Economic Committee's 'Social Capital Project' advocates a renewal of the American civic tradition on the ground that "[civic] institutions help to cultivate relationships between people who may not otherwise meet", thereby promoting social trust and improving life chances (Joint Economic Committee 2021:38–39). Similarly, the European Commission (2021) recently launched a large-scale program to improve the social integration of marginalized groups through sports clubs. The underlying idea is that intergroup ties formed in civic organizations could help members of disadvantaged groups access resources that facilitate their integration into wider society, while also reducing prejudice among dominant social groups. They may furthermore counteract polarization tendencies in communities characterized by segregated networks (Rawlings 2022).

Ethnic differences are among the most salient and divisive boundaries in society (McPherson et al. 2001). People disproportionally know, interact with, and confide in coethnics (DiPrete et al. 2011; S. Smith et al. 2014; van Tubergen 2015), which likely exacerbates social inequalities between ethnic groups through network effects (DiMaggio and Garip 2011). To an important degree, ethnic segregation in personal networks can be traced back to the strong segregation of neighborhoods, schools, and workplaces along ethnic lines (Ferguson and Koning 2018; Hwang and McDaniel 2022; Mollenhorst, Völker, and Flap 2008; Reardon and Owens 2014). Entry to these settings is typically contingent on meeting serious entry requirements, related to financial means or educational qualifications. Given the persistence

of ethnic inequalities in the ownership of such resources, ethnic segregation in these settings is difficult to overcome. Since civic organizations can usually be joined without having to conquer as many hurdles, civic life might provide more fertile soil for inter-ethnic mixing (Mollenhorst et al. 2008).

Nevertheless, the ability of civic organizations to bridge ethnic divides depends on a range of conditions that need to be met. Key questions include: (i) Are different ethnic groups equally represented in civic life? (ii) Are they involved in the same organizations? (iii) Do participants interact with ethnic outgroup members inside their organizations? (iv) Do inter-ethnic contacts within organizations have a durable character? (v) Do such contacts influence outcomes beyond the organization, such as generalized trust and inter-ethnic attitudes? Without affirmative answers to these questions, hopes that civic organizations will help bridge ethnic divides and promote community cohesion may need to be scaled down.

Most previous research on the nexus between civic engagement and ethnic integration has focused on the first of these questions, documenting that ethnic minorities are less often involved in civic organizations than their ethnic majority counterparts (e.g., Dagevos, de Voogd-Hamelink, and Damen 2022; Gijsberts, van der Meer, and Dagevos 2012; Greenspan, Walk, and Handy 2018; Voicu and Şerban 2012). These differences likely stem from inequalities in financial, human, cultural, and social capital, as well as from discriminatory practices by gatekeepers in these organizations (Gomez-Gonzalez et al. 2021; Voicu and Şerban 2012). Furthermore, recent studies have shown that if ethnic minority members do get involved, they tend to join civic organizations with relatively large shares of coethnics, a pattern also found among ethnic majorities (Van Haaften 2019; Wiertz 2016).

There are also studies on the relationship between civic engagement and broader social outcomes, such as the composition of friendship networks or intergroup attitudes. These

studies suggest that membership in civic organizations may improve network diversity and intergroup attitudes, but that these effects – insofar as they are causal to begin with – vary across organizational contexts (Farkas and Lindberg 2015; Glanville 2004; Wang and Morav 2021). However, most of these studies do not account for several of the most important aspects of organizational contexts, namely the social composition of civic organizations and the intergroup dynamics taking place within them. Instead, they often only consider whether people are involved in any type of civic organization or distinguish organizations merely by their activity domain. Van der Meer (2016), by contrast, does consider the ethnic composition of organizations, finding that involvement in ethnically diverse organizations does not change inter-ethnic tolerance and trust, nor ethnocentrism.

Altogether, while previous studies provide important insights regarding the contribution of civic organizations to ethnic integration, several essential issues remain understudied. Most notably, previous studies rarely examine actual inter-ethnic contact within civic organizations (see questions iii and iv) – the core mechanism on which the aforementioned hopes rest (Glanville 2016). At best, they look at the ethnic composition of civic organizations (e.g., Wiertz 2016), yet this only captures exposure to ethnic outgroups rather than actual inter-ethnic contact. More generally, there is much theorizing about the links between civic engagement and social integration but few direct tests of the arguments put forward. Our study improves upon this state of affairs by studying ethnic segregation both across and within organizations, and by examining how organizations' social composition affects participants' integration and commitment (in)to their organizations.

Our contribution is threefold. Firstly, we extend previous research on ethnic segregation *across* civic organizations by accounting for their socioeconomic composition. Earlier work, by contrast, could not identify whether ethnic segregation across organizations is driven by ethnic homophily or emerges as a by-product of socioeconomic segregation (Wiertz 2016). Secondly,

we study ethnic segregation *within* organizations in terms of actual contact. After all, even if people from different ethnic groups are involved in the same organizations, they might still primarily interact with coethnics. Ethnographic studies, for example, demonstrate that racially diverse congregations in the United States often grapple with internal divisions (Christerson, Edwards, and Emerson 2005). Such internal dynamics may also explain why Van der Meer (2016) found no positive attitudinal effects of involvement in ethnically diverse organizations. Thirdly, we examine how the ethnic composition of organizations affects participants' integration into their organizations and their likelihood of staying involved. Both of these outcomes are important for assessing the significance and durability of any intergroup contact taking place within organizations. Taken together, these advances enable a more comprehensive appraisal of the extent to which civic organizations succeed in facilitating contact between ethnic groups.

Our analysis draws on survey data from the Netherlands, collected in 2011 and 2017 through the LISS panel (Longitudinal Internet studies for the Social Sciences). Civic engagement is very common in the Netherlands and seen as a vital part of Dutch culture (Eurostat 2017; Statistics Netherlands 2015). Furthermore, like many other countries, the Netherlands has become ethnically more diverse in recent decades. The largest minorities have roots in Turkey, Morocco, Suriname, and the Dutch Antilles, stemming from the country's colonial past, guest worker migration in the 1960s and 1970s, and subsequent family reunification. These minorities traditionally occupy disadvantaged positions in Dutch society, as expressed in worse economic and educational outcomes, although a recent report by the Netherlands Institute for Social Research indicates that these ethnic inequalities are declining (Dagevos et al. 2022). The same report shows that most ethnic minority members have at least weekly contact with friends or acquaintances from the ethnic majority in their leisure time. Still, only 70 percent of the ethnic majority support the multicultural society, and hiring discrimination

against ethnic minorities has even risen over the last decades, approaching levels comparable to white-black discrimination in the United States (Quillian and Lee 2023). Ethnicity thus remains a salient fault line in the Netherlands.

Our analysis reveals notable limitations to civic organizations' bridging capacity. Ethnic minorities are not only less often involved in civic organizations than the ethnic majority, both groups also tend to sort into organizations with more ethnic ingroup members. This segregation across organizations mirrors patterns of segregation in other social domains and persists after accounting for educational attainment as a marker of socioeconomic status. We additionally find evidence for ethnic segregation within organizations, with civic participants disproportionately interacting with coethnics inside their organizations, even when controlling for intra-organizational contact opportunities. Furthermore, participants are less well integrated in organizations that contain larger shares of ethnic outgroup members, which partially explains why they are more likely to leave such organizations. Although these effects are modest in magnitude, social dynamics *within* organizations thus reinforce ethnic segregation *across* them. Overall, we conclude that the pervasiveness of ethnic segregation in civic life significantly limits the bridging capacity of civic organizations. Nevertheless, our findings also point to ways in which civic organizations could promote positive inter-ethnic relations more effectively.

4.3. Theory and Hypotheses

Civic organizations have the potential to bring ethnic groups closer to each other, as they might serve as places where people of different origins mingle. Compared to other social settings, they may even have features that make them especially suitable for this purpose (Mollenhorst et al. 2008). They are relatively easy to join and organized around shared interests that may

ease mixing of people from different backgrounds. However, whether civic organizations live up to their bridging potential and indeed help to improve inter-ethnic relations depends on several factors. Firstly, to create opportunities for inter-ethnic contact, people from different ethnic groups should join the same organizations. Secondly, these opportunities should be capitalized upon, for it is primarily through direct contact that participants can learn about each other and update their outgroup attitudes. Thirdly, to strengthen this conversion process, civic organizations should ideally not merely expose participants to occasional, superficial contact with ethnic outgroup members, but stimulate durable connections. We successively review each of these three criteria, discussing ethnic segregation across civic organizations, ethnic segregation within them, as well as internal integration and exit dynamics.

4.3.1. Segregation Across Organizations

Ethnic or racial segregation is common across many settings, including neighborhoods, schools, and workplaces (Boterman 2019; Boterman and Musterd 2016; Ferguson and Koning 2018; Hwang and McDaniel 2022; Reardon and Owens 2014). People may be willing to incur high costs to attain or avoid settings with specific ethnic compositions (Billingham and Hunt 2016; Lewis, Emerson, and Klineberg 2011). Homeowners may be concerned about the value of their property, parents about their children's peer groups, and workers about their work floor interactions. Moreover, access to many settings is contingent on the availability of financial, social, and human capital, of which ethnic groups tend to have different stocks (Killewald, Pfeffer, and Schachner 2017; Lin 2000; Tomaskovic-Devey, Thomas, and Johnson 2005). Comparatively, though, one might expect to find more ethnic mixing in civic organizations than in other settings. The composition of civic organizations may be less consequential (involving less frequent contact) and entering and leaving civic organizations is comparatively easy.

Still, there are reasons to expect substantial ethnic segregation across civic organizations. Firstly, precisely because it is relatively easy to join and leave organizations, people can easily 'escape' outgroup members if they wish to (Mollenhorst et al. 2008). Second, existing participants tend to recruit new ones among their homophilous social circles, reinforcing organizations' homogeneity (Brady et al. 1999; McPherson and Smith-Lovin 1987). Third, the goals and activities of organizations are often linked to particular values, interests, and social positions that may be linked to people's ethnic background (e.g., people of Dutch and Turkish descent may be involved in different cultural organizations). Fourth, ethnic majority-dominated organizations might discriminate against ethnic minorities (Gomez-Gonzalez et al. 2021). Finally, because many organizations are locally organized and primarily draw members from their immediate surroundings, ethnic segregation across neighborhoods may be reproduced across civic organizations, just like it is commonly reproduced across schools (Boterman 2019), even if people would prefer more inter-ethnic mixing.

In support of these arguments, research from the Netherlands documents strong ethnic segregation across civic organizations (Van Haaften 2019; Wiertz 2016). Much of this ethnic sorting can be accounted for by the structure of civic recruitment networks, especially the ethnic composition of people's neighborhood networks. Moreover, local civic opportunities matter, as ethnic majority members often live in ethnically homogeneous areas where there are few ethnically diverse organizations available, reducing the scope for inter-ethnic mixing.

While this work takes no other salient social boundaries than ethnicity into account, Blau (1977) suggests that segregation along one dimension (e.g., socioeconomic status) can induce segregation along another dimension (e.g., ethnicity) if the two dimensions are consolidated. By this logic, ethnic segregation across organizations might merely be a by-product of socioeconomic segregation, since ethnic minorities in most Western countries fare worse socioeconomically than their ethnic majority counterparts (Spörlein and van Tubergen 2014).

In other words, we might observe ethnic segregation across organizations even if people exhibit no ethnic homophily but just disproportionately join organizations with co-members of similar socioeconomic status. This scenario may play out when organizations charge high membership fees or when people join organizations that cater to interests linked to their socioeconomic status (e.g., professional or homeowner associations). Ethnic segregation that arises as a by-product of socioeconomic segregation has very different implications than ethnic segregation that emerges independently of socioeconomic factors. If ethnic segregation across civic organizations is primarily driven by socioeconomic disparities across ethnic groups, a policy that subsidizes memberships for less-resourced individuals might already partially diminish ethnic segregation. Conversely, if ethnic segregation across organizations results from ethnic homophily or discrimination, other measures will be needed.

To date, no studies investigate this by-product mechanism in the realm of civic organizations, but in various countries, ethnic neighborhood segregation indeed partially results from socioeconomic differences across ethnic groups (Iceland and Wilkes 2006; Quillian and Lagrange 2016). By contrast, a European study on friendship formation in adolescent classrooms—a setting where economic resources are less relevant for generating proximity between individuals—suggests that socioeconomic sorting cannot account for ethnic segregation in this domain (S. Smith et al. 2014). Similarly, British evidence on school choice indicates that White parents of high socioeconomic status still prefer schools with fewer non-White pupils after schools' socioeconomic composition has been adjusted for (Burgess et al. 2015).

In translating these findings to our study context, economic resources may affect joining civic organizations less than neighborhood attainment but more than friendship formation within classrooms, where the most significant economic hurdle will already have been cleared at the school entry point. Moreover, economic resources and socioeconomic status may affect civic

sorting through other channels than organizations' affordability alone, for example, by shaping people's interests in certain causes or activities and the acquaintanceship networks through which most people get drawn into organizations. In sum, while ethnic segregation across organizations may partially be a by-product of socioeconomic sorting, it seems implausible that this is all that is going on.

> H1: There is ethnic segregation across civic organizations (1a) and this segregation persists after accounting for individuals' socioeconomic status and organizations' socioeconomic composition (1b).

4.3.2. Segregation Within Organizations

Regarding the question whether ethnic groups mix with each other *inside* civic organizations, there are several reasons for optimism. Leaders of civic organizations often promote equality among participants, and civic activities are typically cooperative in nature and oriented toward shared goals or interests. According to contact theory (Allport 1954), such conditions are essential for intergroup contact to reduce prejudice toward outgroups. At the same time, they make intergroup contact more likely to occur in the first place, as people's shared identity as members of a particular organization may supersede their divergent ethnic identities (Christerson et al. 2005). Besides, if people have joined an organization with a certain outgroup presence, this might already indicate their tolerant attitudes toward these outgroups (Van der Meer 2016).

However, these favorable circumstances might not suffice to eliminate ethnic segregation within civic organizations. Even when people, despite a preference for ingroup associates, join organizations with larger outgroup shares, they may still act more strongly on this ingroup preference when building relationships with fellow participants. Furthermore, intra-

organizational practices may maintain the salience of ethnic identities among participants. As such, mirroring evidence on co-ethnic friendships in school classrooms (McFarland et al. 2014), we expect ethnic 'choice homophily' in people's contacts with co-participants (i.e., ingroup bias beyond what could be expected based on organizations' composition; McPherson and Smith-Lovin 1987).

Ethnographic studies of ethnically diverse sports clubs indeed point in this direction, explicating various barriers to fruitful inter-ethnic contact. Such barriers include socioeconomic and cultural differences between ethnic groups, as well as distinctly negative cross-ethnic encounters involving discrimination and aggression (Krouwel et al. 2006; Spaaij 2012; Walseth 2008). Moreover, variation in the ethnic composition of organizational subunits (e.g., teams within clubs) may institutionalize ethnic divides and reinforce ethnic identities (Vermeulen and Verweel 2009). Christerson et al. (2005) observe similar obstacles to intergroup mixing in multiracial religious congregations, where dominant racial hierarchies often get reproduced, friendship networks typically display racial ingroup biases, and internal conflicts often play out along racial lines.

Closely related to our study, McPherson and Smith-Lovin's (1987) pioneering work on social mixing within civic organizations in Nebraska found strong intra-organizational segregation: Most organizations were already rather homogeneous in terms of age, sex, education, and occupation, but members additionally displayed a considerable degree of choice homophily when selecting which co-member they 'knew best'. Ethnicity was not considered in their study, but as the most salient social boundary in many environments (McPherson et al. 2001), it is likely a prime dimension of intra-organizational segregation. We therefore expect differences between ethnic groups in their intra-organizational contacts, even after accounting for the ethnic composition of organizations.

H2: There is ethnic segregation in social contacts *within* civic organizations, which persists after adjusting for contact opportunities inside organizations.

4.3.3. Internal Integration and Exit Dynamics

Participants can usually choose their commitment level to an organization, i.e., they can decide how many meetings to attend, whether to do any volunteer work, and how much time to spend with their fellow participants outside the organization. This flexibility means that civic organizations continuously compete, with each other and alternative leisure activities, for participants' time (McPherson et al. 1992; Popielarz and McPherson 1995). Organizations' social composition counts as an asset in this competition: To a (prospective) participant, an organization's attractiveness may increase with the share of existing participants with characteristics similar to their own. After all, similarity eases communication, implies shared backgrounds, and raises the chance that the person already knows other participants (McPherson and Smith-Lovin 1987). Accordingly, civic participants may develop more social ties in organizations with more co-members similar to themselves. This social attachment may, in turn, further increase their organizational commitment.

Individuals thus plausibly make decisions—intentionally or unintentionally—about the allocation of their time depending on organizations' social composition, with implications for their organizational integration. Even people eager to mingle may still end up feeling out of place in organizations with larger outgroup shares. We can again draw a parallel with multiracial religious congregations in the United States. Christerson and Emerson (2003:173–74), for example, describe the difficulties of White Americans in breaking into the social core of a Filipino-dominated church, quoting one congregation member who says: "It seems hard to get involved in [Filipino] groups… They feel comfortable with each other, but I feel like an

outsider to those groups." Filipino congregants, on the other hand, have very different experiences: "I love the family aspect… I like the fellowship after church—fellowship is key for me at this church." Hence, social integration seems tightly linked to organizations' social structure and participants' position therein.

Social integration can in this context take many forms, from developing close friendships with a small subset of fellow participants ('deep integration') to getting to know most of one's fellow participants albeit at a more superficial level ('wide integration'). Whereas most prior research on the impacts of civic involvement on social networks has focused on strong ties (e.g., Farkas and Lindberg 2015; Mollenhorst et al. 2008; Wang and Morav 2021), our analysis distinguishes between strong and weak ties to fellow participants, recognizing that the extent to which both of these outcomes are affected by ethnic outgroup shares may differ. People may, for example, more readily enter weak-tie rather than strong-tie relationships in organizations with larger outgroup shares, as they may care less about social similarity when it comes to more superficial vis-à-vis more intimate contacts.

Being socially integrated within a civic organization typically strengthens one's bond with that organization. After all, ongoing involvement provides the easiest way to maintain friendships with co-members and intra-organizational connections may provide normative pressure to stay involved. Conversely, the absence of meaningful connections may reduce the significance of an organization in a person's life and ultimately cause them to terminate their involvement altogether. McPherson and colleagues argue in this regard that organizations will first lose those participants who are 'atypical' and poorly connected within the organization (McPherson et al. 1992; Popielarz and McPherson 1995). Accordingly, social dynamics *within* organizations may increase segregation *across* organizations 'through the backdoor': If participants socialize more in organizations with large ingroup shares but withdraw from social

life in ethnically more diverse ones, civic organizations will systematically lose participants from underrepresented groups.

McPherson and colleagues showed that membership durations were indeed longer among members closer to the 'social niche' of their organizations (McPherson et al. 1992; Popielarz and McPherson 1995). However, their analyses did not consider ethnicity as a social dimension, nor did they explicitly test the proposed mechanism relating to members' social integration into their organizations. Instead, it was simply assumed that 'atypical members' must have fewer intra-organizational ties. By contrast, we examine not only the effects of organizations' ethnic composition on participants' social integration and their leaving propensity, but also whether this social integration—signified by strong and weak ties to co-members—mediates the effect of organizations' ethnic composition on leaving rates. We thereby examine the influence of this commonly assumed but so far untested mechanism.

> H3: Larger ethnic outgroup shares are associated with weaker integration into civic organizations, in the form of fewer social ties to fellow participants.
>
> H4: Larger ethnic outgroup shares in civic organizations are associated with higher leaving rates (4a), and participants' social integration mediates this relationship (4b).

4.4. Data and Measures

The LISS panel is an internet-based household survey administered by Centerdata at Tilburg University since 2007, covering a representative sample of the Dutch population (Scherpenzeel and Das 2010; see www.lissdata.nl). Every month, panel members complete a questionnaire that includes various annually recurring modules with monthly response rates of 70 to 90 percent. These response rates compare favorably to other nationally representative

surveys, which is important, as civic engagement and survey participation are correlated (Abraham, Helms, and Presser 2009).

In addition to the recurrent survey modules, researchers can propose additional modules to the LISS panel. Combining two such modules, we obtain a refined picture of the integrative capacity of civic organizations. The first part of our analysis exploits a module from 2017 that focused on intergroup contact among civic participants (Meuleman, Tolsma, and Kraaykamp 2017). The second part draws on a module from 2011 about participants' social integration in civic organizations (Van Ingen 2011). See Table S4 - 1 and Table S4 - 6 in the supplement for summary statistics for all variables used in our analyses.

In the 2017 module (analytic sample of 2,485 respondents, response rate 70 percent), respondents were first asked whether they were involved in civic organizations in different domains, such as sports, religion, or education. Those who reported being a member or volunteer for at least one organization were asked, for the organization most important to them, how many of their co-members had a non-Western background (examples given: Turkish, Moroccan, Surinamese, Antillean) and how many completed a higher vocational or university degree (as an indicator of socioeconomic status).[18] The response options were: almost none, less than 5, 5-10, 10-25, 25-50, 50-75, and 75-100 percent. We collapse these categories to distinguish between organizations with relatively *few* and *many* members of non-Western descent (less than / at least 5 percent have a non-Western background) and between *lower-educated* and *higher-educated* organizations (less than / at least 50 percent completed higher education). The cut-offs we use do not match the social composition of the Dutch population

[18] In the Netherlands, a distinction is traditionally made between Western and non-Western migration backgrounds. Even though Statistics Netherlands has recently abandoned this classification (Statistics Netherlands 2022), it is still used in the survey questions analyzed in this study. People with Turkish, Moroccan, Surinamese, and Antillean roots jointly make up approximately 60 percent of the Dutch population with non-Western origins.

at large but reflect that ethnically Dutch and higher-educated individuals are overrepresented in civic life (Dagevos et al. 2022; Gijsberts et al. 2012), with four percent of all civic participants in our data having non-Western origins and 50 percent being higher-educated. Finally, respondents were asked to indicate how often they had contact with co-members of non-Western descent: never, several times per year, monthly, or weekly.

In the 2011 module (analytic sample of 1,532 organizational affiliations across 640 respondents, response rate 83 percent), respondents were reminded of the organizations they had reported to be involved in during a LISS survey two months earlier. Respondents involved in multiple organizations were asked to identify up to three organizations most important to them. For each of these organizations, respondents indicated the total number of affiliates (i.e., organization size), the number of fellow participants they knew by name, and the number of fellow participants they discussed important personal matters with during the preceding six months. We use this information to measure respondents' integration into their organizations, calculating the proportion of participants known by name as an indicator of weak ties and the logarithm of the number of participants whom respondents discuss important matters with as an indicator of strong ties.[19] Using their own characteristics as benchmark, respondents also estimated the share of participants from a different ethnic group, with the same education level, and of the same sex, using a nine-point scale from 'none (0%)' to 'everyone (100%)'. We convert these responses to continuous variables capturing outgroup shares that range from zero to one. For our exit analyses, we additionally consider a LISS survey fielded nine months later,

[19] Since the number of weak ties largely depends on organization size, we use the *relative* number of weak ties. Because the number of strong ties is limited by respondents' socializing capacity, we use the *absolute* number of strong ties. We truncate the number of strong ties to 10 before taking the logarithm. Similarly, we truncate the organization size to 1,000 before taking the logarithm.

where respondents were asked whether they were still involved in the earlier identified organizations.[20]

Notice that respondents' estimates of the composition of their organizations may not exactly match the objective composition of these organizations. However, an earlier comparison of different measures of organizational composition demonstrates that subjective composition estimates by participants correlate strongly with alternative composition measures such as reports by organizational officials or direct measurements at meetings (McPherson and Rotolo 1995). Moreover, participants' subjective composition estimates reflect how participants *experience* their organizations, which is arguably at least as relevant as their objective composition to organizations' bridging capacity, given that subjective perceptions of group composition have a larger impact on attitudes and behaviors than objective measures (e.g., Wong 2007).

4.5. Analytic Approach

Using the 2017 data, we test hypothesis 1 about ethnic segregation across civic organizations by running multinomial logistic regressions that model respondents' likelihood of involvement in organizations with different ethnic and educational compositions. In these models, the outcome variable distinguishes between respondents who are not involved in any organization and those involved in an organization with a particular composition (i.e., few or many members of non-Western descent, lower-educated or higher-educated, and the cross-classification of these two dimensions). The independent variables are respondents' ethnicity

[20] Strictly speaking, the follow-up survey asked respondents about their involvement in various *types* of organizations, and respondents may have switched between organizations of the same type (e.g., leaving one sports club and joining another). As a result, our analyses may underestimate the number of organizational exits over this period.

and educational attainment. We distinguish between respondents who 'hold or study towards a higher vocational or university degree' and those who do not; as well as between ethnically Dutch respondents (i.e., themself and both parents born in the Netherlands), those with non-Western origins (i.e., themself or at least one parent born in Turkey, Morocco, Suriname, or the Dutch Antilles), and everyone else. Sample size restrictions prevent us from applying more granular distinctions.

Still using the 2017 data, we next address hypothesis 2 about ethnic segregation within civic organizations by running ordered logistic regressions that assess whether the frequency of contact with co-members of non-Western descent differs across ethnic groups. In these analyses, we only consider respondents involved in at least one organization, and we control for organizations' ethnic compositions as a measure of intra-organizational contact opportunities. To capture that some organizations generally involve more contact than others, we control for the typical frequency of contact for different organization types.[21] In all analyses based on the 2017 data, respondents are the units of observation.

To test hypotheses 3 and 4 about people's social integration in civic organizations and the durability of their involvement, we turn to the 2011 data. In these analyses, the units of observation are organizational affiliations nested in respondents. We examine hypotheses 3 and 4a using linear regressions that model the relationship between the ethnic composition of organizations and respondents' social integration, as measured by their intra-organizational weak and strong ties, and their decisions to stay involved or leave within the next nine months. Critically, we include respondent fixed effects in these analyses, exploiting that we observe

[21] This typical contact frequency is approximated by the median number of fellow participants that are known by name, by organization type, according to the 2011 data. We distinguish low-frequency (environmental, development aid, human rights, fair trade), medium-frequency (school/youth, music/drama/hobby, political, neighborhood, emergency aid, societal), and high-frequency organizations (sports, work/interest, religious).

multiple organizational affiliations for 40 percent of all civic participants. We thus effectively compare the effects of organizational characteristics between multiple organizations that the same individual is involved in. The analyses are accordingly restricted to respondents with at least two organizational affiliations. Because there are only 40 respondents of non-Western origin that satisfy this condition, we further restrict the analytic sample to individuals of Dutch ethnic origin. While this sample is not representative of the entire civically involved population,[22] this setup with respondent fixed effects allows us to account for *all* individual- and area-level characteristics that may drive selection into, socialization patterns within, and decisions to leave organizations with different ethnic compositions. This includes difficult-to-measure variables such as inter-ethnic attitudes, social ties outside of civic organizations, and local civic opportunities. At the organization level, we also control for organizational composition in terms of sex and educational attainment, organization size, and organization type.[23]

Finally, we conduct a mediation analysis to test hypothesis 4b about the proposed social mechanism linking the ethnic composition of organizations to respondents' leaving decisions. We specifically estimate the proportion of the total effect of the ethnic composition of organizations on respondents' leaving propensities that runs through their stock of intra-organizational weak and strong ties. By including both mediators simultaneously, we allow for their mutual causal dependence (VanderWeele and Vansteelandt 2014).

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[22] In our sample, involvement in multiple organizations (vis-à-vis one organization) is associated with being older, single, higher-educated, living in a rural area, higher levels of agreeableness and emotional stability, and having multiple children and larger core discussion networks. Further analyses correct for any resulting sample selection bias by weighting respondents by their inverse probability of being involved in at least two organizations and yield largely similar results; see Table S4 - 7 in the supplement.

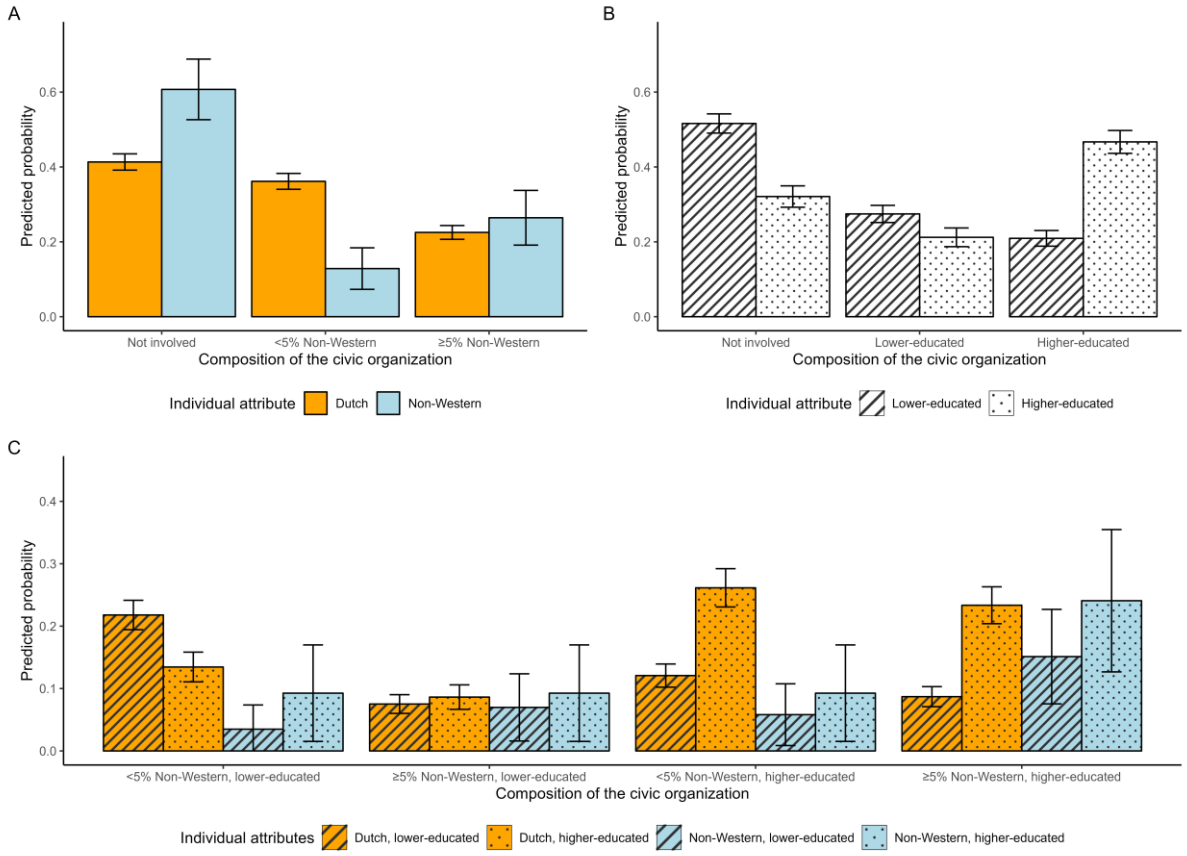
[23] All results based on the 2011 data are robust to including the age composition of organizations as an additional covariate; see Table S4 - 8 in the supplement. Further analyses revealed no evidence of non-linear effects of organizations' ethnic composition.

4.6. Results

4.6.1. Segregation Across Organizations

Figure 1 shows average predicted probabilities for involvement in civic organizations with different compositions, with each panel presenting the results from one multinomial logistic regression. The regression underlying Panel A focuses on the ethnic composition of organizations and only includes individual ethnicity as a predictor. This panel firstly shows that individuals with a non-Western background are more likely than their ethnically Dutch counterparts to *not* be involved in any organization: The associated predicted probabilities are, respectively, 61 and 41 percent. Consistent with earlier research (Gijsberts et al. 2012; Wiertz 2016), this underscores that ethnic minorities are less often civically involved. Secondly, when they do get involved, both groups tend to join organizations with different ethnic compositions. Ethnically Dutch individuals are almost three times as likely as individuals of non-Western origin to be involved in organizations with few (<5%) members of non-Western descent, with predicted probabilities of 36 versus 13 percent. When we instead consider organizations with relatively many members of non-Western descent (>5%), the probability of involvement drops steeply among ethnically Dutch individuals but doubles among individuals of non-Western origin (23 vis-à-vis 26 percent).

Figure 4.1: Average Predicted Probabilities of Involvement in Civic Organizations of Different Compositions, by Individual Ethnicity and Educational Attainment



Note: Predictions are derived from multinomial logistic regressions. Error bars reflect 95 percent confidence intervals. Panel A distinguishes organizations by their ethnic composition, Panel B by their educational composition, and Panel C by both their ethnic and educational composition. For brevity, we do not show predictions for people of 'other' ethnicities. Panel C additionally excludes predictions for being uninvolved. See Table S4 - 2, Table S4 - 3 and

Table S4 - 4 in the supplement for all coefficient estimates of the underlying regressions.

These patterns differ from what we would expect if people sorted randomly across organizations. In that scenario, most organizations would have relatively small shares of ethnic minority members (close to their share in the entire civically involved population—in our data about four percent). Individuals of both Dutch and non-Western origins would then be about as likely to be involved in organizations with less than or more than five percent ethnic minority members. Our results, however, firmly contradict this scenario and instead reveal substantial ethnic segregation across organizations. In doing so, they suggest that civic organizations often only offer limited opportunities for inter-ethnic mingling.

This conclusion gets reinforced when benchmarking our findings against ethnic segregation in other social settings. We do this using the Survey Integration Migrants administered by the Netherlands Institute for Social Research, which in early 2020 collected data on the ethnic composition of various social settings that people were involved in over the previous year (Dagevos and Kappelhof 2020). These data provide no clear evidence that individuals of Dutch or non-Western origin systematically encounter more opportunities for inter-ethnic contact in their civic organizations than in their neighborhoods, workplaces, or educational institutions. See Figure S4 - 1 in the supplement for details on these comparisons.

Panel B of Figure 4.1 next shows predicted probabilities of involvement in organizations with different educational compositions, based on a regression with individual educational attainment as the only predictor. In a similar vein as Panel A, this panel shows that there are general educational differentials in civic involvement rates, consistent with prior research (Musick and Wilson 2008), and that there is educational sorting across organizations. Given the strong alignment between ethnicity and educational attainment in the Netherlands (Dagevos et al. 2022), this begs the question whether ethnic segregation across organizations is a by-product of educational segregation. Panel C examines this, depicting predicted probabilities of involvement for organizations with four mutually exclusive compositions, combining the composition categories from Panels A and B (predictions for the 'not involved' option are not shown). The underlying regression uses individual ethnicity and educational attainment as well as their interaction as predictors.

Panel C shows that ethnic segregation across organizations persists once we account for educational differences across individuals and organizations. When we only consider lower-educated organizations (see the left two sets of columns), we still observe that ethnically Dutch individuals are *less* likely to be involved in organizations with many rather than few members

of non-Western descent, while the reverse is true for individuals of non-Western origin.[24] A similar pattern is observed among higher-educated organizations (see the right two sets of columns). However, Panel C also demonstrates that, once we control for the educational composition of organizations, ethnic segregation is stronger for some groups than for others. Among lower-educated organizations (left two sets of columns), ethnic segregation seems primarily driven by lower-educated ethnically Dutch individuals, who are much more likely to be involved in organizations with few rather than many members of non-Western descent, with predicted probabilities of 22 versus eight percent. For higher-educated organizations (right two sets of columns), in turn, there are only small involvement differences by organizations' ethnic composition among ethnically Dutch individuals, whereas individuals of non-Western descent are much more likely to be involved in higher-educated organizations with many rather than few members of non-Western descent, whether they are themselves higher-educated or not.

In summary, Figure 4.1 supports hypothesis 1 by demonstrating that there is ethnic segregation across civic organizations. Being at least as strong as ethnic segregation in other settings, this segregation persists after accounting for individuals' educational attainment and organizations' educational composition. This remains true when we condition our analyses on the urbanicity of respondents' localities, to account for differential civic opportunity structures that individuals may be exposed to (with more ethnically diverse organizations in urban vis-à-vis rural areas; see Figure S4 - 2 and Figure S4 - 3 in the supplement).

[24] The difference for individuals of non-Western origin is not statistically significant, partially reflecting the smaller size of the non-Western subsample (N = 140).

4.6.2. Segregation Within Organizations

Table 4.1 shows the results of ordered logistic regressions of the frequency of contact with ethnic minority co-members among civic participants. The presented estimates are the odds ratios of the independent variables for being in a higher contact frequency category—recall that these categories are: never, a few times per year, monthly, weekly.[25] Model 1, which includes no control variables, shows that the odds of reporting more regular contact with co-members of non-Western descent are about three times as large among participants with a non-Western background as they are among ethnically Dutch participants. This suggests that there are ethnic ingroup biases in participants' contacts within their organizations.

Table 4.1: Ordered Logistic Regressions for the Frequency of Intra-Organizational Contact with Co-Members of Non-Western Descent

	Model 1		Model 2	
Ethnicity				
Dutch (ref.)				
Non-Western	3.07***	(0.73)	1.77*	(0.47)
Other	1.69***	(0.23)	1.41*	(0.20)
Co-members of non-Western descent				
None (ref.)				
Less than 5%			4.00***	(0.53)
5-10%			6.27***	(0.94)
10-25%			4.86***	(0.86)
25-50%			5.24***	(1.22)
50-75%			13.16***	(5.87)
75-100%			10.44***	(6.80)
Contact frequency organization type				
Low (ref.)				
Medium			3.01***	(0.80)
High			2.82***	(0.73)
N	1,599		1,599	

Note: Coefficient estimates are presented as odds ratios, with the accompanying standard errors reported in parentheses. The outcome variable has the following response categories: never, a few times per year, monthly, weekly. 'Other' ethnicity refers to all respondents who have their roots in countries other than the Netherlands, Turkey, Morocco, Suriname, and the Dutch Antilles. * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$ (two-tailed tests).

This finding, first of all, reflects that ethnic groups cluster in different organizations (see Figure 4.1) and hence face different contact opportunities. Model 2 therefore accounts for the ethnic

[25] See Figure S4 - 4 in the supplement for predicted probabilities of different contact frequencies for each ethnic group, based on Models 1 and 2 in Table 1.

composition of civic organizations. It shows that, as expected, individuals tend to have more contact with co-members of non-Western descent when there are more members of non-Western descent in the organization. Contact opportunities thus matter a great deal for actual contact. Nonetheless, in line with hypothesis 2, we still find notable ethnic differences in the frequency of contact with co-members of non-Western descent after accounting for contact opportunities. The associated odds ratio is statistically significant and at 1.77 substantial in magnitude. Hence, beyond any ethnic sorting across organizations, we also observe ethnic sorting within organizations in terms of contact patterns between participants. Segregation tendencies across and within organizations thus work in tandem in creating and sustaining ethnic boundaries in civic life.

4.6.3. Internal Integration and Exit Dynamics

Turning to the 2011 data, Table 4.2 summarizes regressions with respondent fixed effects that estimate the effect of the ethnic composition of organizations on respondents' social integration into those organizations (Models 1 and 2) and their likelihood of leaving within the next nine months (Models 3 and 4). Recall that the units of analysis are here organizational affiliations of ethnically Dutch respondents.

Table 4.2: Fixed-Effects Linear Regressions for Participants' Weak and Strong Ties Within Their Organizations and Their Propensity to Leave Their Organizations

	Model 1 Weak ties		Model 2 Strong ties		Model 3 Leaving		Model 4 Leaving	
Proportion of co-members with different…								
ethnicity	-0.16*	(0.06)	-0.42**	(0.16)	0.23*	(0.09)	0.18*	(0.09)
education	-0.09*	(0.04)	-0.32**	(0.10)	-0.03	(0.06)	-0.06	(0.06)
sex	-0.14***	(0.04)	-0.23*	(0.09)	-0.01	(0.07)	-0.04	(0.06)
Proportion of weak ties							-0.09	(0.06)
Number of strong ties (logged)							-0.09***	(0.02)
Organization size (logged)	-0.15***	(0.01)	0.10***	(0.02)	-0.05***	(0.01)	-0.06***	(0.01)
Type of organization								
Sports (ref.)								
Culture/Hobby	0.02	(0.02)	0.11	(0.06)	0.03	(0.04)	0.04	(0.04)
Union	-0.20***	(0.05)	-0.33*	(0.14)	0.20*	(0.08)	0.15	(0.08)
Professional	-0.03	(0.04)	0.02	(0.10)	0.25***	(0.07)	0.25***	(0.07)
Consumer	-0.18**	(0.06)	-0.17	(0.12)	0.11	(0.09)	0.08	(0.08)
Humanitarian aid	-0.07	(0.04)	-0.13	(0.11)	0.02	(0.06)	0.00	(0.06)
Environmental	-0.12*	(0.05)	-0.39**	(0.13)	0.03	(0.08)	-0.01	(0.08)
Religious	-0.02	(0.03)	0.26**	(0.08)	-0.11*	(0.05)	-0.09	(0.04)
Political	-0.15***	(0.05)	-0.44***	(0.13)	0.16*	(0.07)	0.11	(0.07)
Education	0.00	(0.04)	-0.20*	(0.09)	0.02	(0.06)	0.00	(0.06)
Social/Youth	0.02	(0.03)	0.13	(0.08)	0.08	(0.06)	0.10	(0.06)
Other	-0.03	(0.03)	-0.07	(0.08)	0.15**	(0.05)	0.14**	(0.05)
Constant	0.57***	(0.01)	0.00	(0.04)	0.57***	(0.02)	0.57***	(0.02)
Individual fixed effects	Yes		Yes		Yes		Yes	
N	1,532		1,532		1,532		1,532	

Note: All regressions only include respondents of Dutch ethnic origin who are involved in multiple organizations. Model 1 considers the proportion of fellow participants the participant knows by name; Model 2 the number of fellow participants they discuss important personal matters with (logged); Models 3 and 4 whether they leave the organization within the next nine months. Coefficients are presented in unstandardized format, with the accompanying standard errors reported in parentheses. * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$ (two-tailed tests).

In support of hypothesis 3, Models 1 and 2 indicate that an increase of the ethnic outgroup share by 10 percentage points is associated with a decrease of 1.6 percentage points in the share of fellow participants known by name (Model 1) and a decrease of 4 percent in the number of close affiliates (exp(-0.42*0.1) = 0.96; Model 2). Despite these effects being relatively small, partially reflecting the fixed-effects design of our analyses, they are both statistically significant. Participants thus integrate less well in organizations with larger ethnic outgroup shares, and this is true whether we consider their strong or weak ties to fellow participants (i.e., 'deep' or 'wide' integration).

Supporting hypothesis 4a about the durability of organizational involvements, Model 3 shows that larger shares of ethnic outgroup members imply higher probabilities of terminating one's

involvement. If the ethnic outgroup share increases by 10 percentage points, the probability of leaving the organization increases by 2.3 percentage points (the average leaving probability in our sample is 60 percent). This may again seem a small effect, however, it will compound over time, thus strengthening segregation across civic organizations 'through the backdoor'. Interestingly, none of the other composition dimensions (i.e., sex and education) significantly predict the durability of participants' involvement. This once more underlines the relative salience of ethnic boundaries in civic life.

In Model 4, we include our indicators of people's social integration into their organizations as predictors, which causes the estimated effect of organizations' ethnic composition to weaken from 0.23 to 0.18, although it remains statistically significant. This suggests that social ties within organizations, as proposed by hypothesis 4b, play a mediating role in keeping participants involved. At the same time, a large portion of the effect of organizations' ethnic composition on the durability of participants' involvement remains unexplained, indicating that social integration is only part of the story.[26] These conclusions are underlined by our formal mediation analysis, which we summarize in Table 4.3 (see Table S4 - 9 and Table S4 - 10 in the supplement for the full set of estimates). The decomposition of the total effect of organizations' ethnic outgroup shares on participants' propensity to leave shows that 22 percent of it runs through participants' social integration into their organizations—about six percent through weak ties and 16 percent through strong ties. The remaining 78 percent represents a direct effect, which can be interpreted as the sum of all other mechanisms (e.g., ethnically diverse organizations may have higher dissolution rates, or people may have more

[26] The absence of statistical significance for the weak ties coefficient in Model 4 does not imply that weak ties do not mediate the link between organizations' ethnic composition and respondents' probability of leaving. Instead, it merely suggests that weak ties have no independent effect conditional on the other covariates. If strong ties are omitted from the model, the effect through weak ties changes to -0.15** (s.e. = 0.06).

negative encounters with fellow participants in organizations with larger ethnic outgroup shares).

Table 4.3: Mediation Analysis for the Effect of Organizational Ethnic Outgroup Share on Participants' Leaving Propensities, via Their Organizational Social Integration

	Effect	Standard error	95% confidence interval	Percentage of total effect
Direct effect	0.180	0.072	[0.038; 0.322]	78.26 %
Indirect effect (strong and weak ties combined)	0.050	0.015	[0.023; 0.082]	21.74 %
Only via weak ties	0.014	0.008	[0.000; 0.032]	6.09 %
Only via strong ties	0.036	0.013	[0.013; 0.065]	15.65 %
Total effect	0.230	0.073	[0.088; 0.373]	100.00 %

Note: Standard errors were obtained using 10,000 bootstrapping rounds. The underlying linear models comprise the same control variables as the analyses summarized in Table 4.2. The full set of estimates can be found in Table S4 - 9 and Table S4 - 10 in the supplement.

4.7. Conclusion and Discussion

This study connects two topics of lively sociological debate, namely ethnic integration and civic engagement. The structural integration of ethnic groups has been widely studied in other domains including education, work, and neighborhoods, but insights on ethnic integration in civic life remain limited. Civic engagement, in turn, has been hailed as a promising pathway to social integration and positive intergroup relations, yet also here empirical evidence is scarce. Indeed, various theories have been put forward for why civic engagement would (e.g., Putnam 2000) or would not (e.g., Brady et al. 1999) foster integration, but previous tests of these theories have generally been indirect, making assumptions about any intergroup dynamics taking place within civic organizations rather than investigating these directly. It thus remains unclear to what extent civic engagement helps to bring ethnic groups closer to each other. Against this background, we provide a rigorous examination of ethnic integration in civic life, relying on unusually detailed data about the social composition of civic organizations and the social dynamics taking place within them. Our analyses highlight multiple issues that limit the capacity of civic organizations to bridge ethnic divides.

Our findings firstly join a large body of research showing that members of ethnic minorities are less likely to be civically involved than their ethnic majority counterparts (Gijsberts et al. 2012; Greenspan et al. 2018; Musick and Wilson 2008; Voicu and Şerban 2012). Moreover, in line with recent studies (Van Haaften 2019; Wiertz 2016), we demonstrate that, if ethnic minorities are civically involved, they tend to cluster in organizations with relatively high shares of co-members with non-Western origins. Advancing this literature, our analyses show that this ethnic segregation *across* organizations is not merely a by-product of socioeconomic segregation, but that it persists after accounting for individuals' educational attainment and organizations' composition in this respect.

We also document ethnic segregation *within* organizations: Civic participants with non-Western origins interact more often with ethnic minority co-members than their ethnically Dutch counterparts do, even after accounting for the ethnic composition of their organizations. Accordingly, the mere existence of ethnically diverse civic organizations is not enough to bridge ethnic divides. Yet, previous research has exclusively considered the ethnic *composition* of organizations, which merely measures opportunities for inter-ethnic contact instead of actual inter-ethnic contact (Achbari, Gesthuizen, and Holm 2018; Van der Meer 2016; Wang and Morav 2021; Wiertz 2016). In doing so, these studies overlooked segregation within organizations, an important part of the overall picture.

Our findings furthermore reveal that people's social integration within civic organizations is weaker when organizations contain larger shares of ethnic outgroups, which helps explain why participants are more likely to leave those organizations. By jointly examining these integration and exit dynamics, we find support for a key mechanism that has recurringly been proposed in the ecological literature on civic affiliations but that has never been directly tested (McPherson et al. 1992; Popielarz and McPherson 1995): People integrate better in organizations where they are more similar to their fellow participants, which increases their

commitment to stay involved and thus consolidates organizations' social homogeneity. These dynamics may play out even when the effects of outgroup shares on leaving civic organizations are relatively small because these effects can be self-reinforcing: If members of a particular ethnic group leave an organization at a higher rate, any remaining participants of that group are left with even fewer opportunities to interact with coethnics and might hence become more likely to leave as well. These findings resonate with ethnographic studies of sports clubs and religious organizations (Christerson et al. 2005; Spaaij 2012; Walseth 2008) that illuminate how cultural barriers, power imbalances, network mechanisms, and discriminatory practices imply that minority members often end up in marginalized positions in their organizations, which in turn undermines their attachment to these organizations.

Altogether, civic participants tend to be involved in organizations where their ethnic ingroup is overrepresented (segregation across organizations), disproportionally interact with coethnics within these already segregated contexts (segregation within organizations), integrate better into organizations with more coethnics (selective social integration), and are more likely to stay involved in such organizations (selective leaving). All these factors limit the bridging capacity of civic organizations and help explain why many previous studies have found no or limited effects of civic involvement on extra-organizational indicators of social cohesion and intergroup relations, including generalized trust, inter-ethnic tolerance, as well as behavioral outcomes (Achbari et al. 2018; Hooghe and Quintelier 2013; Rapp and Freitag 2015; Van der Meer 2016; Van Ingen and Bekkers 2015). Indeed, whilst our empirical analysis concerns the Netherlands, we expect similar sorting patterns to occur in other countries. More generally, the pervasive sorting tendencies suggest that inter-ethnic mixing in civic life is possibly better thought of as an *outcome* of ethnic integration in other life domains rather than as a precursor to it.

Importantly, however, we do not argue that civic organizations can never bridge ethnic divides. Even though ethnic segregation across civic organizations does not seem any weaker than across other social settings, some people might still acquire more inter-ethnic ties through their civic involvement than they would have had if they were not civically involved. Furthermore, there are ethnically diverse organizations that do succeed in stimulating durable intergroup contact among their participants. Nevertheless, our findings can be used to address obstacles that systematically obstruct civic organizations' capacity to bridge social divides. A first step to this is to promote exposure to outgroups by reducing ethnic segregation across organizations. In a British public engagement scheme, for example, where ethnic sorting was eliminated by quasi-randomly assigning adolescents to short-term engagement projects, participants reported more inter-ethnic contact and improved inter-ethnic attitudes afterwards (Laurence 2020). Similarly, randomized trials indicate that exposure to ethnic outgroups in civic settings can improve intergroup relations, within the organizational setting (Mousa 2020) but possibly also beyond (Lowe 2021).

Still, randomized assignments are in many civic settings infeasible and arguably go against the voluntary spirit of civic organizations. Moreover, as people leave organizations with larger ethnic outgroup shares at higher rates, merely increasing outgroup exposure may not suffice to promote durable inter-ethnic contact. Therefore, it is important to consider additional ways to bring ethnic groups closer to each other. In this context, our findings highlight the gains that could be made by stimulating intergroup contact within civic organizations and by making special efforts to keep members from underrepresented groups connected. Organizations may, for example, engage in deliberate practices that emphasize commonalities among participants, downplay or celebrate intergroup differences, and promote a shared sense of community (Braunstein, Fulton, and Wood 2014). From an organization's perspective, the challenge is to identify which practices can fulfill this role and to get their members to embrace such

practices. In addition, organizations could set up 'buddy networks' for minority members, reshuffle teams or subunits, and educate their participants about the value of inclusivity.[27]

Future research would thus ideally move beyond (quasi-)randomizing participants across civic organizations and also systematically examine the effectiveness of other measures to promote durable intergroup contact in civic life. Furthermore, we encourage future research to pay closer attention to the mechanisms that drive ethnic segregation across and within organizations. In the second part of our analysis, we have tested one key mechanism for segregation across organizations (i.e., selective social integration and exits), but our mediation analysis suggests that other mechanisms are at work as well. Similarly, it remains unclear to what extent ethnic segregation within organizations reflects a preference of participants to interact with coethnics or rather structural barriers (e.g., composition of organizational subunits) or discriminatory practices. In this context, it would also be desirable to distinguish between positive and negative experiences of intergroup contact within organizations, recognizing that the former may attenuate ethnic boundaries whilst the latter may reinforce them (Laurence, Schmid, and Hewstone 2018). We finally recommend investigating integration and segregation in civic life as dynamic processes using longitudinal data. While we demonstrate that civic participants are better connected in organizations with larger shares of ethnic ingroup members, we cannot verify the temporal ordering between joining organizations and forming social ties. Civic participants might have joined after being recruited by other participants to whom they were already connected before joining (Brady et al. 1999; McPherson and Smith-Lovin 1987). Nevertheless, in a follow-up survey of the 2017 data, we observe that the proportion of ethnically Dutch joiners who were recruited through

[27] Equally, ethnic mixing may not always be necessary: minority-dominated organizations may serve as 'safe havens' where ethnic minorities can develop civic skills and social trust, which subsequently support their integration into wider society (Foner and Alba 2008). However, it remains unclear whether such 'stepping stone' effects actually occur (Bloemraad, Chaudhary, and Gleeson 2022).

social networks—instead of reaching out on their own initiative—is similar across organizations with different ethnic compositions (see Table S4 - 5 in the supplement). This suggests that, rather than different joining pathways, it is intra-organizational dynamics that drive the observed variation in social integration across organizations with different ethnic compositions.

In conclusion, our findings highlight the conditions that need to be fulfilled for civic organizations to enhance social cohesion. Our analysis suggests that increased civic engagement is unlikely to be a panacea to prevailing social divisions, as multiple social dynamics combine to separate people with different backgrounds in civic life, rather than bringing them together. By uncovering these obstacles, our findings can help organizations and policymakers make more targeted efforts to improve diversity and intergroup mixing in civic life. Civic organizations do indeed have significant potential to bring ethnic groups closer to each other, yet to live up to this promise special care is needed. Richer insights into sorting and contact dynamics within civic organizations, as provided in this study, are an indispensable ingredient to inform such efforts.

4.8. Supplement

This section provides additional information about the analyses involving the 2017 data (4.8.1-4.8.6) and the 2011 data (4.8.7-4.8.9): Descriptive statistics for all variables included in our analyses of the 2017 data (4.8.1); The regression results underlying Figure 4.1 (4.8.2); A comparison between segregation in civic life and other social settings (4.8.3); Supplementary analyses examining whether segregation across organizations varies by the urbanicity of respondents' places of residence (4.8.4); Predicted probabilities of frequency of contact with ethnic minority co-members (4.8.5); Descriptive statistics on how people join civic organizations (4.8.6); Descriptive statistics for all variables included in our analyses of the

2011 data (4.8.7); Robustness checks for the analyses summarized in Table 4.2 (4.8.8); Supplementary materials in relation to the mediation analysis summarized in Table 4.3 (4.8.9).

4.8.1. Descriptive Statistics

Table S4 - 1 displays the distributions of all variables used in our analyses of the 2017 data, for the entire sample of analysis and separately by ethnic group. Recall that we define individuals as ethnically Dutch if they as well as their parents are born in the Netherlands; we define individuals as part of a non-Western minority if they or at least one of their parents are born in Turkey, Morocco, Suriname, or the Dutch Antilles. Anyone else, including people with other non-Western origins, are classified as “Other Ethnic Minority”.

The questions about organizations’ social composition and respondents’ interactions inside their organizations are only asked to respondents who are involved in any type of organization. For respondents who are involved in multiple organizations, these questions are answered for what respondents identify as the organization most important to them. We distinguish between organizations with few (i.e., less than 5 percent) members of non-Western descent and organizations with many (i.e., at least 5 percent) members of non-Western descent. Organizations where less than 50 percent of all members completed higher education (i.e., a higher vocational or university degree) are classified as “lower-educated”; organizations where at least 50 percent of all members completed higher education are classified as “higher-educated”.

In terms of individual-level educational attainment, respondents are classified as lower-educated or higher-educated, depending on whether they have completed a higher vocational or university degree (or are enrolled on such a degree). In terms of urbanicity, respondents can live in ‘urban’ or ‘rural’ areas, depending on whether there are at least 1,500 addresses per square kilometer in their town of residence.

Table S4 - 1: Distributions of Variables in the 2017 Data, by Ethnic Group

	Ethnically Dutch		Ethnic Minority of Non-Western Descent		Other Ethnic Minority		Total	
	N	%	N	%	N	%	N	%
Involvement in any organization								
Uninvolved	815	41.3	85	60.7	182	48.8	1,082	43.5
Involved	1,157	58.7	55	39.3	191	51.2	1,403	56.5
Ethnic composition of main organization								
<5% members of non-Western descent	713	36.2	18	12.9	97	26.0	828	33.3
≥5% members of non-Western descent	444	22.5	37	26.4	94	25.2	575	23.1
Educational composition of main organization								
Lower-educated	521	26.4	19	13.6	78	20.9	618	24.9
Higher-educated	636	32.3	36	25.7	113	30.3	785	31.6
Ethnic and educational composition of main organization (combined)								
<5% members of non-Western descent, lower-educated	364	18.5	8	5.7	45	12.1	417	16.8
<5% members of non-Western descent, higher-educated	349	17.7	10	7.1	52	13.9	411	16.5
≥5% members of non-Western descent, lower-educated	157	8.0	11	7.9	33	8.8	201	8.1
≥5% members of non-Western descent, higher-educated	287	14.6	26	18.6	61	16.4	374	15.1
Contact with co-members of non-Western descent in main organization								
Never	634	54.8	20	36.4	82	42.9	736	52.5
Once a year	257	22.2	11	20.0	44	23.0	312	22.2
Every month	96	8.3	7	12.7	25	13.1	128	9.1
Every week	158	13.7	16	29.1	40	20.9	214	15.3
Missing	12	1.0	1	1.8	0	0.0	13	0.1
Urbanicity								
Urban	802	40.6	98	70.0	233	62.5	1,133	45.6
Rural	1,161	58.9	40	28.6	134	35.9	1,335	53.7
Missing	9	0.5	2	1.4	6	1.6	17	0.7
Educational attainment								
Lower-educated	1,184	60.0	86	61.4	187	50.1	1,457	58.6
Higher-educated	788	40.0	54	38.6	186	49.9	1,028	41.4
Total	1,972		140		373		2,485	

Note: For the organizational composition and intra-organizational contact variables we only consider the subsample of respondents who are involved in any civic organization to begin with.

4.8.2. Regression Results Underlying Figure 4.1

Table S4 - 2, Table S4 - 3, and Table S4 - 4 present the regression results underlying Figure 4.1 in the main text.

Table S4 - 2: Multinomial Logit Model for Involvement in Civic Organizations with Different Ethnic Compositions (see Figure 4.1, Panel A)

	Organization with <5% members of non-Western descent		Organization with ≥5% members of non-Western descent	
Ethnicity				
Ethnically Dutch (ref.)				
Non-Western minority	-23.30***	(3.03)	3.91	(3.84)
Other ethnicity	-10.15***	(2.52)	2.69	(2.44)
Reference probability	36.16	[34.04; 38.28]	22.52	[20.67; 24.36]
N	2,485			

Note: Coefficient estimates are presented as average marginal effects (in percentage points), with standard errors in parentheses. The "reference probability" row presents average involvement probabilities among ethnically Dutch respondents, with their 95 percent confidence intervals. *p ≤ .05; **p ≤ .01; ***p ≤ .001 (two-tailed tests).

Table S4 - 3:Multinomial Logit Model for Involvement in Civic Organizations with Different Educational Compositions (see Figure 4.1, Panel B)

	Lower-educated organization		Higher-educated organization	
Educational attainment				
Lower-educated (ref.)				
Higher-educated	-6.25***	(1.73)	25.76***	(1.89)
Reference probability	27.45	[25.16; 29.75]	20.93	[18.84; 23.02]
N	2,485			

Note: Coefficient estimates are presented as average marginal effects (in percentage points), with standard errors in parentheses. The "reference probability" row presents average involvement probabilities among lower-educated respondents, with their 95 percent confidence intervals. *p ≤ .05; **p ≤ .01; ***p ≤ .001 (two-tailed tests).

Table S4 - 4: Multinomial Logit Model for Involvement in Civic Organizations with Different Ethnic and Educational Compositions (see Figure 4.1, Panel C)

	Organization with <5% members of non-Western descent, lower-educated		Organization with ≥5% members of non-Western descent, lower-educated		Organization with <5% members of non-Western descent, higher-educated		Organization with ≥5% members of non-Western descent, higher-educated	
Ethnicity, Education								
Dutch, lower-educated (ref.)								
Dutch, higher-educated	-8.34***	(1.71)	-1.11	(1.26)	14.06***	(1.83)	14.65***	(1.72)
Non-Western, lower-educated	-18.30***	(2.31)	-0.54	(2.85)	-6.26*	(2.70)	6.42	(3.95)
Non-Western, higher-educated	-12.53**	(4.12)	1.74	(4.02)	-2.82	(4.06)	15.37**	(5.89)
Other, lower-educated	-6.82*	(2.87)	1.04	(2.18)	-1.38	(2.45)	2.53	(2.45)
Other, higher-educated	-12.65***	(2.43)	1.62	(2.25)	5.13	(2.93)	12.81***	(3.12)
Reference probability	21.79	[19.43; 24.14]	7.52	[6.01; 9.02]	12.08	[10.22; 13.93]	8.70	[7.09; 10.30]
N	2,485							

Note: Coefficient estimates are presented as average marginal effects (in percentage points), with standard errors in parentheses. The "reference probability" row presents average involvement probabilities among lower-educated, ethnically Dutch respondents, with their 95 percent confidence intervals. *p ≤ .05; **p ≤ .01; ***p ≤ .001 (two-tailed tests).

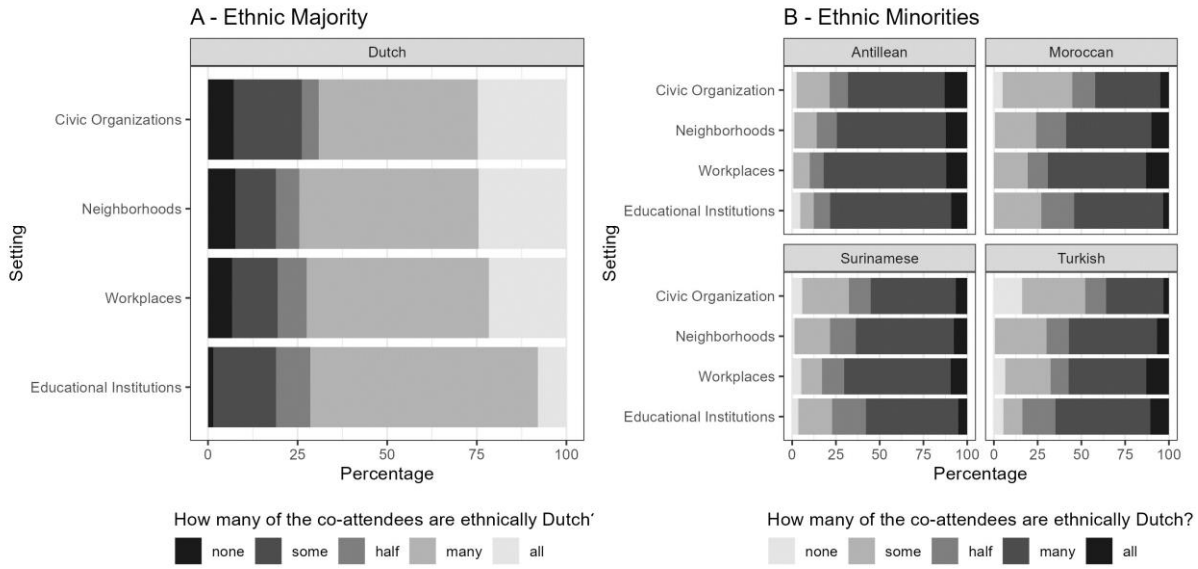
4.8.3. Benchmarking Ethnic Segregation Across Civic Organizations

In Figure S4 - 1, we benchmark the degree of segregation across civic organizations against equivalent indicators of segregation across neighborhoods, educational settings, and workplaces. We do this using data from the Survey Integration Migrants administered by the Netherlands Institute for Social Research, which investigates a wide range of outcomes among the largest ethnic minority groups in the Netherlands as well as an ethnically Dutch benchmark sample (Dagevos and Kappelhof 2020). Of special interest are a set of questions that ask respondents "how many people at/in your [civic organization / neighborhood / work / educational institution] have an ethnically Dutch background." We consider the responses to these questions separately for the ethnically Dutch majority (panel A) and for the largest minority groups (panel B).

In both panels, dark shades of gray correspond to many opportunities for inter-ethnic contact (i.e., many ethnically Dutch co-attendees from a minority perspective, and few ethnically Dutch co-attendees from a majority perspective) and light shades of gray imply limited opportunities for inter-ethnic contact (few ethnically Dutch co-attendees from a minority perspective, and many ethnically Dutch co-attendees from a majority perspective). Panel A shows that ethnically Dutch respondents do not have systematically more opportunities for inter-group contact through their civic organizations than through other settings. While their civic organizations more often include 'none' or only 'some' co-ethnic co-attendees, compared to the other settings they are involved in, they are also at least as often exclusively composed of co-ethnics. Panel B reveals that among all minority groups, opportunities for inter-group contact are even more restricted in civic organizations than in other settings. The civic organizations that individuals of non-Western descent participate in more often contain 'none' or only 'some' ethnically Dutch co-attendees compared to the neighborhoods, workplaces, and educational institutions they are part of. Particularly individuals of Moroccan and Turkish

descent have considerably fewer opportunities for inter-group contact through their civic organizations than through these other settings.

Figure S4 - 1: Exposure to Ethnically Dutch Co-Attendees in Different Social Settings



Note: Data from the Survey Integration Migrants (Dagevos and Kappelhof 2020); N (Antillean) = 577; N (Moroccan) = 485; N (Surinamese) = 571; N (Turkish) = 539; N (Dutch) = 771.

4.8.4. Supplementary Analyses Accounting for Urbanicity

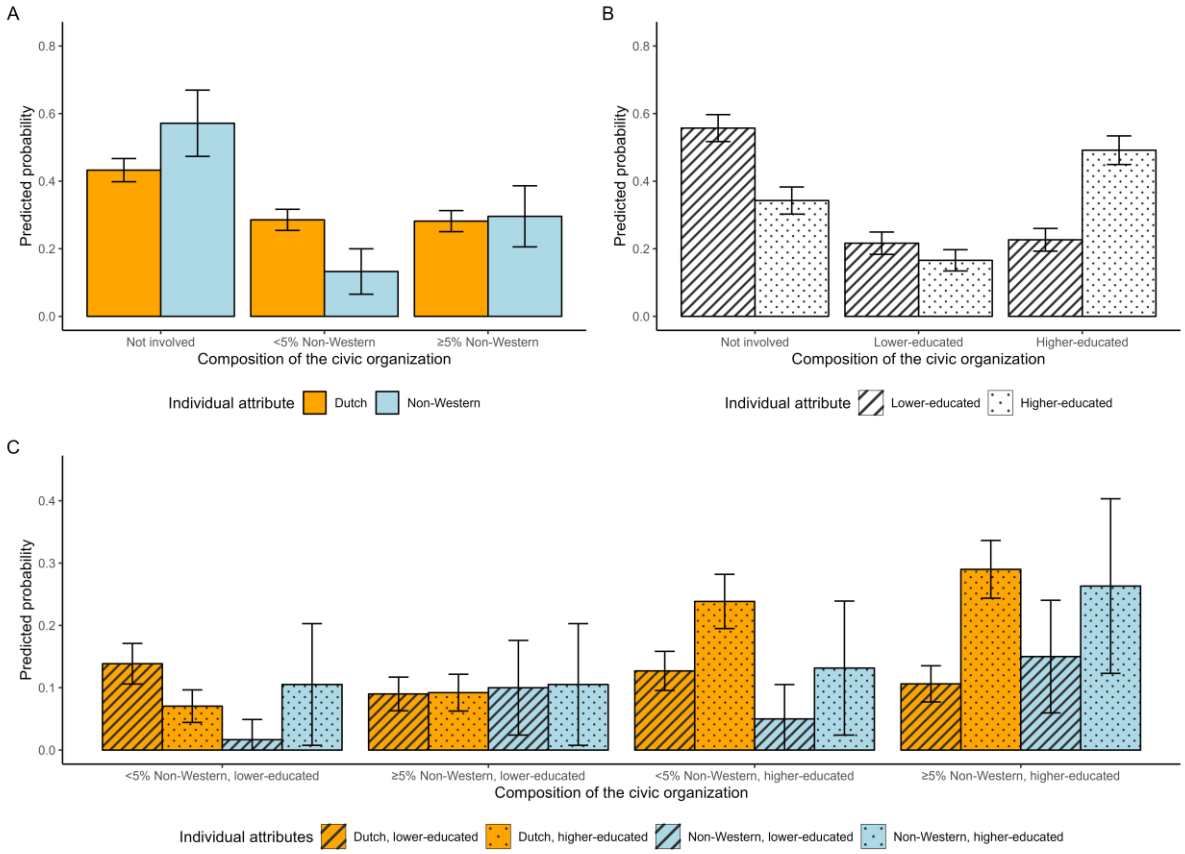
In the Netherlands, like in most countries, ethnic minorities and higher-educated people tend to cluster in urban localities. Hence, individuals in rural areas face civic opportunity structures primarily containing organizations with relatively few ethnic minority and higher-educated members, while those in urban areas have relatively more opportunities to join organizations with more ethnic minority and higher-educated members. Accordingly, ethnic and educational segregation in civic life may be entirely driven by residential segregation.

To test this presumption, we stratify our analyses of segregation across civic organizations by the degree of urbanicity of respondents' places of residence. This urbanicity variable serves as a proxy for the (relative) presence of organizations with more ethnic minority and higher-educated members. More specifically, we distinguish between urban (at least 1,500 addresses per square kilometer) and rural places of residence (less than 1,500 addresses per square kilometer). To illustrate, in localities above this urbanicity threshold, including all major Dutch cities (Amsterdam, Rotterdam, The Hague, Utrecht) and numerous smaller cities, 20 percent of residents have non-Western origins, vis-à-vis 6 percent in localities below this threshold.

Figure S4 - 2 and Figure S4 - 3 summarize the results of multinomial logistic regressions, for urban and rural areas separately, of respondents' involvement in civic organizations of different composition. These figures can be compared to Figure 4.1. If the patterns of segregation across civic organizations observed in Figure 4.1 were primarily driven by residential clustering by ethnicity and educational attainment, the ethnic and educational affiliation gaps should disappear after conditioning our analyses on the degree of urbanicity of respondents' towns of residence. However, Figure S4 - 2 and Figure S4 - 3 provide evidence

against this notion: within both the urban and the rural subsample individuals are involved in organizations with higher shares of their ethnic and educational ingroup.[28]

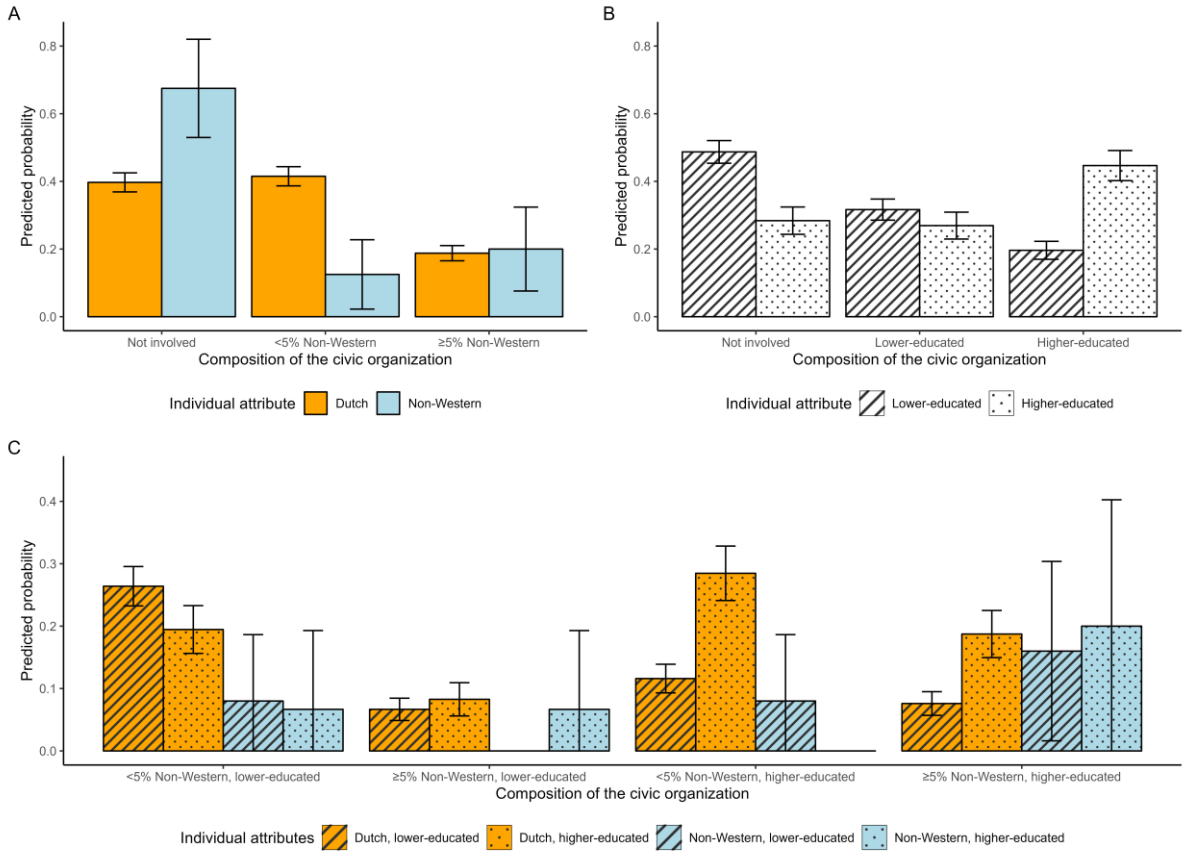
Figure S4 - 2: Average Predicted Probabilities of Involvement in Civic Organizations of Different Compositions, by Individual Ethnicity and Educational Attainment (Urban Sample)



Note: Predictions are derived from multinomial logistic regressions. Error bars reflect 95 percent confidence intervals. We do not show predictions for people from 'other' ethnic groups. Panel C also excludes predictions for being uninvolved.

[28] Notice that several confidence intervals, especially in Panel C of Figure S4 - 3, are quite wide. This is a direct result of the residential clustering described in this section, whereby we observe, for example, few respondents with non-Western origins who live in rural areas.

Figure S4 - 3: Average Predicted Probabilities of Involvement in Civic Organizations of Different Compositions, by Individual Ethnicity and Educational Attainment (Rural Sample)

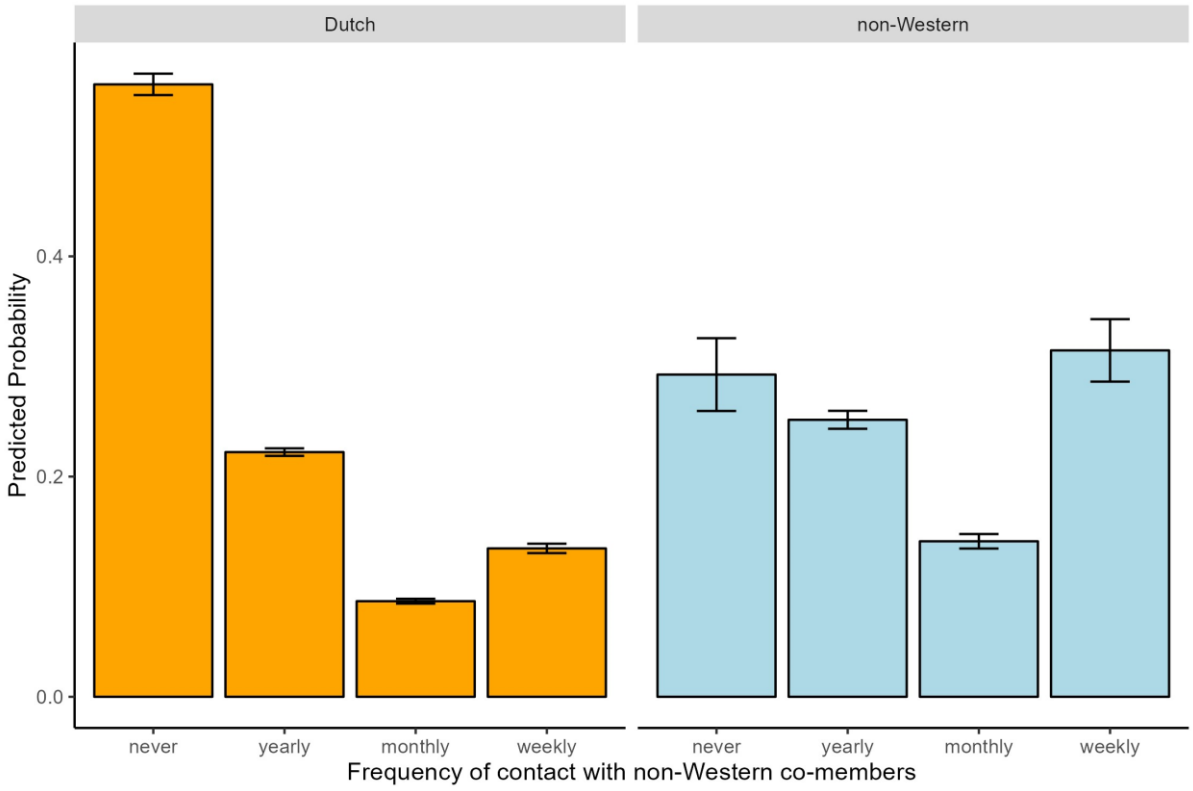


Note: Predictions are derived from multinomial logistic regressions. Error bars reflect 95 percent confidence intervals. We do not show predictions for people from 'other' ethnic groups. Panel C also excludes predictions for being uninvolved.

4.8.5. Predicted Probabilities of Frequency of Contact with Ethnic Minority Co-members

Figure S4 - 4 shows predicted probabilities of different contact frequencies with ethnic minority co-members by respondents' ethnicity, based on Model 2 in Table 4.1. Compared to their non-Western counterparts, ethnically Dutch civic participants more often have no contact with non-Western co-members at all. Civic participants with non-Western origins, by contrast, more often have yearly, monthly, and particularly weekly contact with non-Western co-members.

Figure S4 - 4: Predicted Probabilities of Frequency of Contact with Non-Western Co-Members by Respondents' Ethnicity



Note: Predicted probabilities are derived from Model 2 in Table 4.1. Error bars reflect 95 percent confidence intervals. We do not show predictions for people from 'other' ethnic groups.

4.8.6. Pathways to Joining Civic Organizations of Different Ethnic Compositions

Table S4 - 5 is based on a follow-up survey of the 2017 survey fielded in May and June 2018. In this survey, all respondents who indicated that they had joined a new organization since the 2017 interview were asked to indicate whether they had joined after a request by a family member, friend, or other acquaintance that was already involved in the organization, after being approached by someone else on behalf of the organization, or whether they reached out to the organization on their own initiative.

Subsuming the first two categories under the label 'recruited through social networks', Table S4 - 5 presents the relative frequencies of different joining pathways among ethnically Dutch civic participants, for organizations with less than five percent ethnic minority members and organizations with at least five percent ethnic minority members. As the table shows, ethnically Dutch civic participants appear to have similar joining pathways regardless of the ethnic composition of their civic organizations.

Table S4 - 5: Joining Pathways Among Ethnically Dutch Civic Participants, by Organizations' Ethnic Composition

	Joiners of organizations with <5% ethnic minority members		Joiners of organizations with ≥5% ethnic minority members		Total	
	N	%	N	%	N	%
Reached out on own initiative	42	47.2	16	47.1	58	47.2
Recruited through social networks	47	52.8	18	52.9	65	52.8
Total	89	100.0	34	100.0	123	100.0

4.8.7. Descriptive Statistics

Table S4 - 6 provides summary statistics for all variables used in our analyses of the 2011 data. We report these statistics for the sample of 1,532 affiliations included in our analyses summarized in Table 4.2 and Table 4.3 and we additionally report summary statistics for key variables at the individual level, to provide more information about the composition of the 2011 data.

Table S4 - 6: Descriptive Overview of the 2011 Data

Organization level	Proportion / Mean	SD	**Respondent level**	Proportion / Mean	SD
Proportion of fellow participants with different …			Number of observed organizations	2.394	0.489
ethnicity	0.121	0.201			
education	0.566	0.279	Woman	0.538	
sex	0.445	0.285	Age (in years)	55.802	16.248
Proportion of weak ties	0.545	0.411	Higher vocational or university education	0.389	
Number of strong ties	3.305	3.446	Partner in household	0.743	
Number of strong ties (logged)	1.113	0.862	Children in household		
Organization size	187.418	304.194	0	0.673	
Organization size (logged)	3.867	1.778	1	0.061	
Leave organization in next nine months	0.602		2	0.158	
Type of organization			3	0.080	
Sports	0.223		4	0.022	
Culture/Hobby	0.154		5	0.003	
Union	0.023		6+	0.003	
Professional	0.048		Net individual income	1,353.268	710.588
Consumer	0.028		Urbanicity		
Humanitarian aid	0.064		Extremely urban	0.092	
Environmental	0.036		Very urban	0.233	
Religious	0.141		Moderately urban	0.219	
Political	0.029		Slightly urban	0.256	
Education	0.069		Not urban	0.201	
Social/Youth	0.086				
Other	0.098				
N	1,532		N	640	

Note: The analytic sample is restricted to ethnically Dutch respondents who indicated involvement in two or more civic organizations, i.e., for whom we can observe within-person variation in organizational characteristics. This table summarizes the characteristics of these 640 respondents, who provided information on a total of 1,532 organizational affiliations. The number of strong ties was truncated at 10 and the organization size at 1,000.

4.8.8. Robustness Checks for Table 4.2

The fixed-effects models presented in Table 4.2 exclusively draw on affiliations nested in respondents who were involved in at least two organizations, i.e., respondents for whom we observe within-person variation in organizational characteristics. Thus, the underlying sample

is not necessarily representative of all ethnically Dutch civic participants in the Netherlands. Individuals who are involved in multiple organizations might differ in systematic ways from those who are only involved in a single organization and might also react differently to ethnic diversity in their organizations. To assess whether the results reported in Table 4.2 are biased by such selectivity, we reweight respondents by their inverse probability of ending up in the analytic sample, given their sex, age, education level, net income, the presence of a partner in their household, the number of children in their household, the degree of urbanicity of their place of residence, their big-five personality traits, and the size of their core discussion network. In doing so, we assign greater weight to civic participants who are underrepresented in the analytic sample (i.e., male, younger, lower-educated, partnered, less than two children, lower income, urban residents, lower levels of agreeableness and emotional stability, and smaller core discussion networks). Table S4 - 7, however, shows that reweighting our analyses based on these variables does not substantively change our estimates of the within-person links between organizations' ethnic composition, markers of social integration, and organizational exits.

Moreover, while the analyses summarized in Table 4.2 in the main text consider organizational composition in terms of ethnicity, education, and sex, age constitutes another salient boundary for social association, and the activities of civic organizations are often targeted at particular age groups (McPherson et al. 2001). Because, in the population at large, members of ethnic minorities are on average younger than ethnically Dutch individuals (Statistics Netherlands 2023), one might wonder whether the ethnic homophily observed in Table 4.2 is in fact driven by age homophily. Table S4 - 8, which replicates the analyses of Table 4.2 while also controlling for the age composition of organizations, provides tentative evidence against this notion: the coefficients of organizations' ethnic composition in Table S4 - 8 hardly differ from those in Table 4.2. Recall that we excluded organizations' age composition from our main

analyses because the measurement of the age composition of organizations is more ambiguous than the measurement of organizations' composition in terms of ethnicity, education, and sex.

Table S4 - 7: Fixed-Effects Regressions: Weak and Strong Ties Within Organizations and Leaving (Reweighted Analyses)

	Weak ties		Strong ties		Leaving		Leaving	
Proportion of fellow participants with different…								
ethnicity	-0.17**	(0.06)	-0.42**	(0.16)	0.24**	(0.09)	0.19*	(0.09)
education	-0.09*	(0.04)	-0.31**	(0.10)	-0.04	(0.06)	-0.07	(0.07)
sex	-0.13***	(0.04)	-0.23*	(0.10)	-0.01	(0.06)	-0.04	(0.06)
Proportion of weak ties							-0.08	(0.06)
Number of strong ties (logged)							-0.08***	(0.02)
Organization size (logged)	-0.15***	(0.01)	0.09***	(0.02)	-0.05***	(0.01)	-0.06***	(0.01)
Type of organization								
Sports (ref.)	0.00	(.)	0.00	(.)	0.00	(.)	0.00	(.)
Culture/Hobby	0.02	(0.02)	0.12	(0.06)	0.03	(0.04)	0.04	(0.04)
Union	-0.20***	(0.04)	-0.34*	(0.15)	0.19*	(0.08)	0.15	(0.08)
Professional	-0.03	(0.04)	0.02	(0.10)	0.23***	(0.07)	0.23***	(0.07)
Consumer	-0.18**	(0.06)	-0.17	(0.11)	0.10	(0.09)	0.07	(0.09)
Humanitarian aid	-0.07	(0.04)	-0.12	(0.11)	-0.00	(0.06)	-0.02	(0.06)
Environmental	-0.12*	(0.05)	-0.39**	(0.13)	0.03	(0.07)	-0.02	(0.08)
Religious	-0.01	(0.03)	0.28***	(0.08)	-0.12*	(0.05)	-0.09*	(0.04)
Political	-0.15***	(0.04)	-0.43***	(0.12)	0.15*	(0.07)	0.10	(0.07)
Education	0.00	(0.04)	-0.20*	(0.09)	0.03	(0.06)	0.01	(0.06)
Social/Youth	0.02	(0.03)	0.13	(0.08)	0.07	(0.06)	0.09	(0.06)
Other	-0.03	(0.03)	-0.07	(0.08)	0.14**	(0.05)	0.13**	(0.05)
Constant	0.57***	(0.01)	-0.01	(0.04)	0.57***	(0.03)	0.57***	(0.02)
N	1,532		1,532		1,532		1,532	

Note: Respondents are weighted by their inverse probability of being involved in multiple organizations, as predicted by their sex, age (in years), education (lower- vs. higher educated), net income per household member, the presence of a partner and children in their household, the size of their core discussion network (the survey allows for up to 5 confidants), their big-five personality traits, and the degree of urbanicity of their place of residence (five-point scale). Missing values were imputed with the mode for discrete weighting variables and with the mean for continuous weighting variables. Model 1 considers the proportion of fellow participants the participant knows by name; Model 2 the number of fellow participants they discuss important personal matters with (logged); Models 3 and 4 whether they leave the organization within the next nine months. Coefficients are presented in unstandardized format, with the accompanying standard errors reported in parentheses. * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$. Further analyses showed that additionally including service attendance and praying frequency as indicators of religiosity when calculating the weights does not lead to any meaningful changes in these results.

Table S4 - 8: Fixed-Effects Regressions for Weak and Strong Ties Within Organizations and Leaving (Controlling for Organizations' Age Composition)

	Weak ties		Strong ties		Leaving		Leaving	
Proportion of fellow participants with different…								
ethnicity	-0.16*	(0.06)	-0.42**	(0.16)	0.23**	(0.09)	0.18*	(0.09)
education	-0.09*	(0.04)	-0.33**	(0.10)	-0.01	(0.07)	-0.04	(0.07)
sex	-0.14***	(0.04)	-0.24*	(0.10)	0.01	(0.07)	-0.02	(0.07)
age	0.02	(0.04)	0.02	(0.11)	-0.06	(0.06)	-0.06	(0.06)
Proportion of weak ties							-0.09	(0.06)
Number of strong ties (logged)							-0.08***	(0.02)
Organization size (logged)	-0.14***	(0.01)	0.09***	(0.02)	-0.05***	(0.01)	-0.06***	(0.01)
Type of organization								
Sports (ref.)	0.00	(.)	0.00	(.)	0.00	(.)	0.00	(.)
Culture/Hobby	0.02	(0.02)	0.11	(0.06)	0.03	(0.04)	0.04	(0.04)
Union	-0.20***	(0.04)	-0.33*	(0.14)	0.19*	(0.08)	0.15	(0.08)
Professional	-0.03	(0.04)	0.02	(0.10)	0.25***	(0.07)	0.25***	(0.07)
Consumer	-0.18**	(0.06)	-0.17	(0.12)	0.11	(0.09)	0.08	(0.08)
Humanitarian aid	-0.07	(0.04)	-0.13	(0.11)	0.02	(0.06)	0.00	(0.06)
Environmental	-0.12*	(0.05)	-0.39**	(0.13)	0.04	(0.08)	-0.01	(0.08)
Religious	-0.02	(0.03)	0.26**	(0.08)	-0.11*	(0.04)	-0.09	(0.04)
Political	-0.15***	(0.04)	-0.44***	(0.13)	0.16*	(0.07)	0.11	(0.07)
Education	0.00	(0.04)	-0.20*	(0.09)	0.02	(0.06)	0.00	(0.06)
Social/Youth	0.02	(0.03)	0.13	(0.08)	0.08	(0.06)	0.09	(0.06)
Other	-0.03	(0.03)	-0.07	(0.08)	0.15**	(0.05)	0.14**	(0.05)
Constant	0.57***	(0.01)	0.00	(0.04)	0.56***	(0.02)	0.57***	(0.02)
N	1,532		1,532		1,532		1,532	

Note: All regressions only include respondents of Dutch ethnic origin who are involved in multiple organizations. Model 1 considers the proportion of fellow participants the participant knows by name; Model 2 the number of fellow participants they discuss important personal matters with (logged); Models 3 and 4 whether they leave the organization within the next nine months. Coefficients are presented in unstandardized format, with the accompanying standard errors reported in parentheses. * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

4.8.9. Mediation Analysis – Full Models and Sensitivity Analysis

Table 4.3 in the main text suggests that the effect of the share of ethnic outgroup members in an organization on respondents' probability of leaving is partially mediated by their social integration in that organization—as measured by the amount of strong and weak ties. Table S4 - 9 and Table S4 - 10 show the full sets of estimates from the regression models summarized in Table 4.3; see Models 1 to 4. Models 5 and 6 can be viewed as alternative specification for Model 3, containing only one mediator at a time.

Table S4 - 9: Full Results of Mediation Analysis (Part I)

	Model 1: Strong ties		Model 2: Weak ties		Model 3: Leaving	
	Coef	Boot 95% CI	Coef	Boot 95% CI	Coef	Boot 95% CI
Proportion of weak ties					-0.089	[-0.176; -0.003]
Number of strong ties (logged)					-0.085	[-0.120; -0.049]
Proportion of fellow participants with different…						
ethnicity	-0.424	[-0.656; -0.183]	-0.160	[-0.258; -0.067]	0.180	[0.049; 0.323]
education	-0.322	[-0.473; -0.167]	-0.089	[-0.152; -0.026]	-0.061	[-0.157; 0.036]
sex	-0.234	[-0.374; -0.092]	-0.136	[-0.196; -0.076]	-0.039	[-0.133; 0.056]
Organization size (logged)	0.095	[0.070; 0.120]	-0.145	[-0.155; -0.134]	-0.058	[-0.077; -0.039]
Type of organization						
Sports (ref.)						
Culture/Hobby	0.108	[0.017; 0.200]	0.015	[-0.021; 0.052]	0.039	[-0.024; 0.099]
Union	-0.330	[-0.565; -0.096]	-0.203	[-0.275; -0.130]	0.149	[0.022; 0.272]
Professional	0.022	[-0.126; 0.171]	-0.034	[-0.098; 0.032]	0.245	[0.144; 0.342]
Consumer	-0.172	[-0.361; 0.019]	-0.175	[-0.260; -0.094]	0.082	[-0.048; 0.207]
Humanitarian aid	-0.131	[-0.290; 0.022]	-0.070	[-0.134; -0.004]	0.001	[-0.093; 0.098]
Environmental	-0.387	[-0.581; -0.199]	-0.120	[-0.198; -0.043]	-0.009	[-0.126; 0.107]
Religious	0.259	[0.143; 0.378]	-0.016	[-0.054; 0.023]	-0.085	[-0.154; -0.017]
Political	-0.436	[-0.625; -0.253]	-0.153	[-0.222; -0.086]	0.109	[-0.000; 0.223]
Education	-0.201	[-0.337; -0.063]	0.001	[-0.058; 0.060]	0.007	[-0.083; 0.100]
Social/Youth	0.126	[0.008; 0.246]	0.017	[-0.032; 0.066]	0.096	[0.014; 0.178]
Other	-0.069	[-0.190; 0.052]	-0.028	[-0.075; 0.018]	0.141	[0.066; 0.220]
Constant	0.000	[-0.025; 0.025]	0.000	[-0.009; 0.009]	0.000	[-0.016; 0.016]
N	1,532		1,532		1,532	

Note: Coef = Coefficient in unstandardized format; Boot 95% CI = Bootstrapped 95 percent confidence intervals based on 10,000 iterations.

Table S4 - 10: Full Results of Mediation Analysis (Part II)

	Model 4: Leaving		Model 5: Leaving		Model 6: Leaving	
	Coef	Boot 95% CI	Coef	Boot 95% CI	Coef	Boot 95% CI
Proportion of weak ties					-0.074	[-0.101; -0.048]
Number of strong ties (logged)			-0.095	[-0.127; -0.061]		
Proportion of fellow participants with different…						
ethnicity	0.230	[0.088; 0.373]	0.190	[0.055; 0.334]	0.196	[0.064; 0.335]
education	-0.026	[-0.120; 0.069]	-0.056	[-0.127; 0.040]	-0.055	[-0.150; 0.039]
sex	-0.007	[-0.097; 0.083]	-0.029	[-0.125; 0.067]	-0.034	[-0.130; 0.061]
Organization size (logged)	-0.054	[-0.068; -0.039]	-0.045	[-0.060; -0.030]	-0.025	[-0.044; -0.007]
Type of organization						
Sports (ref.)						
Culture/Hobby	0.028	[-0.034; 0.090]	0.039	[-0.023; 0.100]	0.028	[-0.033; 0.089]
Union	0.195	[0.054; 0.336]	0.164	[0.039; 0.287]	0.097	[-0.032; 0.227]
Professional	0.246	[0.143; 0.348]	0.248	[0.149; 0.348]	0.222	[0.124; 0.323]
Consumer	0.112	[-0.017; 0.240]	0.096	[-0.033; 0.223]	0.056	[-0.071; 0.182]
Humanitarian aid	0.019	[-0.073; 0.110]	0.006	[-0.092; 0.102]	-0.039	[-0.136; 0.059]
Environmental	0.035	[-0.081; 0.150]	-0.002	[-0.120; 0.116]	-0.035	[-0.152; 0.081]
Religious	-0.106	[-0.174; -0.038]	-0.081	[-0.148; -0.013]	-0.103	[-0.169; -0.035]
Political	0.160	[0.032; 0.287]	0.119	[0.009; 0.231]	0.113	[0.002; 0.227]
Education	0.024	[-0.064; 0.112]	0.005	[-0.089; 0.097]	0.001	[-0.094; 0.095]
Social/Youth	0.084	[0.005; 0.162]	0.095	[0.012; 0.179]	0.078	[-0.006; 0.161]
Other	0.150	[0.073; 0.227]	0.143	[0.065; 0.222]	0.133	[0.057; 0.212]
Constant	0.000	[-0.016; 0.016]	0.000	[-0.016; 0.016]	0.000	[-0.016; 0.016]
N	1,532		1,532		1,532	

Note: Coef = Coefficient in unstandardized format; Boot 95% CI = Bootstrapped 95 percent confidence intervals based on 10,000 iterations.

Whether we can give a causal interpretation to the mediating effects reported in Table 4.3 depends on the validity of the sequential ignorability assumption (Imai, Keele, and Yamamoto 2010). This assumption implies that both the treatment and the mediator variables should be ignorable: (i) The treatment and outcome should not be confounded by unobserved covariates after observed pre-treatment covariates have been controlled for; (ii) The mediator(s) and outcome should not be confounded by unobserved covariates after observed treatment and pre-treatment covariates have been controlled for. As soon as either of these conditions is violated, mediation analysis will provide biased estimates (see Imai et al. 2010).

Since our analyses include respondent fixed effects, only variables that vary across organizations within individuals could potentially confound our estimates. Most notably, individuals might accept different levels of ethnic diversity already when they join civic organizations depending on their expectations about their social integration in the organization

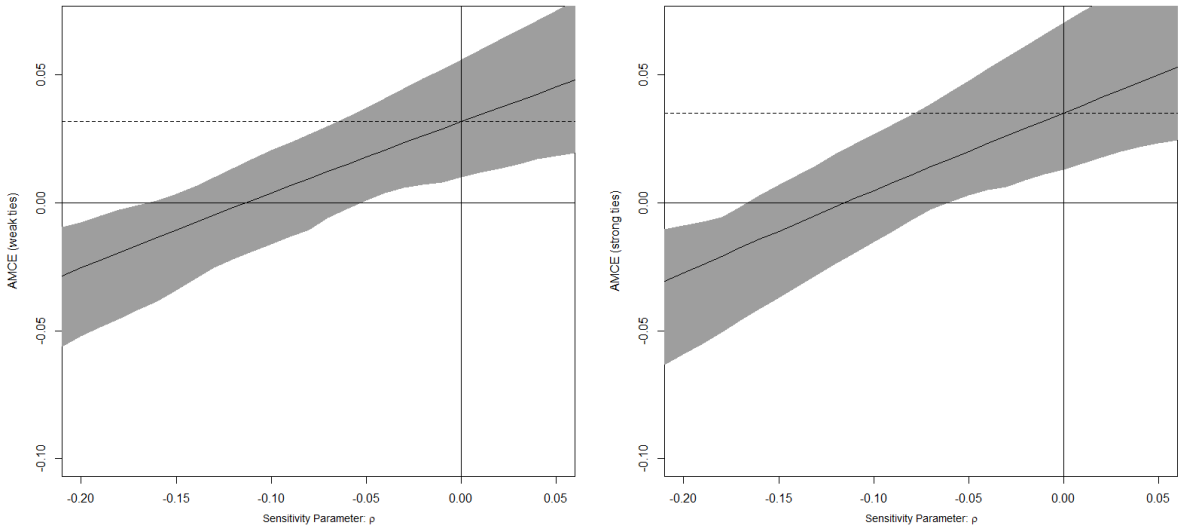
and the duration of their membership. For example, someone might have joined a residents' association with a relatively large share of ethnic outgroup members and an ethnically homogenous sports club anticipating to have more frequent contact with co-members in the latter organization and hence applying different criteria to both organizations. In a similar vein, someone might be more willing to accept ethnic diversity in an organization that she anticipates being involved in for only a limited period of time, such as local community initiatives that merely seek to achieve a short-term goal. Although we control in our models for the general effects of organization types via organization type fixed effects, we cannot rule out the possibility of such selection processes as respondents might differ as to which type of organization they decide to spend more time with or stay involved in longer.

Thus, we follow Imai et al. (2010) by assessing how sensitive the mediating effect of people's social integration into their organizations is to potential unobserved confounding, i.e., to a potential violation of the sequential ignorability assumption. To this end, we re-estimate the mediation effect under varying levels of artificially added confounding. By confounding, we mean the correlation between the error terms of the two relevant equations estimating (i) the mediator based on the treatment and (ii) the outcome based on the treatment and the mediator (Imai et al. 2010). Since current software does not support sensitivity analysis for mediation models with multiple mediators (Hayes 2022), we conduct sensitivity analyses on models 5 and 6 in Table S4 - 10, which contain only one mediator at a time.

The left panel of Figure S4 - 5 shows the average causal mediation effects (ACME) of weak ties across different levels of confounding ρ. In the absence of any confounding (i.e., $\rho = 0$), the mediation effect amounts to 0.037, which accounts for 16 percent of the total effect of the ethnic outgroup share on leaving. This mediation effect would be eradicated to zero if the unobserved confounding reached $\rho = -0.11$. The right panel of Figure S4 - 5 shows the corresponding ACME for the model containing strong ties as a mediator. In the absence of any

confounding (i.e., ρ = 0), the mediation effect amounts to 0.046, which accounts for 20 percent of the total effect of the ethnic outgroup share on leaving. This mediation effect would also be eradicated to zero if the unobserved confounding reached ρ = -0.11, i.e., if the correlation of the error terms of the aforementioned equations falls to -0.11 or below. Accordingly, while our finding that people's amount of strong and weak ties in their civic organizations mediates the link between organizations' ethnic outgroup shares and people's propensity to leave is robust to moderate levels of unobserved confounding, we must bear in mind that a causal interpretation of this finding may not be warranted if we suspect strong unobserved confounding.

Figure S4 - 5: Estimated Mediation Effects of Weak and Strong Ties Depending on the Strength of Artificially Introduced Confounding



Note: The left panel visualizes the sensitivity of the mediating effect of weak ties in model 6, the right panel visualizes the sensitivity of the mediating effect of strong ties in model 5. Each sensitivity analysis includes robust standard errors and is based on 100 simulations.

5 Chapter 5: Who Stays Involved? A Longitudinal Study on Adolescents' Participation in Voluntary Associations in Germany

This chapter is co-authored by Hanno Kruse and has been published in the European Sociological Review.

5.1. Abstract

The extent to which people are active in voluntary associations varies with age. While previous research provides clear evidence for an inverse u-shaped pattern across an adult's life, much less is known about the formative period of adolescence and young adulthood. In this article, we examine changes in voluntary participation starting at age 14 and assess the impact of adolescents' educational transitions and their socioeconomic status. Our analyses rely on longitudinal survey data following a representative sample of adolescents in Germany (N = 5,013) over 6 years. Using fixed effects regression and moderated mediation analyses, we examine how adolescents' educational transitions and their socioeconomic status drive changes in participation. Results indicate a substantive decline in participation as individuals grow older. Transitions into higher tertiary education partly account for this decline. Finally, we find that adolescents from higher socioeconomic status are especially likely to reduce their participation, in part because they are more likely to undergo transitions into higher tertiary education. These findings suggest that the socioeconomic gap in participation decreases as adolescents grow older.

5.2. Introduction

In recent decades, scholars have been concerned with the question of whether participation in voluntary associations is declining in Western societies and how socioeconomic disparities therein have changed (McCulloch 2014; Putnam 2000, 2016; Stolle and Howard 2008). Less

attention has been paid to the fact that participation in voluntary associations (including mere offline/online participation and responsibility-carrying volunteer roles, for instance in the fields of sports, arts, or music) and its socioeconomic gradient vary across not only cohorts and generations but also over the course of an individual's life—especially during early stages of the life course. Throughout various countries, teenagers participate more in voluntary associations than young adults do (e.g., Department for Digital, Culture, Media & Sport 2018 for the United Kingdom; Salamon, Sokolowski, and Haddock 2018 for Australia, Canada, Hungary, Japan, Poland, and Portugal; Statistics Netherlands 2018 for the Netherlands; Vogel, Hagen, et al. 2017 for Germany).[29] Moreover, previous quantitative and qualitative research provided evidence for pronounced socioeconomic differences in participation in voluntary organizations or school-based extra-curricular activities at different time points during childhood and adolescence (An and Western 2019; Bennett, Lutz, and Jayaram 2012; Lareau 2011; Snellman et al. 2015; Weininger, Lareau, and Conley 2015). While previous research established these empirical regularities, we have no definite answer as to why participation declines when adolescents grow older and whether socioeconomic disparities persist, increase, or decrease during this life phase.

In this article, we address these questions by zooming in on this critical life phase and examining how adolescents' participation in voluntary associations develops as they grow older. In doing so, we pay special attention to how their participation is affected by educational transitions, which constitute critical events in young peoples' life courses and vary substantively across socioeconomic status (SES).

[29] While Vogel et al. (2017) investigate any form of involvement in voluntary associations, initiatives or projects, other studies asked for participation in voluntary associations (Statistics Netherlands 2018) or volunteering (Department for Digital, Culture, Media & Sport 2018; Salamon, Sokolowski, and Haddock 2018).

Improved knowledge on participation in voluntary associations at early life phases is of great societal and sociological interest. Voluntary associations provide institutionalized settings for individuals to come together, cooperate, and get involved in community affairs, strengthening their social integration and community cohesion (Putnam 2000). By participating in voluntary associations, adolescents get exposed to challenges and norms that trigger their personal development. It is in this formative period where everyday experiences most strongly affect the attitudes and later behaviors of individuals (Kohlberg 1973; Sroufe et al. 2009). For example, McFarland and Thomas (2006) demonstrated that participation in voluntary religious and community associations during adolescence encourages adult political participation, i.e. voting, volunteering, political campaigning, and membership in a political organization. Hietanen et al. (2016) showed that participation in voluntary associations at age 11 fosters the uptake of volunteer work at age 16. Other research has linked participation in voluntary associations to extended social networks (Benton 2016; van Tubergen and Völker 2015), greater well-being (Cicognani et al. 2015), improved health and educational outcomes (Felfe, Lechner, and Steinmayr 2016), as well as labor market returns (Ruiter and De Graaf 2009). Given that adolescence is a path-setting phase of life where educational transitions take place, and social relationships change, socioeconomic disparities in participation might contribute to further social inequalities down the road.

Empirically, we focus on Germany where a stratified school system coincides with a dense net of voluntary associations where structured leisure-time activities largely take place. The German stratified school system is often argued to reproduce socioeconomic inequalities and unequal access to social capital (e.g., Stephany 2019). Voluntary associations in Germany (‘*Vereine’*) exist independently from educational institutions and allow youths to be involved irrespective of their attended educational context. Although voluntary associations are often status-segregated and even individuals in more diverse associations might prefer to form ties

to similar others (McPherson and Smith-Lovin 1987), they provide unique institutionalized contexts where adolescents may build bridging social capital (i.e. ties to students from other educational or ethnic backgrounds; Laurence and Heath 2008; Putnam 2000)—particularly so in Germany with its stratified school system. According to the German Survey of Volunteering (FWS 2014, own calculations), the most popular fields of participation among adolescents include sports (66 per cent), music/culture (26 per cent), religion (20 per cent), youth (13 per cent), and leisure associations (12 per cent).

Using fixed effects (FE) regressions and moderated mediation analyses, we analyze large-scale survey panel data across the period of 6 years on a representative sample of adolescents, providing credible estimates for the different structural factors driving changes in participation. Our results corroborate the finding of declining participation during late adolescence. Moreover, we find that transitions into higher tertiary education account for a substantive portion of that decline. Finally, given that high-SES adolescents more often enter higher tertiary education and reduce their participation to a larger extent than low-SES adolescents, the socioeconomic gap in participation closes to a considerable degree.

These findings speak most directly to research on participation in voluntary associations over the life course (Greenfield and Moorman 2018; Knoke and Thomson 1977; McCulloch 2014) and socioeconomic differences therein (Gesthuizen and Scheepers 2012; Li, Savage, and Warde 2008; Warde et al. 2003). At a more general level, our study contributes to research examining socioeconomic differences in structured activities during youth development (Bennett et al. 2012; Lareau 2011) and the antecedents of youth civic engagement (i.e. a wide range of activities in the societal or political realm which contribute to the common good[30];

[30] While some authors use civic engagement/participation as a synonym for participation in voluntary associations (e.g., Benton 2016; Li, Savage, and Warde 2008), others conceptualize participation in voluntary

(Amnå 2012; Duke et al. 2009; Flanagan and Levine 2010). By focusing on the role of adolescents' educational transitions and their SES for their participation, we address recent calls by scholars on civic engagement asking for increased attention to 'the diverse political, cultural and structural opportunities and limitations that ultimately influence adolescents' lives differently' (Amnå 2012:623). In doing so, we contribute to a better understanding of how social disparities in (a specific form of) civic engagement emerge and change over people's early life stages.

5.3. Theoretical Background

5.3.1. Participation in Voluntary Associations over the Life Course

The frequency at which a person is active in voluntary associations strongly depends on her situation in life. Research investigating age effects among adults largely confirms patterns predicted by the 'role model' (Knoke and Thomson 1977): In young adulthood, participation is low because people focus on building their careers, partnerships, and families. Middle-aged adults increasingly participate in associations and integrate their parental role into the wider community. In later life, participation declines again due to role-loss and diminishing abilities. Recent studies confirmed this inverse u-shaped effect of age (Greenfield and Moorman 2018; McCulloch 2014).

Less is known about the extent to which participation in voluntary associations changes at earlier life stages. Longitudinal studies involving children and adolescents have mainly focused on how individual and contextual features affect membership in voluntary associations or participation in a range of leisure activities at specific time points (An and Western 2019; Johnson et al. 2014; Mahatmya and Lohman 2012). Only rarely have studies

associations as one dimension of civic engagement next to other forms of participation such as voting, signing petitions or newspaper reading (e.g., Amnå 2012; Duke et al. 2009; Flanagan and Levine 2010).

mapped changes in membership over a longer period of time (Egerton 2002). One cross-sectional study examining both adolescents and adults in Germany (Vogel, Hagen, et al. 2017) reveals high participation rates among adolescents and substantively lower rates among adults: Being asked about active participation in voluntary associations, initiatives, projects outside the family, or the workplace, 85 per cent of the respondents below the age of 18 indicated at least one activity, whereas only 60 per cent of the 23–25 aged respondents claimed to be active according to this broad conceptualization. Similar observations have also been made in other countries, i.e. Australia, Austria, Canada, Hungary, Japan, Poland, Portugal, the Netherlands, and the United Kingdom (Department for Digital, Culture, Media & Sport 2018; Salamon et al. 2018; Statistics Netherlands 2018). In line with these findings, we formulate our first hypothesis:

H1: Young people reduce the time they spend in voluntary associations as they grow older.

To date, we have no definite answer as to why participation declines during adolescence. In the following, we lay out how young peoples' educational transitions and SES may affect their participation patterns over time—providing an explanation for the decline in participation.

5.3.2. The Role of Educational Transitions

Educational transitions after secondary school constitute important challenges for adolescents. Regardless of whether young people enter university education, vocational trainings and the labor force or periods of orientation (e.g. internships), changes from one educational activity to another can drive the decline of participation during adolescence.[31] Educational transitions require a time-consuming adaptation to a new social environment—characterized by new

[31] Educational transitions within the secondary school system are not examined since they occur less often and are not sufficiently represented in the CILS4EU data.

opportunities, constraints, and social relationships (Bleidorn 2012; Buchmann and Steinhoff 2017). Following a transition, young adults usually establish social relationships within their new educational settings. They have to adapt to new educational challenges, values, and norms and devote less time to interaction in other contexts. In addition, educational transitions often require residential mobility: Those moving further away (to another city, region, or country) to start their studies, a job, or internship, are forced to give up most of their former activities in local voluntary associations. Previously involved adolescents may be more likely to look for opportunities for participation at their new place of residence compared to those who have never participated in any voluntary association before, as they carry on cultural capital, for example education and experiences in voluntary associations (Bourdieu 1986; Hietanen et al. 2016). However, their search for a new association takes some time and promises to be less socially rewarding in the short run, i.e. it takes time to develop friendships within the association. Preliminary evidence for the detrimental effect of educational transitions comes from a longitudinal study on participation in voluntary associations among high-school and college students in the United States (Johnson et al. 2014). Students changing their educational status across the two observed waves were more likely to reduce the intensity of their voluntary involvement (i.e. participation, acting in leadership roles, organizing people around a cause). Therefore, we expect that educational transitions may be at least partly responsible for the decline in participation in voluntary associations during late adolescence[32]

H2: Young people reduce the time spent in voluntary associations following educational transitions.

[32] Another argument leads to identical empirical expectations: Educational transitions can foster mental health problems and depressive symptoms (Duineveld et al. 2017), which hamper the desire for participation (Thoits and Hewitt 2001).

Not all types of educational transitions have the same impact on young peoples' participation in voluntary associations. Transitions to higher tertiary education should reduce participation in voluntary associations more strongly than entering work or periods of orientation for at least two reasons[33]: First, transitions to higher tertiary education tend to demand the highest degree of residential mobility (Waibel 2019), since specialized universities matching individual interests are usually only available in certain cities. Second, universities usually provide abundant opportunities to befriend other youth, thereby substituting an important function of voluntary associations. In contrast, transitions to work or periods of orientation are neither necessarily accompanied by residential mobility nor greater exposure to peers at similar ages, which might encourage youth to actively seek for opportunities for friendship formation, for instance by joining or staying involved in voluntary associations. Indeed, Egerton (2002) showed that in the United Kingdom, young people who obtained university degrees reduced the number of memberships in voluntary associations most substantially. Along these lines, we expect that transitions to higher tertiary education are followed by larger reductions in participation than transitions to work or periods of orientation:

H3: Young people more strongly reduce the time spent in voluntary associations following transitions to higher tertiary education than to work or periods of orientation.

5.3.3. The Role of SES

Adolescents' participation in voluntary associations depends to a large degree on their SES. Children and young adolescents in middle-class families participate more in structured activities, such as active involvement in voluntary associations, summer camps, or other

[33] A third, less obvious reason may be that transitions into higher tertiary education come with especially time-consuming challenges (e.g., moving from a supervised learning environment in school to unsupervised learning), leaving less time for young adults to participate in voluntary associations.

organized extra-curricular activities than working-class families do (Bennett et al. 2012; Chin and Phillips 2004; Lareau 2011; Snellman et al. 2015; Weininger et al. 2015). Focusing on cultural differences across social classes, Lareau (2011:170) argues that 'most middle-class parents are committed to involving their children in a steady schedule of organized activities attuned to the children's particular interests', while working-class parents more often leave the decision of participation to their children, mirroring their broader child-rearing strategies of concerted cultivation and natural growth. Other work highlights structural differences between families of different SES for enrolment in these activities, including the availability of financial resources to cover membership fees, suitable associations in the neighborhood, as well as access to knowledge and information about providers of structured activities (Bennett et al. 2012; Weininger et al. 2015).

While previous research provided evidence for socioeconomic differences in participation in structured activities in voluntary associations or other institutions at different time points during childhood and adolescence, it remains unclear whether these socioeconomic disparities persist, increase, or decrease with increasing age. The above considerations allow us now to derive specific expectations: Young people with higher SES more often pursue educational transitions that have a considerable effect on their participation. As outlined, transitions to higher tertiary education reduce participation in voluntary associations more strongly than transitions to work or periods of orientation. Given that the former transitions are more common among adolescents with higher SES and the latter transitions more prevalent among adolescents with lower SES (for Germany, e.g., Schindler and Lörz 2012), socioeconomic disparities in participation should decline through adolescents' educational transitions.

Besides differences in educational transitions, there is another reason why socioeconomic disparities in participation should decrease over time: Parents exert less influence on their children's activities when they grow older and become more autonomous. Given that parents

with higher SES tend to exert more control during childhood and early adolescence and encourage participation in voluntary associations disproportionally (Lareau 2011), their impact on their offspring's participation should decrease more than the impact of parents of lower SES on their children.[34] From this perspective, we expect that socioeconomic disparities in participation, strongly pronounced during adolescence, will decrease as adolescents grow older:

H4: Young people with a higher socioeconomic status more strongly reduce the time they spend in voluntary associations than those with a lower socioeconomic status.

5.4. Data and Measures

We use data from waves 1, 2, and 3 of the Children of Immigrants Longitudinal Survey in Four European Countries (CILS4EU; Kalter et al. 2016a, 2016b, 2016c) and from waves 4, 6, and 7 of its follow-up study in Germany (CILS4EU-DE Kalter, Dollmann, and Kogan 2018). While its title specifically addresses the children of immigrants, the dataset entails information on youths who themselves or whose ancestors migrated to Germany, as well as on native youths. In combination, these data provide information on a representative sample of adolescents in Germany (N = 5,013 in wave 1). First interviews took place in grade 9 in the school year 2010/2011, when most students were 14 or 15 years old. Yearly follow-up surveys took place over the period of seven consecutive years, yielding longitudinal information on the same individuals. Covering the formative period of adolescence and early adulthood, the CILS4EU data are particularly adequate to examining the decline in participation. Information on the participation in voluntary associations of a sizable sample of adolescents is available in

[34] The aforementioned structural opportunities (i.e., parents' ability to cover membership fees, availability of voluntary associations in one's neighborhood, access to relevant information) are rather stable throughout adolescence and are therefore unlikely to systematically *close* the socioeconomic gap.

waves 1, 2, 3, 4, and 6,[35] allowing us to identify individual changes in participation over time and to relate them to the reported educational transitions. An additional parental survey, conducted in wave 1 (N = 3,914), provides information on the adolescents' SES. For this analysis, responses of 4,821 adolescents were used resulting in 15,352 observations over the five waves. Table 5.1 provides a descriptive summary of the analytic sample as well as the variables used across all waves.

Participation in Voluntary Associations. Civic life in Germany is highly institutionalized in voluntary associations. In 2016, more than 600,000 associations were officially registered—most of them locally bounded and small in size (Priemer, Krimmer, and Labigne 2017). Besides extra-curricular activities at schools or universities, adolescents in Germany regularly opt for activities in these independent voluntary associations outside their educational contexts. We measure the frequency of adolescents' participation using their answers to the following question: 'In your spare time, how often do you spend time in a sports, music, drama or any other voluntary association?'[36] Possible answers included the categories 'Every day' (coded 4), 'Once or several times a week' (coded 3), 'Once or several times a month' (coded 2), 'Less often' (coded 1), and 'Never' (coded 0). Throughout the analyses, we treat the resulting ordinal information as a metric variable.[37]

Age. We measure the adolescents' age at the time of their interview in months, using their reported date of birth as well the date of their interview. Observed ages vary between 168 and 288 months (i.e. 14–24 years).

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[35] In wave 5, adolescents have been asked differently about their participation, which is why we cannot rely on these data in our longitudinal approach.
[36] The German version of the questionnaire asks about participation in "*Vereine"* referring specifically to associations outside of educational institutions (e.g., school, university).
[37] Alternative model specifications accounting for the ordinal nature of the variable (i.e., fixed effects ordered logistic regression) provide substantively identical results (see Table S5 - 1).

Table 5.1: Summary Statistics Across Waves

	Wave 1		Wave 2		Wave 3		Wave 4		Wave 6		All waves			
	Mean	S.D.	Mean	S.D.	Mean	S.D.	Mean	S.D.	Mean	S.D.	Mean	S.D.	Min	Max
Participation	1.922	1.447	2.038	1.425	1.892	1.438	1.854	1.435	1.662	1.396	1.911	1.437	0	4
Age (in months)	182.854	8.021	193.897	7.841	208.275	8.086	220.167	7.898	250.498	8.746	202.724	20.597	168	285
Any transition	0.000	0.000	0.000	0.000	0.289	0.453	0.203	0.403	0.904	0.294	0.164	0.371	0	1
Transition to:														
Higher tert. education.	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.411	0.492	0.029	0.168	0	1
Work	0.000	0.000	0.000	0.000	0.194	0.396	0.118	0.323	0.276	0.447	0.084	0.277	0	1
Orientation	0.000	0.000	0.000	0.000	0.084	0.277	0.063	0.244	0.054	0.226	0.034	0.181	0	1
ISEI	39.696	16.957	40.678	17.364	40.719	17.438	41.231	17.689	42.516	18.099	40.634	17.394	1	8.9
Classmates' participation	1.929	0.577	2.047	0.596	1.891	0.596	1.852	0.597	1.608	0.561	1.911	0.598	0	4
N	4,496		3,578		3,284		2,905		1,089		15,352			

Educational Transitions. In wave 1, all respondents were attending ninth grade in a German secondary school. In each subsequent wave, the respondents reported on their current educational situation. Dummy variables indicate whether a respondent reported to be currently involved in 'work' (including the categories 'work' and 'vocational training'), 'higher tertiary education' (including the category 'studying'), or 'orientation' (including the categories 'internship', 'vocational preparation', 'nothing', and 'something else'). Based on these information, we construct dummy variables indicating three distinct transitions: to work, to tertiary higher education, and to periods of orientation. The respective transition dummy takes a value of one at the wave of the transition (e.g. at the first wave of a 3-year work commitment) and zero otherwise. A single respondent can undergo multiple transitions to different educational contexts during the observation window.

Socioeconomic Status. We identify the SES of the adolescents using the mean of their parents' ISEI scores (International Socio-Economic Index of Occupational Status; Ganzeboom et al. 1992), as reported in wave 1. In 22 per cent of the cases, where parents reported none or only one of the parents' occupations, we supplement the parental reports with respective responses from the student survey (if available).

Classmates' Participation in Voluntary Associations. Finally, we derive the participation of a person's classmates, used as a control variable in our analyses. For each wave, we derive the current mean participation value of all classmates in ninth grade (i.e. wave 1), indicating the frequency of classmates' participation to account for the impact of exogenous events affecting the entire local student cohort equally (see below).

5.5. Analytic Approach

Our analysis proceeds in three steps. We first provide a descriptive overview of the statistical associations of interest. In the second step, we test our hypotheses using multiple linear

regression models with person-specific FE and standard errors clustered at the level of schools. Finally, as a more exploratory step, we examine the plausibility of the arguments underlying our hypotheses using a set of moderated mediation analyses. To address the issue of missing data—with respect to adolescents' SES (4.84 per cent missing) and their educational situation (6.75 per cent missing)—we apply methods of multiple imputation by chained equations for all observations (van Buuren, Boshuizen, and Knook 1999; Royston and White 2011; Rubin 1987).[38]

5.5.1. Fixed-Effects Regressions

FE regression models provide the central advantage that they account for *time-constant confounding*, as their estimation solely relies on variation observed within a person over time (Wooldridge 2002). For example, any observed difference across age groups may either indicate that, in line with *H1*, adolescents reduce their participation as they grow older (within-variation) or that older adolescents in a school class—e.g. those who had to repeat a year—participate less frequently (between-variation). Differences in participation observed across educational transitions may result either from the fact that, in line with *H2* and *H3*, adolescents reduce their participation as they transfer to a different educational trajectory (within-variation), or from the fact that some adolescents—e.g. those especially uncertain about their later life—more often change their career paths and also participate less persistently (between-variation). When applying the FE approach, our analyses rule out all alternative explanations based on between-variation.

Importantly, we should also account for bias due to *time-varying confounding*. Most notably, exogenous local and global events—e.g. time-consuming final exams, the closing of

[38] All calculations were executed in STATA (version 16.1) (StataCorp. 2019), additionally using the packages *center* (Jann 2017), *egenmore* (Cox 2009), *estout* (Jann 2004), *mediate* (Hicks and Tingley 2011) and *feologit* (Baetschmann et al. 2020).

associations, (local) economic recessions—may affect adolescents' participation. Since we observe one student cohort only, we cannot include year dummies as controls for global shocks (as these would be multicollinear with our age variable). Instead, we control for changes in the mean participation among all classmates of a given student. In doing so, we account for the impact of all those exogenous events affecting the entire local student cohort equally.[39] Formally, we estimate

$$y_{it}-\overline{y_i}=(a_{it}-\overline{a_i})\beta_a+(a_{it}s_i-\overline{a_i}s_i)\beta_{as}+(e_{it}-\overline{e_i})\beta_e+(c_{it}-\overline{c_i})\beta_c+(u_{it}-\overline{u_i}),\ i=1,\ldots,n,\ t=1,\ldots,T,$$

where y_{it} is the frequency of participation of adolescent *i* at time *t*, a_{it} is her age, s_i is her SES[40], e_{it} is the incidence of a given educational transition (e.g., to higher tertiary education), c_{it} is the mean frequency of her classmates' participation, and u_{it} is the person-specific error component of *i* at time *t*. The variables $\overline{y_i}$, $\overline{a_i}$, $\overline{e_i}$, $\overline{c_i}$ and $\overline{u_i}$ refer to the person-specific mean values of the respective variables and error terms across all observed time points 1 to T.[41]

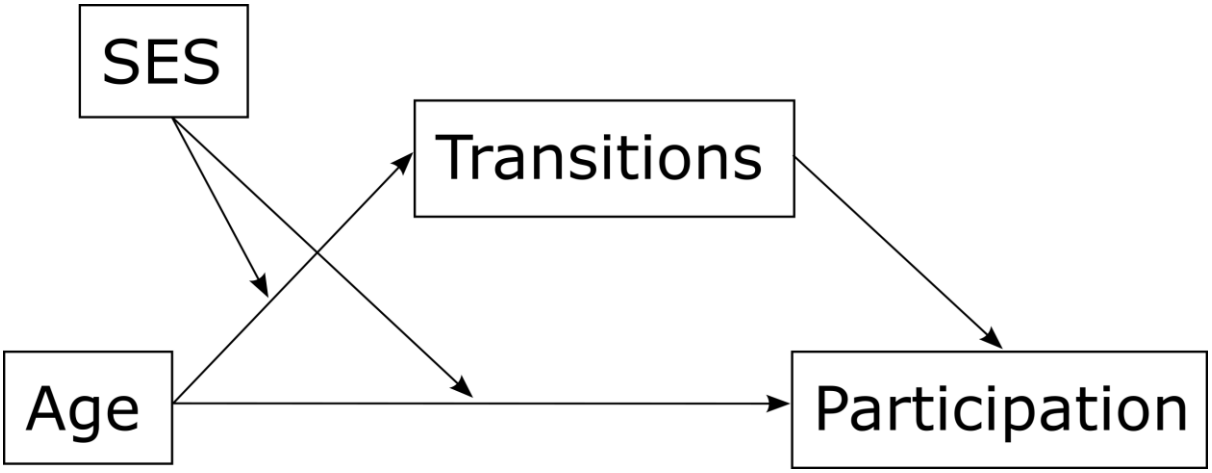
5.5.2. Moderated Mediation Analyses

To further explore the central mechanisms underlying our hypotheses, we run moderated mediation analyses to explore the heterogeneity in the interplay of age, educational transitions, and participation across different SES-strata. Moderated mediation models divide the *total effect* of interest into a *direct effect* and an *indirect effect* running through a mediating variable; notably, both direct and indirect effects can thereby be affected by a *moderator* variable (Hayes 2014; Rockwood and Hayes 2020). The structure of the moderated mediation model resembles

[39] While adolescents still attend secondary school, their classmates' participation captures exogenous shocks to their immediate social surroundings. Once they left school, it captures shocks that are more general (e.g., to their place of residence or Germany as a whole for those moving to another city).
[40] Since we treat SES as time-constant, we exclude its main effect and only include its interaction with age in the equation to assess its impact as adolescents grow older.
[41] We assume that educational transitions affect participation immediately. Additional time-lagged predictors show only insignificant associations.

our theoretical arguments (see Figure 5.1): As outlined, we expect that adolescents' age effect on their participation (*total effect*) is partly mediated by their educational transitions (*indirect effect*) and partly due to reasons unrelated to their transitions (e.g. less parental influence on adolescents' recreational activities, changing interests; *direct effect*). Moreover, we expect that adolescents' SES (*moderator*) affects both this indirect effect (due to socioeconomic differences in educational transitions) and the direct effect of age on participation (due to socioeconomic differences in changing parental influence). Through a set of moderated mediation analyses, we examine whether these theoretical expectations can be empirically corroborated. All moderated mediation models rely on person-demeaned, pooled data from all waves. Again, we control for the participation of adolescents' classmates to account for exogenous shocks on adolescents' participation.

Figure 5.1: Theoretical Expectations Underlying the Hypotheses Examined Through the Moderated Mediation Model



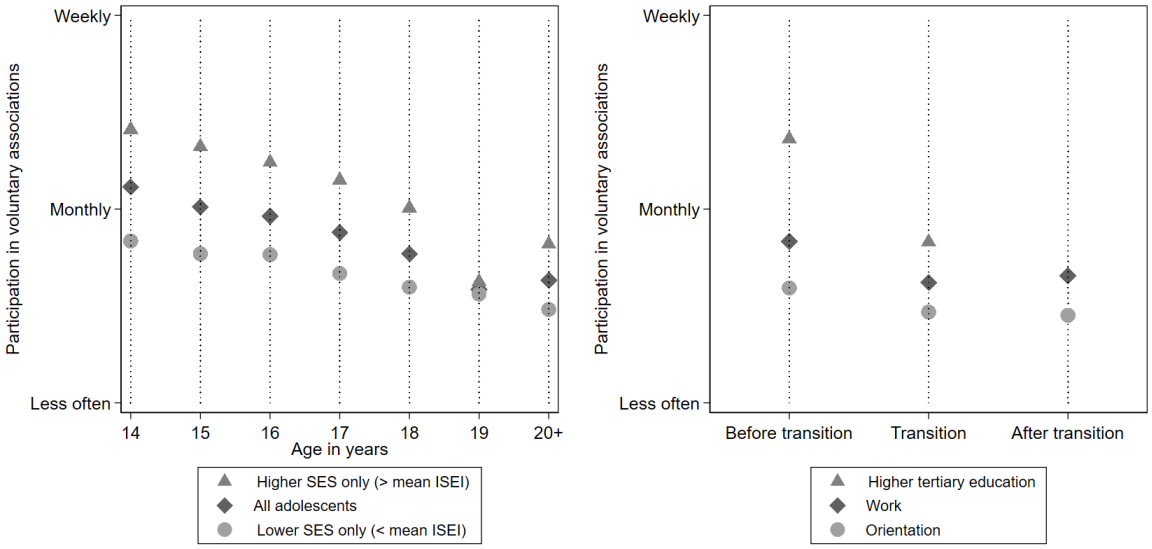
5.6. Results

5.6.1. Descriptive Results

Figure 5.2 shows that adolescents' frequency of participation in voluntary associations varies across different age groups (left panel) and educational transitions (right panel). First, and in

line with H1, we observe a steady and considerable decline in participation with increasing age (see diamonds in left-hand panel). In accordance with H4, these age differences are particularly evident among high-SES adolescents (see triangles in left-hand panel)—with the most considerable decline in late adolescence (at ages 18+). Second, and in line with H2 and H3, we observe different levels of participation in voluntary associations before, during, and after an educational transition (see right panel). These differences are most pronounced among adolescents changing to higher tertiary education (triangles) and much less so for transitions to work (diamonds) or to an orientation phase (circles). All descriptive patterns found in Figure 5.2 are based on differences over time as well as between individuals (i.e. within- and between-variation; see above). To provide a credible test of our hypotheses, we in a next step use FE regressions to examine these statistical associations based on within-variation only.

Figure 5.2: Participation in Voluntary Associations by Age and Before and After Educational Transitions



Note: In the right panel, the label "Before Transition" refers to observation preceding a given transition, the label "Transition" refers to the observation that marks the transition (i.e., the first observation in the new educational context), the label "After Transition" refers to the first observation after that. No data point is available for individuals entering tertiary education after the transition because all transitions to tertiary education occurred in the last wave.

5.6.2. Fixed-Effects Regressions

Table 5.2 summarizes the results from the FE regressions. In line with our first hypothesis, models 1 and 2 confirm the expectation of a negative age effect. Individuals reduce their

participation by on average –0.0056 scale points per month. Over the observed period of 6 years, this negative tendency adds up to an overall decline in participation by about 0.4 scale points. This estimated decline remains substantial when controlling for the classmates' participation (M2: coef. = –0.0048; s.e. = 0.0006). In support of H2, model 3 shows that individuals devote less time to participation after they undergo an educational transition (M3: coef. = –0.0837; s.e. = 0.0294). As shown in model 4, the different educational transitions vary considerably in their impact on participation: Adolescents transitioning to higher education reduce their participation the most (M4: coef. = –0.3286; s.e. = 0.0712), whereas transitions to work (M4: coef. = –0.0868; s.e. = 0.0363) and periods of orientation (M4: coef. = –0.0519; s.e. = 0.0533) are accompanied by much smaller reductions in participation. In line with H3, the estimated effect of transitioning to higher education exceeds that of transitioning to work (t = 3.03, P = 0.003) or to an orientation phase (t = 3.11, P = 0.003) at conventional levels of statistical significance. Comparing estimates from model 2 to models 3 and 4, we see that once educational transitions are controlled for the effect of age substantively decreases in size, providing tentative evidence for the notion that educational transitions mediate the age effect on participation (M2: coef. = –0.0048; s.e. = 0.0006; M3: coef. = –0.0039, s.e. = 0.0007; M4: coef. = –0.0033, s.e. = 0.0007). Finally, models 5 and 6 provide a clear indication of socioeconomic differences in the decline in participation, thereby supporting H4: The interaction between an adolescent's age and her ISEI score yields a negative estimate (M5: coef. = –0.0012; s.e. = 0.0003; M6: coef. = –0.0011; s.e. = 0.0003). In other words, high-SES adolescents more strongly reduce their participation over time than low-SES adolescents do, suggesting that socioeconomic disparities in participation decrease with increasing age.[42]

[42] Separate models for boys and girls yielded substantively identical results, suggesting that educational transitions affect their participation patterns similarly.

5.6.3. Moderated Mediation Analyses

In a final, more exploratory step, we examine whether the observed associations align with our central assumptions underlying the tested hypotheses. While we formulated no explicit mediation hypotheses, we assumed that adolescents' educational transitions partly drive the decline in participation over time. Moreover, we assumed that adolescents' SES may moderate both the direct and indirect effect of age on participation: On the one hand, adolescents become more autonomous over time, such that SES differences in parental influence and encouragement for participation may diminish (direct effect). On the other hand, adolescents of different SES undergo different educational transitions when they grow older which disrupt their participation (indirect effect).

Table 5.2: Changes in Participation in Voluntary Associations Over Time (Fixed-Effects Regression)

	Model 1		Model 2		Model 3		Model 4		Model 5		Model 6	
Age (in months)	-0.0056***	(0.0006)	-0.0048***	(0.0006)	-0.0039***	(0.0007)	-0.0033***	(0.0007)	-0.0047***	(0.0006)	-0.0033***	(0.0007)
Any transition					-0.0837**	(0.0294)						
Transition to:												
Higher tert. educ.							-0.3286***	(0.0712)			-0.2893***	(0.0738)
Work							-0.0868*	(0.0363)			-0.0910*	(0.0363)
Orientation							-0.0519	(0.0533)			-0.0588	(0.0535)
ISEI									0.0000	(.)	0.0000	(.)
Age X ISEI									-0.0012***	(0.0003)	-0.0011**	(0.0003)
Classmates' participation			0.1160***	(0.0339)	0.1132***	(0.0336)	0.0961**	(0.0331)	0.1015**	(0.0333)	0.0862**	(0.0327)
N	15,352		15,352		15,352		15,352		15,352		15,352	

Note: * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$; Standard errors in parentheses; Results from 40 multiply-imputed datasets combined using Rubin's rules (Rubin 1987). Standard errors are cluster-corrected at the school level. For improved readability of the coefficients, age and ISEI are mean-centered and ISEI is divided by 10.

Table 5.3 shows the main results of our moderated mediation analyses. Here, we only report the results for the transition to higher education as a mediator; transitions to work or periods of orientation show very limited, statistically insignificant mediating effects (see Figure S5 - 2). In line with our previous findings, we observe statistically significantly negative associations between adolescents' age and their participation (see column *total effect of age* in Table 5.3), and the strength of these associations substantially differs between high- and low-SES adolescents (t = 4.633; P <0.001). In addition, Table 5.3 provides an indication of the mediating role of adolescents' educational transitions and the moderating role of their SES: About 17–20 per cent of the observed association between age and participation can be attributed to the indirect pathway via adolescents' transition to higher tertiary education (see column *indirect effect of age*). Moreover, the strength of the associations attributed to this indirect pathway is significantly larger among high-SES than among low-SES adolescents (t = 2.201, P = 0.028). This suggests that the selective transition of high-SES adolescents to higher tertiary education contributes to the closing of the socioeconomic gap in participation over time. The same pattern is observable for the associations attributed to the direct pathway (see column *direct effect of age*). The observed SES differences are statistically significant (t = 3.777, P < 0.001), indicating that the socioeconomic gap in participation would converge to some extent over time even in the absence of socioeconomic differences in educational transitions. Overall, these findings support the notion that the disproportional transition of high-SES adolescents to higher tertiary education partly drives the decline of the socioeconomic differences in participation over time, whereas other educational transitions do not.

Table 5.3: Results from Moderated Mediation Analyses (Dependent Variable: Participation in Voluntary Associations)

	Direct effect of age		Indirect effect of age via transition to higher tertiary education		Total effect of age		% mediated
High SES	-0.0056***	(0.0006)	-0.0012***	(0.0003)	-0.0067***	(0.0006)	17.91
Mean SES	-0.0038***	(0.0005)	-0.0008***	(0.0002)	-0.0047***	(0.0005)	17.02
Low SES	-0.0021**	(0.0007)	-0.0005***	(0.0001)	-0.0026***	(0.0007)	19.23
N	15,352		15,352		15,352		

Note: * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$; Standard errors in parentheses; Results from the first of the 40 multiply-imputed datasets (Rubin, 1987). Coefficients were obtained using 10,000 bootstrapping estimates. Standard errors are cluster-corrected at the school level. High SES = mean + 1 SD, Low SES = mean SES - 1 SD. In order to carry out these analyses in Stata's structural equation modelling framework, we demeaned the data. For improved readability of the coefficients, age and ISEI are mean-centered and ISEI is divided by 10.

5.7. Discussion

Previous research has identified systematic changes in the frequency of participation in voluntary associations in the course of an adult's life (Greenfield and Moorman 2018; Knoke and Thomson 1977; McCulloch 2014) and pronounced socioeconomic differences therein (Gesthuizen and Scheepers 2012; Li et al. 2008; Warde et al. 2003). Less is known about earlier, path-setting life stages. Previous studies did not explicitly investigate the interplay of structural drivers of the decline in participation during adolescence and socioeconomic differences therein. In this article, we addressed this shortcoming by examining changes in adolescents' participation in voluntary associations in Germany and relating them to their educational transitions and their SES. Our analyses provided three main insights, supporting our hypotheses.

First, adolescents substantially reduced their frequency of participation in voluntary associations over the observation period of 6 years (around the ages 14–20). Participation over the course of adolescence in the observed case of Germany therefore follows a decline (prior to the well-established inverse u-shaped pattern later in life).

Second, and in line with previous research (Egerton 2002; Johnson et al. 2014), we found that adolescents substantially reduced their participation following educational transitions.

Entering a higher tertiary track was accompanied by the most substantial reductions, while transitions to work and periods of orientation had only marginal negative effects on participation. Additional mediation analyses suggested that educational transitions may account for about 17–20 per cent of the observed decline in participation in voluntary associations. These findings give the well-established positive association between education and participation (Egerton 2002; Gesthuizen and Scheepers 2012; Huang, Maassen van den Brink, and Groot 2012) an interesting twist: While better-educated people are generally more likely to participate in voluntary associations, their participation also decreases the most during their educational transitions. From this perspective, social disparities in participation may be greater before a phase marked by educational transitions than after such a phase.

Third, the results showed that the socioeconomic gap in participation closed to a considerable extent over the observed time frame. More specifically, adolescents with higher SES reduced their participation more than adolescents with lower SES did. Our analyses suggested that this trend may be partly driven by the fact that high-SES adolescents select into transitions to higher tertiary education which happen to be specifically detrimental to their participation. At the same time, we also found suggestive evidence for socioeconomic differences in the direct effect of age on participation—irrespective of any differences in educational transitions. Thus, declining parental influence on adolescents' activities with growing age may be specifically prevalent among high SES adolescents, since their parents encouraged them most to participate at younger ages (cf. Egerton 2002; Lareau 2011). Of course, these findings do not imply that socioeconomic differences continue to decline over the life course. In contrast, we would rather suspect that once participation starts to increase according to the role model (Knoke and Thomson 1977), socioeconomic differences strengthen again as individuals with high SES will move to particularly stable life phases conducive for participation in voluntary associations (e.g. stable parenthood, homeownership, and employment).

Our findings not only supplement earlier research on socioeconomic differences in structured leisure activities with a longitudinal perspective (cf. Lareau 2011; Weininger et al. 2015). They also speak to ongoing research on other forms of civic engagement: While differences in educational transitions may be specifically relevant for locally-bound activities (such as participation in voluntary associations), socioeconomic disparities are found for various forms of civic engagement among youths (e.g. voting, volunteering participation in electoral activities, social movements, and voluntary associations; Flanagan and Levine 2010; Gaby 2017). By zooming in on one specific form of civic engagement, we were able to contribute to a better understanding of its structural antecedents and development over time among adolescents (cf. Amnå 2012).

From a methodological perspective, the panel structure of the data allowed us to control for all sources of time-constant confounding since we only analyzed individual changes over time (within-variation). In addition, we were able to account for one of the most important sources of time-varying confounding: exogenous shocks to participation affecting entire local cohorts of adolescents (e.g. the closing of a local association).[43] The moderated mediation analyses provided additional evidence for the plausibility of our underlying theoretical expectations. A causal interpretation of these mediation results, however, rests on the 'sequential ignorability assumption': Confounding influences are assumed to be not only absent between the treatment (age) and the outcome (participation) but also between the mediator variable (educational transitions) and the outcome (Imai et al. 2010). Following recent work on causal mediation analysis (Imai et al. 2010), we tested the plausibility of this assumption based on a set of sensitivity analyses. The results suggested already small amounts of exogenous confounding

[43] One might argue that the decline in participation is due to voluntary associations being better prepared to provide opportunities for participation tailored to younger adolescents. However, the associations should be incentivized to provide participation opportunities that meet the demand.

would call the mediating role of educational transitions into question (see Figure S5 - 1). These sensitivity analyses show that we should be careful with the causal interpretation of our mediation results. At the same time, however, we think that the list of potential confounders is actually very limited (e.g. changes in local attachment affecting the probability of an educational transition and of participation in a local association), given that our analysis accounted for all between-person confounding as well as any local shocks in participation and educational transitions. While the moderated mediation analyses therefore cannot establish causality, we are confident that our analyses provide informative estimates of the impact of educational transitions and adolescents' SES on their changing participation in voluntary associations.

5.7.1. Limitations and Future Directions

This study has several limitations that call for further research. First, due to data limitations, we were unable to identify the specific (kind of) association a person participated in (e.g. sports-related, cultural, religious). However, further analyses of additional cross-sectional data (FWS 2014) suggest that our findings apply to all major fields of participation (see Figure S5 - 2). Moreover, we were unable to distinguish between online and offline forms of participation in voluntary associations. Online participation might show smaller socioeconomic gaps and smaller declines after educational transitions, as less (place-bound) resources are required. Second, given the overrepresentation of children of immigrants in our sample and the lower participation rates among immigrants (Vogel, Simonson, and Tesch-Römer 2017), we might underestimate participation and its decline over time. Additionally, if immigrants' country of origin-specific SES is not reflected in their occupations in German (i.e. their SES-measure is less accurate), this overrepresentation might cause an underestimation of the SES-effect among the entire population of adolescents. In a similar vein, our analyses potentially underestimate the impact of educational transitions, as we were unable to identify educational

transitions within a given category (e.g. transitioning from one apprenticeship to another one). Third, our data did not allow us to explicitly test our argument regarding adolescents' increasing autonomy. Future research might follow-up on this using longitudinal measures of the intensity and quality of parent–child relationships. Finally, we were unable to identify the exact social mechanisms underlying the observed effects of educational transitions. For example, the decline in participation could be due more to increased time pressures or to a change in residence that prevents participation in local clubs altogether. Additional analyses show that the share of individuals who give up participation completely increases particularly after transitions to higher tertiary education (see Figure S5 - 3) suggesting that such transitions may not only reduce established patterns of participation, but often make them impossible (e.g. due to relocations)—with important consequences for the social integration of the individuals involved. Future research may try to further dissect the mechanisms linking educational transitions with declining participation. Finally, future research may follow-up on adolescents' situation once these have settled into a new educational track—examining if people in tertiary education recover more quickly from their decline in participation.

5.8. Supplement

This supplement consists of five sections. In section 5.8.1, we present ordered logit models FE-models which explicitly take the ordinal nature of our dependent variable into account. In section 5.8.2, we present the results from the moderated mediation models for all types of educational transitions. In section 5.8.3, we present the results of a sensitivity analysis relating to the moderated mediation model. In section 5.8.4, we present the results of additional analyses concerning participation across various activity fields which we conducted based on the German Survey on Volunteering (FWS 2014). Finally, in section 5.8.5, we present further analyses of the decline in participation that focus on quitting participation altogether (in contrast to mere reductions of the time spent on participation while staying involved).

Table S5 - 1: Results from Ordinal Fixed-Effects Regression (Dependent Variable: Participation in Voluntary Associations)

	Model 1		Model 2		Model 3		Model 4		Model 5		Model 6	
Age (in months)	-0.0121***	(0.0015)	-0.0106***	(0.0014)	-0.0089***	(0.0017)	-0.0076***	(0.0016)	-0.0116***	(0.0014)	-0.0077***	(0.0016)
Any transition					-0.1524*	(0.0700)						
Transition to:												
Higher tert. ed.							-0.6217***	(0.1642)			-0.5245**	(0.1673)
Work							-0.1658	(0.0873)			-0.1673	(0.0876)
Orientation							-0.0638	(0.1156)			-0.0695	(0.1158)
ISEI									0.0000	(.)	0.0000	(.)
Age X ISEI									-0.0033***	(0.0007)	-0.0027***	(0.0007)
Classmates' participation			0.2374**	(0.0784)	0.2325**	(0.0777)	0.1994**	(0.0763)			0.1698*	(0.0756)
Cut 2	0.8432***	(0.0342)	0.8422***	(0.0342)	0.8470***	(0.0342)	0.8457***	(0.0344)	0.8432***	(0.0340)	0.8445***	(0.0340)
Cut 3	1.3163***	(0.0367)	1.3147***	(0.0369)	1.3168***	(0.0370)	1.3165***	(0.0372)	1.3194***	(0.0369)	1.3189***	(0.0371)
Cut 4	5.0846***	(0.1276)	5.0894***	(0.1284)	5.0618***	(0.1279)	5.1078***	(0.1314)	5.1129***	(0.1304)	5.1237***	(0.1332)
N	119,089		119,130		119,640		119,603		119,137		119,091	

Note: * p < 0.05, ** p < 0.01, *** p < 0.001; Standard errors in parentheses; Standard errors are cluster-corrected at the school level; Estimates are obtained using the BUC-r-estimator feologit command with the threshold option in order to assume constant thresholds across individuals as the standard ordinal logit model does (see Baetschmann et al., 2020). The sample size is inflated because the estimation procedure requires cloning observations. While all models rely on the same reference sample (N = 628,720), the reported sample sizes vary across models because only those observations with change on the included variables are used for the estimation. Standard errors are cluster-corrected at the school level. Higher tert. ed. = Higher tertiary education. For improved readability of the coefficients, age and ISEI are mean-centered and ISEI is divided by 10.

5.8.2. Additional Moderated Mediation Analysis

Table S5 - 2: Moderated Mediation Analysis: Direct and Indirect Effects for High, Medium and Low SES Adolescents (Dependent Variable: Participation in Voluntary Associations)

Mediator (Transition)	SES	Direct effect of age		Indirect effect of age via mediator		Total effect of age	
Higher tert. education.	High	-0.0056***	(0.0006)	-0.0012***	(0.0003)	-0.0067***	(0.0006)
	Mean	-0.0038***	(0.0005)	-0.0008***	(0.0002)	-0.0047***	(0.0005)
	Low	-0.0021**	(0.0007)	-0.0005***	(0.0001)	-0.0026***	(0.0007)
Work	High	-0.0065***	(0.0006)	-0.0002	(0.0001)	-0.0067***	(0.0006)
	Mean	-0.0044***	(0.0005)	-0.0003	(0.0001)	-0.0047***	(0.0005)
	Low	-0.0023***	(0.0007)	-0.0003	(0.0002)	-0.0026***	(0.0007)
Orientation	High	-0.0067***	(0.0006)	-0.0000	(0.0001)	-0.0067***	(0.0006)
	Mean	-0.0047***	(0.0005)	-0.0000	(0.0001)	-0.0047***	(0.0005)
	Low	-0.0026***	(0.0007)	-0.0000	(0.0001)	-0.0026***	(0.0007)
Any transition	High	-0.0058***	(0.0006)	-0.0009**	(0.0003)	-0.0067***	(0.0006)
	Mean	-0.0037***	(0.0005)	-0.0010**	(0.0003)	-0.0047***	(0.0005)
	Low	-0.0016*	(0.0007)	-0.0010**	(0.0003)	-0.0026***	(0.0007)
N		15,352		15,352		15,352	

Note: * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$; Standard errors in parentheses; Results from the first of the 40 multiply-imputed datasets (Rubin, 1987). Coefficients were obtained using 10,000 bootstrapping estimates. Standard errors are cluster-corrected at the school level. High SES = mean SES + 1 SD, Low SES = mean SES - 1 SD. In order to carry out these analyses in Stata's structural equation modelling framework, we demeaned the data. Analyses in Stata's mediate (Hicks and Tingley 2011) environment yielded substantively the same results. For improved readability of the coefficients, age and ISEI are mean-centered and ISEI is divided by 10.

5.8.3. Sensitivity Analysis

The final – exploratory – step of our analyses (see Table 2 in the results section) suggests that the effect of age on participation in voluntary associations is partially mediated by the transition to higher tertiary education. As already mentioned in the discussion section, a causal interpretation of this mediating effect relies on the validity of the sequential ignorability assumption (Imai et al. 2010). First, we must assume that treatment and outcome are not confounded by unobserved covariates after controlling for observed pre-treatment covariates (i.e., the treatment is ignorable). Second, we must assume that mediator and outcome are not confounded by unobserved covariates after controlling for observed treatment and pre-treatment covariates (i.e., the mediator is ignorable). Once any of these assumptions are violated, mediation analysis provides biased estimates (see Imai et al. 2010).

In the context of the mediation of the age effect on participation by educational transitions, we are confident that the first component of the sequential ignorability assumption is not violated:

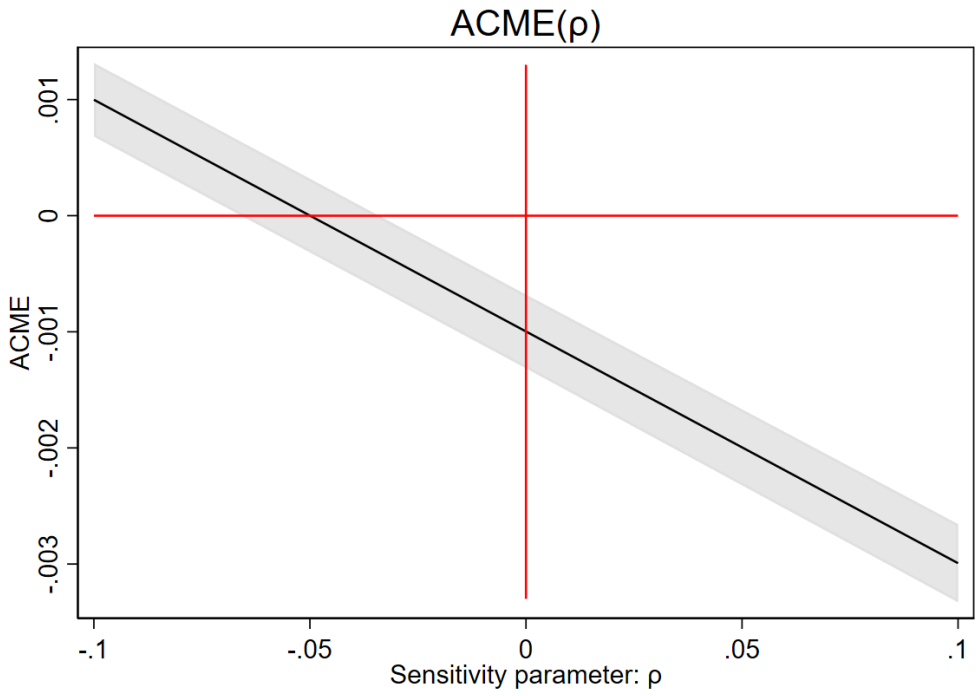
No covariates have a causal effect on an adolescent's age implying that our treatment variable is randomly distributed and that the relationship between age and educational transitions is not confounded by unobserved covariates. The picture of the relationship between educational transitions and changes in participation in voluntary associations is less clear. One could argue for the existence of unobserved heterogeneity in this link. However, because our analyses account for all between-person confounding and we control for exogenous local shocks (cf. classmates' participation) the list of potential confounders is actually very limited: It might be that changes in attachment to the local community decrease over time which inclines adolescents to reduce their participation in local voluntary associations and increases their willingness to move away to take up higher tertiary education.

Following Imai et al. (2010), we assess how sensitive the mediating effect of the transition to higher tertiary education is to the potential unobserved confounding of the link between mediator and outcome. This is assessed by re-estimating the mediation effect under conditions of varying levels of (artificially introduced) confounding ρ.

Figure S5 - 1 depicts the distribution of average causal mediation effects (ACME) of the transition to higher tertiary education for varying levels of ρ. If no confounding is added (i.e., $\rho = 0$), the mediation effect equals -0.0008, which accounts for 17% of the total effect of age on participation in voluntary associations. However, already very small unobserved confounding (i.e., $\rho = -0.0501$) eradicate the mediation effect to zero. This small absolute value suggests that the mediating effect of transitions to higher tertiary education is very sensitive to the influence of potential unobserved (within-individual) confounding covariates.

Thus, we acknowledge that our moderated mediation models cannot establish causality. However, given the very limited list of potential confounders, we still believe that our analyses provide informative estimates of the impact of adolescents' educational transitions and SES on their changing participation in voluntary associations.

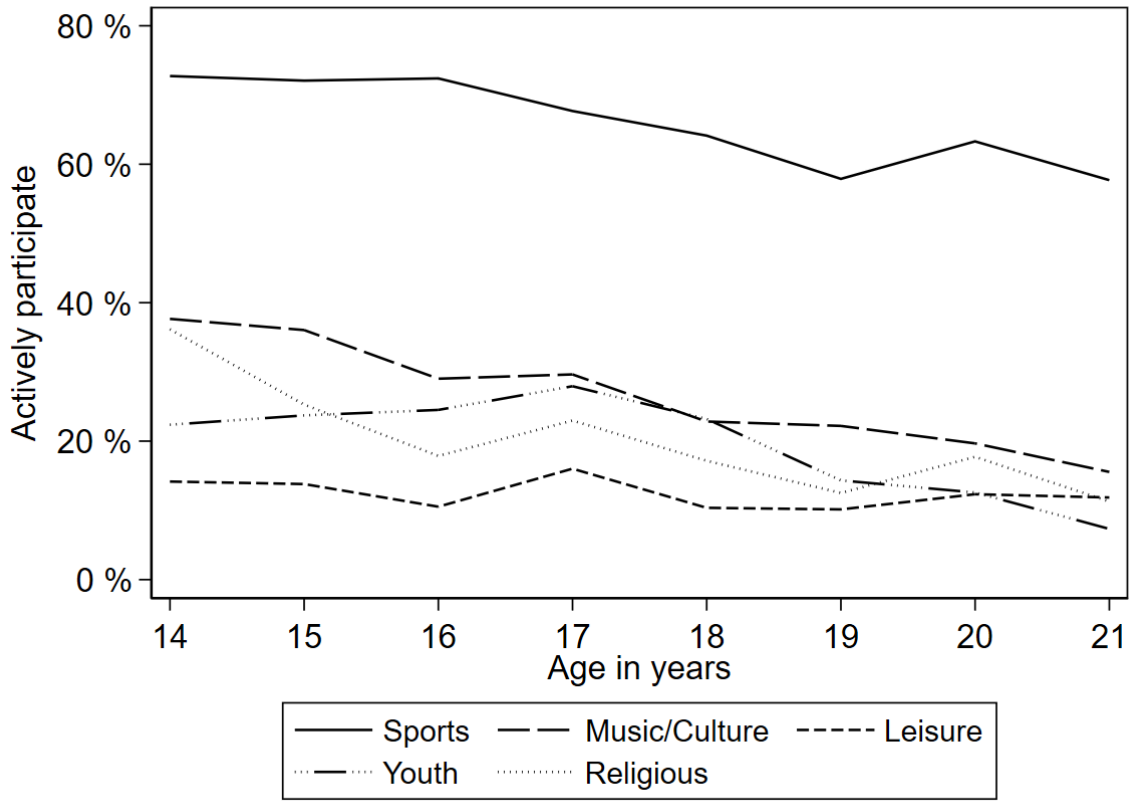
Figure S5 - 1: Estimated Mediation Effects of the Transition to Higher Tertiary Education Across Varying Levels of (Artificially Introduced) Confounding Between Mediator and Outcome



Note: ACME=Average causal mediation effect.

5.8.4. Analyses of Participation in Different Activity Fields

Figure S5 - 2: Share of Adolescents Actively Involved in Different Fields

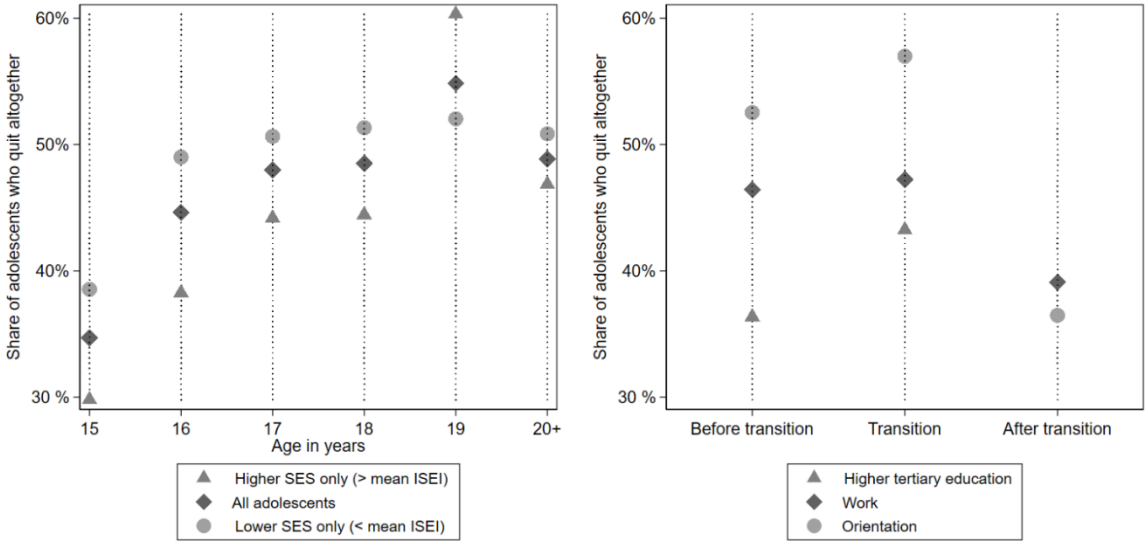


Note: Only fields in which at least 10% of all adolescents participated, N = 2,382, survey weights applied, data from the German Survey on Volunteering 2014 (FWS, 2014).

The German Survey on Volunteering (FWS 2014) provides detailed representative cross-sectional data on voluntary participation in Germany among people aged 14+. Its large sample size (N=28,690) and its detailed information on specific fields of involvement (e.g., sports, music/culture, etc.) allow us to conduct field-specific analyses for the age range of interest. Figure S5 - 2 depicts that participation declines in the most popular fields. Moreover, and in line with our longitudinal results, Figure S5 - 2 shows particularly steep declines between age 17 and 19, (i.e., when most adolescents undergo educational transitions). The comparatively early decline in religious participation most likely results from institutional arrangements in the protestant church, which expects adolescents to attend confirmation classes around age 14.

5.8.5. Analyses of Quitting Participation Altogether

Figure S5 - 3: Share of Instances in Which Adolescents Quit Participation Altogether (vs. Those who just Reduce their Time Spent in Voluntary Associations but Remain Active) Among all Reduction Instances



Note: Only observations marking reductions in the time spent in voluntary associations are considered; N = 3,062.

Overall, about 46% of all reductions were events in which adolescents quit their participation altogether. The diamonds in the left panel of Figure S5 - 3 illustrates that the share of those quitting altogether contributes more to the decline in participation with increasing age. In other words, the older adolescents get, the more likely any reduction in time spent in voluntary associations is an instance in which an adolescent quits participation altogether. While high SES adolescents (triangles) often stay involved even if they reduce their participation, low SES adolescents (circles) are in almost all age groups more likely to quit altogether. A striking exception is age 19, when adolescents leave the highest secondary school track and many high SES adolescents undergo a transition to higher tertiary education. In line with our expectation that transitions to higher tertiary education disrupt adolescents' lives the most, the right panel of Figure S5 - 3 shows the largest increase in the share of quitting altogether among all reductions in time spent in voluntary associations (triangles). While adolescents who select into transitions to work or periods of orientation are generally more prone to quit participation

altogether, the events themselves do not affect their odds of quitting altogether (vs. just reducing the time). However, after such transitions, these adolescents rather merely reduce their time instead of quitting participation altogether.

6 Conclusion

Three stylized facts about the structure of personal networks provided the starting point for this thesis: Individuals differ in the number of social ties they maintain *(inequality in connectedness);* People affiliate with others who resemble themselves *(homophily and segregation)*; and bridging ties can have beneficial consequences for individuals and societies *(strength of weak and bridging ties)*. *Inequality in connectedness* and *homophily and segregation* imply that people are usually embedded in localized social clusters providing access to a selected subset of (limited) resources, ideas, and viewpoints. By contrast, contact with people in different segments of society remains comparatively rare. Social ties connecting different groups are, however, seen as important for individuals to 'get ahead' and for social cohesion at large. It is primarily through such direct 'bridging' contact, that individuals update their beliefs about those who are different from themselves and engage in less stereotypical behaviors (Raabe et al. 2019; Van Der Meer and Tolsma 2014). Overall, a larger number of these cross-cutting social ties is thought to counteract societal ills like polarization, exacerbated inequalities, and further segregation.

Voluntary associations are often portrayed as places where people from different backgrounds can mingle in a cooperative environment, which, in turn, promotes social cohesion and integration. And indeed, they are characterized by several features which suggest that they hold considerable potential to develop positive contact across group boundaries: Participants usually share common interests and engage in cooperative activities, hierarchies are comparatively flat, and entry barriers and stakes are lower compared to other social settings.

However, whether voluntary associations indeed live up to this potential has not been addressed systematically by earlier research, which—for the most part—went little further

than showing disparities in voluntary involvement across different social groups. Thus, this thesis has sought to address the following two guiding questions:

1. Who gets to participate in civic life and what are the implications of participatory inequalities for joiners' social networks?, or in short: *Who is involved?*
2. Whom do people get in contact with during their voluntary involvement and to what extent are there integration and segregation tendencies in civic life?, or in short: *Who else is involved?*

6.1. The Findings in Light of the Conceptual Framework

To address these questions, I wrote four empirical chapters which focus on civic organizations' ability to bridge divides across three major dimensions of social inequality—gender, socioeconomic status, and ethnicity. Each chapter focused on one of these dimensions and extends previous research in the respective area.

Each of these papers can be seen as a piece of the larger puzzle of how voluntary associations connect and separate people in Western European societies. Guided by the conceptual framework I developed in the introduction, I now put these different pieces of evidence together. Recall that this framework distinguishes between the front door, indoors, and the back door. At each of these stages, inequalities and segregation can stand in the way of civic organizations' 'bridging potential'. In other words, limits to intergroup contact facilitated through voluntary associations manifest when people join, pursue activities in, or leave organizations. In what follows, I discuss the findings of the empirical chapters referring to these three stages in light of the three stylized facts in networks structures *(inequality in connectedness, homophily and segregation,* and *strength of weak and bridging ties)*.

6.1.1. The Front Door

The front doors of civic organizations are not equally wide open to everybody. Across chapters 3, 4, and 5 and in line with previous research, I consistently find that individuals with higher education and higher (parental) occupational status are involved in voluntary organizations more often. Especially in chapter 3, I show that among all respondents who were uninvolved at a given time point, those with high-status occupations joined organizations most often. In other words, the door is wide open for this group. Moreover, in Chapter 4, it becomes apparent that individuals with non-Western backgrounds are less often involved than majority members, which cannot solely be explained by socioeconomic differences between these groups. Women and men, by contrast, join voluntary associations more or less with the same frequency, as shown in Chapter 2. These findings resonate with and extend earlier research showing persisting socioeconomic and ethnic, but closing gender gaps in voluntary involvement based on (repeated) cross-sectional data (Dagevos et al. 2022; Gijsberts et al. 2012; Simonson et al. 2021).

The socioeconomic and ethnic differentials in joining organizations match up with findings of a broader literature on inequalities in connectedness. Individuals with lower socioeconomic status and ethnic minorities tend to maintain fewer and less resourceful social networks (Lin 2000; van Tubergen and Völker 2015). At the same time, these individuals are less likely to broaden their opportunity to extend their social networks by joining voluntary associations. Importantly, these inequalities do not exist in isolation from each other but are tightly interconnected: Chapter 3 revealed that among uninvolved individuals, those with more social capital were most likely to join organizations. Thus, inequalities in connectedness, which are primarily structured by people's socioeconomic and ethnic background, translate into participatory gaps, which are in themselves indicative of unequal network structures. Such participatory gaps are particularly large during early adolescence, when youth's leisure

activities are not yet disrupted by educational transitions but are instead still influenced by their parents' guidance, as shown in Chapter 5.

Beyond these broad social inequalities in general voluntary involvement, it is important to recognize that the front doors of different organizations vary in terms of their permeability for different groups of individuals. Voluntary associations typically attract a certain 'kind' of people—they occupy a 'social niche' (McPherson and Rotolo 1996; McPherson and Smith-Lovin 1987). Chapter 4 revealed that there is strong segregation across organizations along both, ethnic and educational lines. Analyzing these two dimensions simultaneously showed that ethnic segregation is not just a 'by-product' of socioeconomic segregation, an important step towards acknowledging the social complexity in civic life implied by the multi-dimensionality of individuals' characteristics and organizations' compositions. In Chapter 2, I explicitly focused on women's and men's transitions into organizations and found strong homophilous sorting tendencies: Based on fine-grained, hand-coded data, I show that people overwhelmingly opt for organizations in which their own gender is overrepresented and that they pursue gender-stereotypical activities in these organizations. This sorting arises partly because women and men tend to maintain friendships to peers of their own gender, who then recruit them for the organizations they are involved in—often dominated by their own gender. In a similar vein, Wiertz (2016) has shown that also ethnic sorting at the front door is driven by social networks. Thus, not only the size but also the composition of social networks outside organizations shapes people's decisions about joining organizations.

Besides such structural drivers, cultural elements can affect segregation at the front door as well. In Chapter 2, I further find that segregationist tendencies among men are even stronger if they hold more traditional gender norms. Thus, the more they view the role of women in society as inherently different from their own, the less often they join organizations dominated by women. In the context of ethnic sorting, negative attitudes towards ethnic outgroups also

explained homophily in joining transitions (Wiertz 2016). Together, this evidence suggests that segregation at the front door is not only driven by people's pre-existing social connections but also by their values and beliefs.

6.1.2. Indoors

Given the selective processes at the front door, civic participants are typically exposed to a 'pre-selected' group of co-members, who share an interest in the objective of the organization (cf. McPherson and Smith-Lovin 1987). How strongly participants integrate in an organization, i.e., how many social connections they form, depends, among other things, on the social composition of the members who entered through the front door. Because similarity eases social exchange, those participants who 'fit in' the sociodemographic profile of an organization can bond with their co-participants more easily. The results in Chapter 4 underscore this point: Individuals form more strong and weak ties in organizations, whose members are more similar to themselves. While the focus of that chapter drew most attention to the ethnic dimension, the findings reveal similar effects for gender and education as markers of social difference, too.

Whom civic participants have close contact with inside voluntary associations is also guided by homophilous tendencies with segregation within organizations remaining strong. In Chapter 2, I showed that in five of the seven most popular types of associations, women and men have more contact with co-members of their own gender than would be expected based on the overall gender composition. The results of Chapter 4 suggest that, compared to ethnically Dutch participants, those with non-Western origins have more contact with non-Western co-members, even after accounting for the composition of their organization. Potential mechanisms underlying such segregation tendencies within (types of) associations

include the internal division into sub-units organized around members' demographic characteristics, the assignment of tasks related to members' social positions, and their personal preferences. Here, the results of this thesis extend earlier work indicating gender- and socioeconomic segregation inside organizations in the United States (McPherson and Smith-Lovin 1987; Rotolo and Wilson 2007).

At the same time, tendencies of homophilous tie formation do not imply that involvement in voluntary associations cannot help participants to expand the breadth of their personal networks. Chapter 3 showed that getting involved in an association is associated with increases in the diversity and the socioeconomic status of people's social capital. Joiners' social networks grow more in size and reach more prestigious positions compared to non-joiners'. Because of the socioeconomic selectivity at the front door, contact opportunities inside organizations are on average biased towards high-status rather than low-status co-members.

In how far exposure to this selective pool of co-members changes the composition of people's social networks depends largely on features of their preexisting social network. It turns out that voluntary associations provide a particularly fruitful place to mingle for those in socioeconomically disadvantaged positions, whose families, neighborhoods and workplaces primarily expose them to low-status individuals. They can meet people in structural positions they previously had no access to. Thus, as shown in Chapter 3, the socioeconomic composition of their network shifts upward after the entry into an organization. While their networks expand most because of their disadvantaged starting position, their social integration into a setting containing mainly status-distant co-members may still overall be less intense compared to their high-status counterparts, who are used to navigating through circles characterized by higher socioeconomic status (see Chapter 4). Nonetheless, even if ties that cross socioeconomic fault lines remain weak, they can still sometimes connect people with different resources, perspectives, and social environments. Because of the strength of weak ties, this

might get them ‘ahead’ in life. However, the results of a simulation in Chapter 3 suggests that current patterns of voluntary involvement reduce inequalities in access to social capital only to a limited extent. After all, the majority of ties in socially segregated organizations will typically resemble people’s existing networks in terms of socioeconomic status, gender, and ethnicity, reducing the capacity of voluntary associations to facilitate contact that bridges these fault lines.

6.1.3. The Back Door

Organizations eventually lose their members through their back door. If this happens systematically to individuals with sociodemographic characteristics underrepresented in their organization, inequalities and segregation across voluntary associations can be altered. McPherson and colleagues have derived a general expectation for all social dimensions from their ecological approach: Organizations will first lose those members who are ‘on the edge’ of their social niche, i.e., who are different from most members on sociodemographic variables (McPherson et al. 1992; Popielarz and McPherson 1995). The empirical results in chapters 2, 4, and 5 however, suggest that the picture is more complex.

Chapter 2, for example, reveals little differences in the probability of leaving between women and men across women-dominated or men-dominated associational contexts. A potential reason is that only people who were willing to belong to the gender-minority in their organization joined in the first place. In Chapter 4, I accounted for such selection effects using a person-fixed effects approach that essentially compared leaving probabilities within persons across the organizations they were involved in. Yet, I did not find clear support for the idea that people would leave organizations at higher rates if more co-members have a different gender or education level. In stark contrast, the same methodological set-up showed that ethnically Dutch individuals do leave organizations with higher shares of ethnic outgroup co-members earlier, which can partly be explained by differentials in their social integration into

these organizations. This latter finding aligns neatly with McPherson's ecological theory (McPherson 1983; McPherson et al. 1992). Yet, weaker social integration into organizations with higher shares of co-members with a different gender or education level do not seem to translate into selective exits out of such organizations. A potential explanation for the absence of sorting, net of selection into organizations, might be that there are simply few alternative organizations in geographic proximity that offer similar activities but differ substantially in their gender or educational composition. For example, an ethnic majority member who does not really integrate into his football club consisting of many ethnic minority members, can switch relatively easily to an alternative club with more ingroup members. By contrast, a man involved in a women-dominated parents' organization or horse-riding club might not form many social relationships but will nonetheless stay involved because he is committed to advocating for his child or because there is no alternative men-dominated horse-riding club close by.

Besides individuals' experience inside organizations, changes in other areas of people's lives can affect whether they stay involved. Chapter 5 showed how this can systematically affect participatory inequalities over the life course. Socioeconomically advantaged adolescents start off by spending more time in voluntary associations. When they leave school, however, they transition into higher education more often than their less-advantaged counterparts. Because such transitions often require geographic mobility, they simply have no other choice than to drop their involvement even if they 'fit in' better than anyone else.

6.2. Summary and Broader Implications

Having discussed the findings in light of the conceptual framework, I will now briefly summarize the main insights regarding the two guiding questions of this thesis: (i) Who gets

to participate in civic life and what are the implications of participatory inequalities for joiners' social networks?, or in short: *Who is involved?* and (ii) Whom do people get in contact with during their voluntary involvement and to what extent are there integrative or segregationist tendencies in civic life?, or in short: *Who else is involved?* and discuss their broader implications.

Regarding the first question, my findings suggest that socioeconomic status and ethnic majority status are strongly associated with involvement in civic life, implying that joiners will predominantly encounter these groups in voluntary organizations. On the one hand, this enables less advantaged joiners to build bridging ties that extend their networks into sections of society that had previously been inaccessible for them. On the other hand, it also means that it will be more difficult for them to 'fit in' in civic life in general. Gender inequalities in general involvement rates have diminished over the last decades but the types of associations that women and men participate in remain segregated, which already touches on the second question.

With respect to the second question, I find that voluntary associations primarily facilitate contact between people who are similar to each other in terms of all social dimensions under study, i.e., gender, ethnicity, and socioeconomic status. Segregation takes place when people join organizations, when they pursue activities inside their organizations, and to some extent when they leave organizations. Both, structural and cultural factors bring about segregation in civic life: People belonging to distinct social groups are typically embedded in different life worlds: They often maintain structurally dissimilar social networks, live in neighborhoods with different opportunities, and are subject to other normative expectations. These factors powerfully shape which (types of) associations they join. Moreover, whether people integrate into and remain involved in their organization depends not only on their individual life course trajectory but also on their sociodemographic fit with the organization. Segregation tendencies

at the front door, indoors, and at the back door limit the potential of voluntary associations to facilitate contact that bridges across salient fault lines. Nonetheless, people's social networks can still expand when they join organizations, just not as much as they could.

While in both public and academic debates, overwhelmingly hopeful notions of voluntary associations as promoters of social integration and facilitators of social cohesion remain extremely popular (European Commission 2021; Joint Economic Committee 2021; Putnam 2000; Schiefer and Van der Noll 2017), the findings of this thesis underscore a more ambivalent perspective on voluntary associations. Participatory inequalities and segregation in civic life are currently blocking a large amount of potential for fostering social cohesion. In principle, voluntary activities have the potential to build bridges between different social groups in society—as testified by studies showing that intergroup relations improve after randomly assigning people to diverse civic participation contexts (Laurence 2020; Lowe 2021; Mousa 2020). However, voluntary associations often do not live up to this potential because they predominantly facilitate contact among a selective group of individuals, i.e., bonding rather than bridging social capital (cf. Putnam 2000). In civic life, individuals typically decide themselves whether and if so in which organization within their opportunity structure they get involved in and how much and with whom they interact there. Thus, in order to improve the bridging capacity of voluntary associations, additional efforts are necessary. Some potential pathways for this endeavor are discussed in section 6.3.

My findings regarding segregation in civic life also resonate with a larger body of research about social homophily in other social domains. Direct comparisons in the supplementary analyses for Chapters 2 and 4 revealed that people do not systematically have more contact with people of the opposite gender or an ethnic outgroup through their voluntary associations compared to their friendship networks, neighborhoods, educational settings, or workplaces. Moreover, parallels in terms of how homophily brings about segregation can be drawn

between the civic and other social contexts. Core discussion networks, which may include confidants from any social contexts, are also strongly segregated along gendered, socioeconomic, and ethnic lines (Mollenhorst et al. 2008; J. A. Smith et al. 2014). While people's tendency to establish new ties with individuals who are similar to themselves explains a large portion of this segregation, more recent studies also found that socially homophilous ties last longer, akin to people's leaving decisions in civic life which are selective on the ethnic composition of their organization (e.g., Jeroense, Spierings, and Tolsma 2024). In a similar vein, a recent study highlighted that the importance of selective drop-outs for undermining social closeness across social boundaries by showing that professional tennis players were less likely to continue with the same double-partner after a set-back if they originated in another country (Lu, Wang, and Zhang 2023). Thus, in civic life, like in other social settings, the extent of social integration and the 'kinds' of people one recurringly interacts with is strongly contingent on one's own characteristics.

6.3. Policy Recommendations

Attempts to open up social settings to underrepresented groups have reached large sections of the landscape of voluntary associations. For example, large national football associations like the DFB in Germany (Deutscher Fußball Bund 2019), KNVB in the Netherlands (Koningklijke Nederlandse Voetbal Bond 2023), or the Football Association in the UK (Football Association 2021) have committed themselves to improving diversity and inclusiveness. Similarly, other umbrella organizations, such as Scouts UK (Scouts UK 2023), the German Olympic Sports Confederation (Deutscher Olympischer Sportbund 2023), and the Choir Network Netherlands (Koornetwerk Nederland 2023) state their commitment to these values. The findings of this thesis directly speak to such practitioners' strategies by offering three key take-away messages.

First, practitioners should carefully assess which obstacles people have to overcome in order to join their organization (through the front door). Here, key questions include: Which groups are targeted by outreach activities? Are there membership fees that some groups cannot afford to pay? Do relevant gatekeepers follow discriminatory practices when admitting new members? Are the activities pursued in the organization deemed appropriate for everybody or only for persons of a particular gender, ethnicity, or socioeconomic status and how can recruitment strategies target currently underrepresented groups?

Second, practitioners can capitalize on possibilities to stimulate social mixing among members they have already attracted. Voluntary associations are often internally segregated along socioeconomic, gendered, or ethnic lines and reshuffling organizational subunits or re-assigning voluntary tasks might provide ways in which participants' exposure to outgroup members can be facilitated. Cooperative contact involving people with different backgrounds can increase mutual understanding, break down boundaries and stereotypes, and improve the internal cohesion of organizations.

Third, practitioners are encouraged to assess which members are at higher risk of dropping out. As individuals belonging to social groups that are under-represented in an organization may face difficulties to integrate and therefore leave earlier, special efforts should be paid to their organizational integration. For example, buddy programs or top-down assignment into small cooperative groups may bring them in closer contact with their co-members and facilitate social ties that make their involvement and therefore organizational diversity more sustainable.[44]

[44] Given voluntary organizations in different activity domains may face very different constraints and opportunities to address these challenges, not all of these recommendations might suit every organization.

Policy makers, who are in charge of distributing public funds across organizations might want to incentivize organizations to adopt such inclusive strategies. For example, organizations that successfully sustain socially more diverse membership base could be advantaged when public funds get scarce. Moreover, the existence of funding schemes tied to the adoption of particular organizational policies might further encourage civic organizations to improve upon their current practices. Additionally, policy makers should systematically think about ways to reduce ethnic and socioeconomic gaps in voluntary involvement by setting up or developing voluntary associations in disadvantaged communities, targeted at their needs. Given that participatory disparities start early on in the life course (see chapter 5), special attention should be paid to youth involvement, which is also consequential for civic participation during adulthood (McFarland and Thomas 2006). Widespread and sustainable involvement of disadvantaged young people in diverse organizations might help them to integrate during a formative period of life.

Notably, interventions that seek to improve the accessibility of civic organizations should go beyond reducing the financial costs associated with it, as testified by a recent quasi-experimental study revealing that participation rates among German youth did not increase in response to a large-scale voucher program (Marcus, Siedler, and Ziebarth 2022). Instead, the prime role of social network in the recruitment process (as shown in Chapter 2 and 3, as well as earlier research: Bekkers et al. 2008; Wiertz 2016) suggests that measures that reduce the segregationist consequences of network-based recruitment may be more successful. For example, if all local associations presented themselves at a fair in local schools, adolescents would be more likely to join clubs which they otherwise would not have considered because of lack of awareness of the clubs or lack of an invitation to participate (Bryant et al. 2003). Moreover, in the school context, adolescents could be prompted to think about civic involvement together with their friends. Starting an involvement together with a friend may

reduce the need for immediate acceptance by the existing members, implying that 'fitting in' the sociodemographic composition may not be a prerequisite for staying involved after a few meetings. After all, if segregation across and within civic organizations can be addressed, the potential that involvement in their activities offers for improving intergroup relations and social cohesion can unfold.

6.4. Open Questions and Potential Pathways for Future Research

While this thesis provided a number of novel insights about inequalities and segregation in voluntary involvement, it leaves several questions open and also poses new questions. In this final section, I point to some of these questions and discuss potential avenues for future research.

An important question is whether the results obtained for Germany and the Netherlands can be reproduced in other countries. The extent to which this is the case depends on how similar other countries are in terms of civic involvement and relevant other structural and cultural context characteristics. Within the Europe, Germany and the Netherlands represent medium or high-involvement countries. In this respect, they are comparable to other Northern and Western European countries such as Sweden, the United Kingdom, or France but also the United States (see Chapter 1.4). Moreover, broader social inequalities that structure individuals' position in society follow similar patterns: In Germany and the Netherlands, like in these other countries, men participate more in the labor market and earn more money than women and ethnic minorities occupy disadvantaged position as testified by lower levels of education and earnings. Moreover, across these countries, both ethnic majority- and higher socioeconomic status are strongly associated with the voluntary involvement. However, while these overarching similarities suggest that the main findings of this thesis can be expected to

be reproduced in other Northern- or Western European or the United States, there are also ways in which Germany and the Netherlands stand apart from this group of countries. For example, regarding chapter 2, gender norms and the gendered division of labor follow particularly traditional patterns in Germany. Given that I showed how they bring about gender segregation across and within types of associations, one might expect that the gendered fault line in civic life may also be somewhat weaker in countries with more egalitarian gender systems (Grunow et al. 2018; Hook and Pettit 2016). With respect to Chapter 5, note that while university-based voluntary associations are very common in many countries, especially the United Kingdom and the United States, they remain relatively unpopular in Germany. Given that organizations affiliated to universities in other countries offer a much richer range of voluntary activities, future research may test whether transitioning to university causes a stronger decline in voluntary involvement among high-SES adolescents there as well. That said, comparative studies taking such differences into account would help to shed more light on segregation in civic life.

Throughout this thesis, I have highlighted the prevalence of strong segregation across and within voluntary associations and the associated limits to their potential to facilitate positive intergroup contact. While this thesis and earlier research (McPherson et al. 1992; Wiertz 2016) have shown that both structural (recruitment networks, local availability of organizations with specific compositions) and cultural factors (gender norms, attitudes towards ethnic outgroups) play a role, the results of the empirical chapters prompt further questions about why segregation emerges and how different forces work together in bringing it about. An important pathway for future research is here to clearly differentiate between local opportunities and participants' preferences for organizations with certain socio-demographic compositions. Here, key questions are: 'How important is geospatial proximity when people choose organizations and how does the socio-demographic composition of local areas affect the

opportunities for joining (ethnically or socioeconomically) diverse organizations?', 'To what extent do people hold preferences for joining organizations with socio-demographically similar co-members and how do different social dimensions interact with each other when shaping the attractivity of an organization?', and 'How do pre-existing contacts as well as opportunities for contact within organizations affect the attractivity of organizations?'.

Observational data, as used in this thesis and earlier research, shows the final outcome of individuals' decision-making process (i.e., whether or not they joined a certain organization) but does not shed any light on whether participants joined because or despite the organizations' social composition. Because individuals' affiliation decisions have unintended consequences for the composition of organizations that other people face, even very weak preferences for ingroup co-members may already bring about substantive segregation in civic life (cf. Schelling 1969, 1971). Conjoint experiments in which survey respondents choose between two fictious civic organizations constitute a promising pathway for addressing the abovementioned questions. By experimentally controlling opportunity structure, i.e., the social composition and other characteristics (e.g., travel time, financial costs, existing contacts within organization) of the available organizations, individuals' preferences can be isolated and the interplay of different dimensions can be studied. Thus, a follow-up project on this dissertation seeks to collect such experimental data through two Dutch large-scale panel surveys (Dederichs et al. 2023, 2024: TRansitions Into Active Living Panel (TRIAL) and Longitudinal Internet studies for the Social Sciences (LISS) - see also https://odissei-data.nl/en/2022/12/liss-grants-2022-announcement/).

Another remaining question is how voluntary associations compare to other social settings, such as friendship networks, schools, workplaces, and neighborhoods in terms of their capacity to facilitate intergroup contact. Earlier, I discussed that the ease with which people can join and leave organizations may have ambivalent consequences for their 'bridging capacity' in

comparison to those contexts. Two supplemental analyses showed that people's contacts in voluntary organizations do not systematically involve more individuals of the opposite gender than their friendship networks (see Chapter 2), and that the share of ethnic outgroup members is not any higher in people's voluntary organizations compared to their neighborhoods, educational settings, or workplaces (Chapter 4). In this context, an earlier study has shown that people's confidants met through voluntary organizations were about as likely to be similar in terms of gender and education compared to those met through other contexts (Mollenhorst et al. 2008). Yet, also here, several open questions remain: 'Are weak ties formed in voluntary associations any more bridging compared to those formed in other settings?', 'Is choice homophily when selecting contacts or close associates from co-attendees any weaker in the cooperative and shared-interest environments of voluntary associations?', and 'How do different social dimensions compare and interact with each other in this respect?'. Again, the aforementioned newly collected data in the follow-up project contains detailed information on the social composition of people's current civic organizations, neighborhoods, and their contacts within both settings. This allows not only multi-dimensional analyses of within-context segregation but also systematic comparisons between the civic and the neighborhood setting. After all, the chapters of this thesis provide a suitable starting point for such analyses and may also, in the spirit of cumulative social science (Gërxhani et al. 2022), stimulate further research on the nexus between voluntary involvement, diversity, and social integration.

7 Bibliography

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