



COVID-19-associated discrimination in Germany

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ABSTRACT

This study examines whether ethnic minorities in general and Asian minorities in particular have perceived an increase in discrimination during the COVID-19 pandemic, a phenomenon known as COVID-19-associated discrimination (CAD). Drawing on the CILS4COVID data, which were collected among 3,517 individuals in the initial phase of the pandemic (mainly between April and June 2020), we demonstrate that especially Asian minorities ($n = 80$) report instances of CAD. Furthermore, CAD is reported more by Asian respondents residing in administrative districts that have been particularly affected by the COVID-19 pandemic, i.e., that had high seven-day COVID-19 incidence rates. Higher levels of perceived CAD are also reported by respondents originating from the Americas ($n = 61$) and the former Soviet Union ($n = 197$), but only in administrative districts with high incidence rates. We conclude that CAD reported by these groups is likely due to these groups being perceived to pose a higher threat of infection transmission. CAD reported by Asian-origin respondents is not entirely due to the actual threat posed by COVID-19, but rather to a mix of perceived threat, overt discrimination and the attribution of various negative experiences suffered since the outbreak of the pandemic to CAD.

1. Motivation

When first cases of the 2019 novel coronavirus SARS-CoV-2, causing a severe respiratory-tract illness, were reported in Wuhan, China, nobody imagined the global consequences of this development (Gillen, 2020). COVID-19, as the disease has officially been called since the mid-spring of 2020, has not only posed the most severe challenge to the health care systems, the global economy, stability and social order since World War II, but has also considerably increased ethnic and racial discrimination in many countries (He, He, Zhou, Nie, & He, 2020; Ng, 2020; Pew Research Center, 2020). Discrimination against people who share social or behavioural characteristics with COVID-19 patients, although they themselves may not be carriers of the novel virus, has been assigned a special term: COVID-19-associated discrimination (CAD) (Liu, Finch, Brenneke, Thomas, & Le, 2020). Particularly—but not only—individuals of Chinese or Asian descent have become the targets of CAD, hate crimes, stigmatization and labelling as spreaders of the disease (Chung & Li, 2020; Coates, 2020; Devakumar, Shannon, Bhopal, & Abubakar, 2020; Liu et al., 2020; Mediendienst Integration, 2021; Pew Research Center, 2020; Tessler, Choi, & Kao, 2020).

Since the outbreak of the disease in late 2019 in China and its rapid global spread in 2020, news outlets around the world have reported

cases of discrimination against Asians (He et al., 2020; Kandil, 2020; Kelly, 2020; Timberg & Chiu, 2020). Analyses demonstrate an increase in the use of offensive language in social media, such as in tweets exclusively terming the disease Chinese virus or China virus instead of coronavirus or COVID-19 (Budhwani & Sun, 2020 for the US) or Sino-phobe speech on Twitter in general (Stechemesser, Wenz, & Levermann, 2020 for English-language tweets globally). Also in Germany, particularly at the beginning of the pandemic, the media—including social media—reported extensively about the increase in discrimination and instances of harassment among individuals of Asian descent (Hoff, 2020; Klaus, 2020).

Notwithstanding existing media reports, we still lack reliable empirical, representative evidence regarding the extent of discrimination related to the COVID-19 or coronavirus pandemic among ethnic and racial minorities in Germany. Therefore, the first objective of our study is descriptive, pursuing the question of whether Asian minorities in Germany report an increase in discrimination since the outbreak of the COVID-19 pandemic. We further explore to what extent other ethnic minorities are affected by CAD. The second objective is more analytical, addressing the question of whether potential discrimination against Asians and possibly other minorities is related to the threat—real or perceived—that COVID-19 poses to individuals' health.

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In the following, we first give a brief outline of the history of migration to Germany in general and of immigration from the Far East in particular. We then discuss the concept of perceived discrimination and its implications during the pandemic, before illustrating how the COVID-19 situation developed in Germany in the first half of 2020. After introducing the data, we present the descriptive and multivariate analyses and conclude with a discussion of the study's key results.

2. Migration and ethnic divisions in Germany

Who are the Asian minorities in Germany? Reviewing the history of major migration flows to Germany, one finds little mentioning of mass migration from the Far East. The guest worker migration in the 1950–1970s to West Germany and subsequent family reunification mainly involved the Mediterranean countries, especially Southern Europe (Italy, Spain and Greece), Turkey and the former Yugoslavia. The recruitment of workers from East and Southeast Asian countries (South Korea, Philippines) was also initiated in the 1960s, but it occurred on a significantly smaller scale (Oltmer et al., 2012).¹ Similar guest worker schemes were introduced by the East German socialist regime with Northern Vietnam to enable Vietnamese migrants to come and work in the GDR.²

Most refugee migrants came from the communist Eastern Europe to West Germany (particularly until the late 1980s), Yugoslavia (in the early 1990s) and Kurdish regions of Turkey (particularly in 1980s–1990s), but more recently also from the Middle East, predominantly Syria, Afghanistan and eastern Africa (Bundesamt für Migration und Flüchtlinge, 2013; OECD, 2017). Refugee migration from Asian countries occurred in relatively small numbers³, primarily from southern Vietnam in the 1970–1980s, when Vietnamese boat and quota refugees found safe haven in West Germany.

Other more recent waves of migration largely originate in Europe as a result of free movements within the European Union, primarily from east to west (Van Mol & de Valk, 2016). The return migration of ethnic German diaspora mainly from Poland and the former Soviet Union (Kogan, 2011) is yet another within-European migration phenomenon, which is specific to Germany. More recent migration from Asian countries has been steady but small in number, with most immigrants coming for the sake of employment, studies or marriage. Starting from 2011, immigration from China has outnumbered immigration from Vietnam (Kreienbrink, 2014), so that Chinese nationals today represent the largest single Asian group in Germany.⁴

As in many Western immigrant-receiving countries, in Germany minorities from East Asia are integrated well on the structural dimension. They are among the best-performing migrant groups in the German education system (Kemper, 2015, p. 85) and among the least disadvantaged groups in the German labour market (Koopmans, Veit, & Yemane, 2018). Results of a recent field experiment demonstrate that German employers do not discriminate against Western and Southern European and East Asian immigrants (Koopmans et al., 2018, p. 22), whereas other origin groups, particularly the Turkish one (Kaas & Manger, 2012; Schneider, Yemane, & Weinmann, 2014), face

¹ From 1963 to 1980, just under 8,000 South Korean miners (Kreienbrink, 2014) and in 1971 around 10,000 South Korean nurses were employed in the Federal Republic (Coi & Lee, 2005).

² In 1989, there were approximately 59,000 Vietnamese in the GDR, accounting for nearly two-thirds of all foreign contract workers (Bade & Oltmer, 2007).

³ Around 23,000 Vietnamese refugees were resettled in West Germany between 1978 and 1982 (Beuchling, 2003; Kleinschmidt, 2013).

⁴ According to the 2018 German microcensus, there are 139,000 direct immigrants from China and 114,000 from Vietnam in Germany. In addition, there are 173,000 children of immigrants with Chinese citizenship and 185,000 with Vietnamese citizenship.

considerable obstacles.

So why would Asian minorities—one of the most structurally integrated groups in Germany—report an increase in discrimination since the onset of the COVID-19 pandemic? Do other minority groups suffer similar discriminatory experiences? Studying COVID-19-associated discrimination of immigrants and minorities in Germany not only is informative in itself, but also provides us with an opportunity to better understand the mechanisms underlying self-reported discrimination in general.

3. What is behind self-reported CAD?

In a pursue of the question whether and why Asian and other minorities are more likely to report COVID-19-related discrimination than the majority native-born Germans, we first need to understand the concept of perceived discrimination in general and perceived CAD in particular. On the one hand, self-reported discrimination is likely to reveal actual instances of discrimination (Diehl, Liebau, & Mühlau, 2021). On the other hand, the literature suggests that perceived discrimination is a subjective evaluation of often ambiguous situations (Diehl et al., 2021) and might be related to individuals attributing negative situations to discrimination, for example as a sort of coping strategy (Major & O'Brien, 2005).

Assuming that reports of discrimination are in fact accurate and reflect actual instances of discrimination, we might ask ourselves why ethnic minorities should be more prone to experience discrimination during the COVID-19 pandemic. One possible explanation for discrimination is intergroup bias (Sidanius & Pratto, 1999). The key elements of intergroup bias are that people distinguish between in- and outgroup members and evaluate the attributes of in- and outgroup members differently. According to Merton's (1968) idea of moral alchemy, outgroups are more likely to be blamed for the same characteristics and behaviours than ingroups. In the case of the COVID-19 pandemic in Germany, this would mean that outgroups might be more likely to be accused of not sticking to the hygiene rules and thus be held responsible for spreading the virus even if they do not differ in their behaviour from their majority native-born counterparts. As a consequence, minorities in Germany, as an outgroup *per se*, can be expected to report more instances of perceived discrimination during the pandemic than the majority population (Hypothesis 1).

But are all outgroups discriminated against to a similar extent or can we expect differences by country or region of origin? To address potential heterogeneity of outgroup discrimination, we refer to the integrated or intergroup threat theory (ITT), which is widely used in psychology and sociology to causally link (perceived) threat and between-group prejudices (Stephan & Stephan, 2000; Stephan, Ybarra, & Morrison, 2009). ITT's major advantage is its applicability to both actual and perceived threat. In their paper, Stephan and Renfro (2002) referred to the notion of *realistic* threat, which seems to be particularly relevant to our study. Realistic threat is defined as an *existential* danger in terms of physical safety, health, well-being or economic situation (see also Campbell's (1965) realistic conflict theory). The threat of COVID-19 is a realistic threat of global importance, likely to intensify prejudice against outgroups that are (believed to be) particularly associated with the spread of the virus, for example because they originate from countries with high COVID-19 incidence rates. The single outgroup members do not have to be carriers of the virus, but the fact that the ingroup perceives the outgroup as more likely to transmit the virus might intensify prejudices against the latter. Therefore, we expect that ethnic minorities who are believed to pose a higher COVID-19 transmission threat experience and hence report higher levels of CAD (Hypothesis 2).

Furthermore, we expect effect heterogeneity especially to the disadvantage of Asian minorities due to yet another potential mechanism behind accentuated perceptions of CAD on part of this group—the so-called attribution phenomenon. To this end we resort to Merton's (1948) notion of self-fulfilling prophecy (see also Jussim, Cain,

Crawford, Harber, and Cohen's (2009) idea of expectancy confirmation processes). In reference to the Thomas theorem, Merton (1968) postulates that 'public definitions of a situation become an integral part of the situation and thus affect subsequent developments' (Merton, 1968, p. 477). The genesis of the COVID-19 pandemic in China, the blame put by some world leaders and the media on the Chinese government for not containing the disease, and the blameworthiness of social media against Asians worldwide in light of the COVID-19 pandemic might lead Asians in Germany to attribute any negative situation they have experienced since the start of the pandemic to COVID-19-associated discrimination. This is likely to contribute to particularly frequent reports of CAD among Asian minorities in Germany (Hypothesis 3).

However, not only the (actual or perceived) threat of the virus transmission through specific outgroups, which are either visiting⁵ or residing in Germany, may translate into representatives of these ethnic groups reporting CAD more frequently. The actual and perceived COVID-19 threat can be expected to be higher for individuals residing in areas with high incidence rates. In the early phase of the COVID-19 pandemic (i.e. in Spring 2020), a considerable regional variation was observed regarding the spread of the coronavirus, with higher infection rates in the south-southwest of Germany and much lower incidence rates in the north-eastern parts of Germany (Scarpone et al., 2020). Following the ITT logic, the outgroup prejudices should be stronger in areas with higher incidence rates. Therefore, outgroups and particularly ethnic minorities that are likely to be associated with the spread of COVID-19 should report higher levels of CAD in the areas with higher incidence rates (Hypothesis 4).

But which outgroups are likely to be linked to spreading COVID-19 in Germany? The next section will provide the answer to this question by describing the early COVID-19 situation in Germany.

4. The early COVID-19 situation in Germany

At the end of January 2020, the first cases of COVID-19 were detected in Germany, followed by a first slow and later exponential growth in the number of confirmed cases by mid-March 2020 (Petzold et al., 2020). The general public reactions to the disease closely followed the development of confirmed COVID-19 case numbers. At the beginning, the public perception was that COVID-19 was solely a 'Chinese problem' (Schild et al., 2020), given that the first confirmed cases in Germany in Bavaria were traced back directly to visitors from Wuhan (Böhmer et al., 2020). However, with an increasing number of confirmed cases, further within-country transmissions of the infection, and the first deaths attributed to the COVID-19 disease, the German population became aware of the threat the pandemic posed to individuals—especially to the elderly, chronically ill and vulnerable (Röhr, Reininghaus, & Riedel-Heller, 2020). Due to the increasing case numbers, the German government implemented several rules and restrictions to inhibit an exponential growth of the infection. Such measures comprised, for example, the closure of educational and child-care institutions and cultural facilities (Bundesgesundheitsministerium, 2020). This marked the start of a first lockdown. The lockdown was further intensified on March 22, when a ban on gatherings of more than two people from different households and other mandatory social distancing rules, such as keeping at least 1.5 m (approx. 5 ft) distance to others, were introduced. In addition, all nonessential shops and facilities were closed, such as hairdressers and restaurants (Modersitzki, Phan, Kuper, & Rauthmann, 2020). These lockdown rules applied across Germany and lasted until April 19 (Gollwitzer, Platzer, Zwarg, & Göritz, 2020). However, not all restrictions were completely abolished after this date, especially in regions with high infection rates (the so-called hot-spot strategy) (Bundesregierung, 2020).

⁵ International traffic was still possible to some extent during the first phase of the pandemic.

As outlined above, we expect that individuals in situations of imminent COVID-19 threat discriminate more against outgroups that they believe to be posing a COVID-19 transmission risk. Furthermore, we expect that higher rates of CAD are reported by these ethnic minorities particularly in areas with high incidence rates. Individuals may perceive the threat to be more imminent if they face or interact with individuals who are believed to be likely carriers of the virus, for example immigrants from countries with high incidence rates. Fig. 1 displays the cumulated number of cases for different countries or regions worldwide during the first half of 2020. The categorisation of countries reflects the categorisation that we use to group the individuals of the analytical sample in the empirical part of this paper.

According to this figure, and following the considerations above, it may be expected that—especially in the early phase of the pandemic—individuals from Asia (and here: especially from China) were considered as likely carriers of the virus, not only in Asia but also in Germany. The fact that the virus first occurred in China and that the first infections in Germany were linked to a Chinese resident visiting Germany⁶ may result in this group being constantly perceived as a threat, even though the number of cases remained at a rather low level in China in the course of the pandemic as compared to other countries and regions.

In the course of the pandemic, the COVID-19 case numbers also increased in other countries. During the main part of the fieldwork for the underlying study, in which 80 per cent of the interviews took place (represented by the shaded area), especially individuals from both American continents, from countries of Western and Southern Europe ('Other Europe'), including Italy, Spain and France, from the Middle East and Africa, but also from the former Soviet Union may have been perceived as posing a particular threat, because the number of COVID-19 infections in these countries or regions were above those of Germany (solid line). Especially the increase in COVID-19 cases in both American continents and in the FSU was particularly strong during the fieldwork period of the survey and was prominently covered in the German media.

5. Data and methods

The empirical analyses draw on data from the German part of the Children of Immigrant Longitudinal Survey in Four European Countries (CILS4EU, 2016; Kalter, Kogan, & Dollmann, 2019; Kalter, Kogan, & Dollmann, 2021). More precisely, we use data that was collected during the COVID-19 add-on survey (CILS4COVID), which was conducted almost parallel to the eighth wave of the CILS4EU-DE survey, starting from April 22, 2020. CILS4EU-DE is a German long-term project succeeding the international CILS4EU survey, which was conducted between 2010 and 2014 in Germany, England, the Netherlands and Sweden. CILS4EU's main aim was to study the integration of 14–15-year-old students with and without an immigrant background in their respective societies. Since 2014, CILS4EU-DE has continuously tracked the lives of the original CILS4EU respondents and, starting from 2016 (wave 6), of an additional refreshment sample (for more information, see Kalter et al., 2019). Unfortunately, and despite the national attempts to continue CILS4EU also in the other countries, no country but Germany implemented a COVID-19 add-on survey, making it impossible to study the topic of CAD from an internationally comparative perspective.

The initial representative samples of CILS4EU were drawn following a three-level approach (cf. Dollmann & Weißmann, 2020 for the following description of the sampling strategy of CILS4EU and CILS4EU-DE). Schools, school classes and students constituted the single

⁶ In fact, 'patient 0' in Germany was a Chinese resident who visited Germany for professional reasons, causing a cluster of at least 16 COVID-19 cases with four generations of transmission (Böhmer et al., 2020).

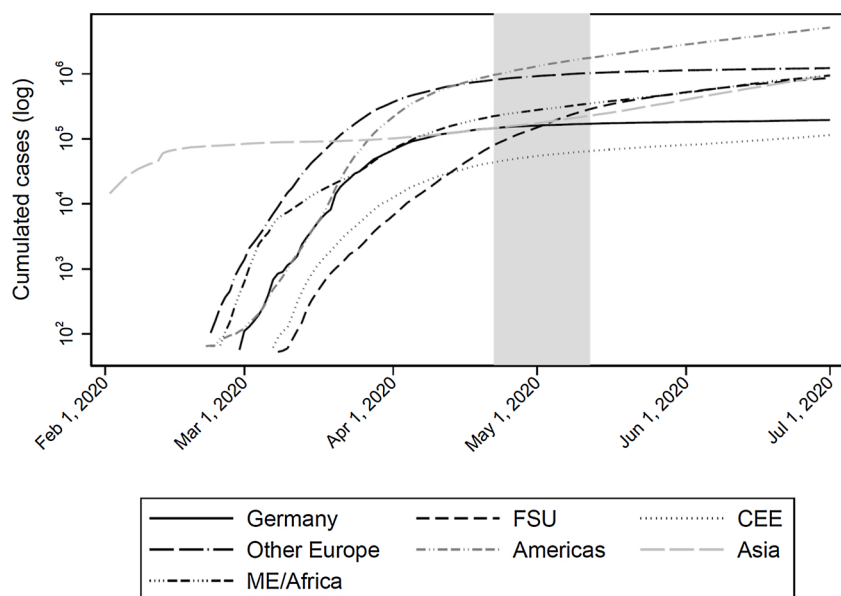


Fig. 1. Development of absolute, cumulated numbers of COVID-19 cases in selected countries/regions. Note: FSU: Former Soviet Union; CEE: Central and Eastern Europe; Other Europe: Europe without CEE and FSU; Americas: North and South America; Asia: East and Southeast Asia; ME/Africa: Middle East (including Turkey) and Africa. Country-/Region-specific number of cases reported when $n > 50$. Shaded area displays the time span in which 80 per cent of CILS4COVID-participants took part in the survey. Source: EU Open Data Portal; <https://data.europa.eu/euodp/en/data/dataset/covid-19-coronavirus-data>.

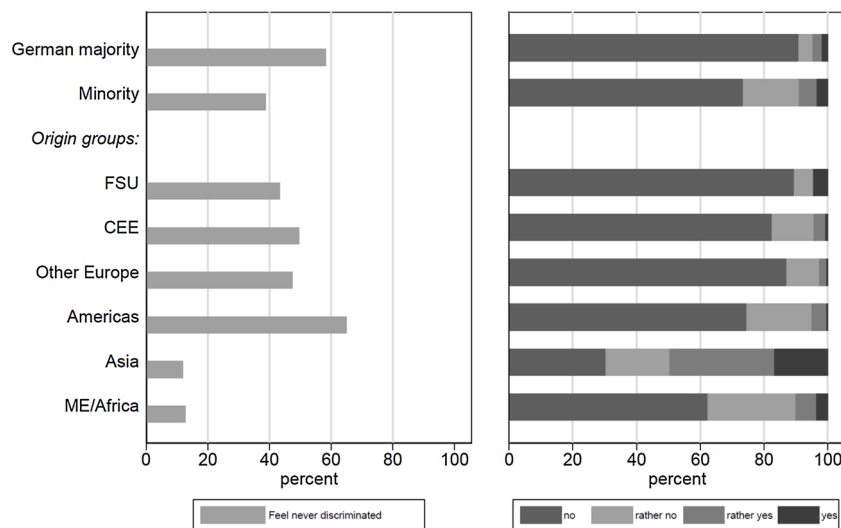


Fig. 2. Perception of CAD by countries/regions of origin. Note: The figures only include the cases that are studied in the multivariate analyses.

sampling units at the different levels. First, a school-based sample was drawn from a comprehensive school list with all schools of a country enrolling the relevant target population, i.e. students enrolled in a school class in which the vast majority of students was aged fourteen or would turn fourteen during the school year. Schools with a higher proportion of immigrants were oversampled to achieve an equally balanced sample between respondents with and without an immigrant background. Furthermore, additional implicit stratifiers were used to achieve samples proportionate to the school types and regions. Within the selected schools, two classes were randomly selected, of which all students were asked to participate in the survey. Consequently, 144 schools, 271 school classes and 5013 students were selected in the first wave of CILS4EU in Germany (Dollmann & Weißmann, 2020).

During the German follow-up study (CILS4EU-DE), a refreshment sample targeting respondents of the same birth cohort as in the original sample was drawn in wave 6 in 2016, with the aim of obtaining a net sample of at least the size of the wave 1 sample. The sample selection was based on municipality level, with 62 municipalities randomly

selected on the basis of probabilities proportional to size, further ensuring a proportionate sample of regions and community sizes. After contacting the respective statistical offices, name lists of the gross sample were delivered. Using onomastic (i.e. name-based) procedures, these lists were then classified according to a possible migration background (Humpert & Schneiderheinze, 2016). One half of the sample was drawn from the list of respondents likely to have an immigrant background. Another half of the sample encompassed individuals with a low probability of immigrant background. This procedure mimicked the distribution of majority and minority groups members in the first wave, i.e. 50:50 per cent (Dollmann & Weißmann, 2020; Schiel, Sandbrink, Aust, Chudziak, & Kleudgen, 2016; see also Kalter et al., 2019 for more details).

The target population of CILS4COVID were participants of the CILS4EU-DE study who took part in wave 7 or temporarily dropped out in wave 7 but participated in wave 6. As outlined above, the study focusses on young adults born between 1994 and 1996 and aged between 24–26 during the field work of the CILS4COVID survey (mainly

April–June 2020). In total, 5254 persons were invited to participate in a web or postal survey. Overall, 3517 participated in CILS4COVID (response rate 67 per cent; Soiné, Arnold, Dollmann, Kriegel, & Weißmann, 2021).⁷

The CILS4COVID survey inquired about young people's situation during the pandemic, their worries, sources of information, etc. as well as the economic, social and emotional consequences that the pandemic had on them. Another key focus of CILS4COVID was on self-reported discrimination. More precisely, the following question was asked: 'Since the beginning of the Corona pandemic, do you feel increasingly discriminated against or treated unfairly due to your ethnic background?' The answer categories were 'Yes', 'Rather yes', 'Rather no', 'No' and 'I never feel discriminated against'. Thus, our variable is constructed such that the last category filters out respondents who have never felt discriminated against.⁸ The first four categories therefore capture the respondents who have actually felt discriminated against since the beginning of the COVID-19 pandemic and for whom the extent of CAD is meaningful to determine.⁹

To evaluate whether the reporting of perceived discrimination in CILS4COVID can indeed be attributed to the COVID-19 pandemic, we compare these reports of CAD with information on experiences of discrimination from previous waves of the CILS4EU survey. Throughout the CILS4EU-DE survey, several questions were asked about perceived discrimination in different contexts, such as in school (wave 1; 'How often do you feel discriminated against or treated unfairly in school?'), in public transport (wave 3; 'How often do you feel discriminated against or treated unfairly in trains, buses, trams or the subway?'), in shops or bars (wave 3; 'How often do you feel discriminated against or treated unfairly in shops, stores, cafés, restaurants or nightclubs?') or by the police (wave 3; 'How often do you feel discriminated against or treated unfairly by police or security guards?'). Answer categories were 'Always', 'Often', 'Sometimes' and 'Never'. Finally, in wave 6, we also asked the respondents whether they perceived discrimination at the labour market entry and at the transition to higher education or training ('Have you ever felt discriminated against while applying for an apprenticeship or a place at university or searching for a job because of your ethnicity'), with the answer categories 'Yes' and 'No'. We compare the shares of respondents who do not tick the answer 'Never' (for the items in wave 1 and 3), who choose the answer 'Yes' (for the item in wave 6) and who reject the statement 'I feel never discriminated against' in CILS4COVID. These shares capture those respondents who report to have experienced discrimination in different contexts and at different points in time, including the COVID-19 pandemic.

Given the structure of the dependent variable with an implicit filter for those who have never felt discriminated against, we estimate multivariate models with Heckman selection (see below). The following variables are included in the selection equation, which aims to determine which persons feel discriminated against at all: the highest ISEI score in the family (of the respondent's father and mother), the highest educational degree of respondents, gender ('Female' or 'Male'), whether they have a partner ('Yes' or 'No'), whether they have children ('Yes' or 'No') and information about respondents' current socio-economic situation ('School/studying'; 'Apprenticeship'; 'Full-time or part-time work'; 'Unemployed'; 'Something else').

⁷ The response rate must be considered in light of the rather high number of cases in the gross sample. CILS4EU-DE allows for temporary dropouts, i.e. respondents who participated in wave 6 but not in wave 7 are still counted as part of the gross sample.

⁸ This means that even those reporting 'no' or 'rather no' could still feel being discriminated against in general (although they did not feel an increase in discrimination during the pandemic). Otherwise, they would have ticked 'I never feel discriminated against'.

⁹ For the analyses, the values of the four categories are reversed, i.e. higher values indicate an increase in CAD.

Furthermore, we control for the individuals' origin in the selection equation. Due to limitations in the number of cases for specific ethnic minority groups, we group the sample into broader regional categories, where necessary. In the following, we differentiate between respondents without an immigrant background ('German majority'; $n = 1,905$), respondents from former Soviet Union countries ('FSU'; $n = 197$), respondents from Central and Eastern European countries ('CEE'; $n = 442$), respondents from other European countries ('Other Europe'; $n = 273$), respondents from North and South America ('Americas'; $n = 61$), respondents from East and Southeast Asia ('Asia'; $n = 80$), and respondents from the Middle East (including Turkey) and Africa ('ME/Africa'; $n = 507$).¹⁰

Origin is a key variable also in the outcome equation, as we seek to investigate which groups are especially affected by CAD. Given that the number of COVID-19 cases varied during the pandemic, we also consider the epidemiological week in which the respondent was surveyed to capture possible time trends in CAD. To investigate whether respondents resided in an area in which the risk of an infection was particularly high, we also include information about the average number of new COVID-19 cases during the last seven days per 100,000 inhabitants of the administrative district. Given that this variable is heavily skewed to the left, we use the natural logarithm of these values.¹¹ Furthermore, we centre this variable to use it in interaction terms in the multivariate analyses ($M = 0$). The information on the infection numbers is provided daily by the Robert Koch Institute (RKI).¹²

To control for general anti-immigrant sentiments in the population, we include the share of the second vote for the party *Alternative für Deutschland* (AfD) during the federal elections in 2017 at the district level. The AfD is a right-wing populist party represented in the German Bundestag in 2017 that is known for its sharp anti-immigrant rhetoric.

We account for an overrepresentation of ethnic minorities in the initial and in the refreshment sample by applying sample design weights to the descriptive as well as to the multivariate analyses. Furthermore, the multivariate analyses are conducted using robust standard errors, considering the clustered structure of data collection. Due to item non-response and the inclusion of respondents who only participated until the beginning of July 2020, the analytical sample comprises 3,121 cases.

6. Results

6.1. Which groups are particularly likely to report CAD?

Fig. 2 provides descriptive insights into the question whether the group of ethnic minorities as a whole and individual ethnic minority groups in Germany differ from the German majority in their levels of self-reported discrimination. In doing so, we differentiate between a general level of self-reported discrimination, obtained via the answer category 'I never feel discriminated against', and a change in perceived discrimination during the COVID-19 pandemic, i.e. whether or not discrimination has reportedly increased during the pandemic. For the more general account, there are pronounced differences between ethnic minorities and the German majority as well as between different ethnic groups, as can be seen on the left-hand side of the figure. While respondents originating from the Middle East, Africa and Asia report rather pronounced discrimination in their everyday life, others, such as respondents from central and eastern European countries and those from

¹⁰ Information on the variable 'Country of origin' is missing in 52 cases.

¹¹ We add 1 to all figures before the logarithm to avoid the undefined logarithm of zero because the average number of new COVID-19 cases during the last seven days was zero in some districts.

¹² The RKI is a governmental scientific institution in the field of biomedicine and the leading actor in the combat of the coronavirus pandemic in Germany. Access via https://npgco-corona-npgco-de.hub.arcgis.com/datasets/917fc37a709542548cc3be077a786c17_0

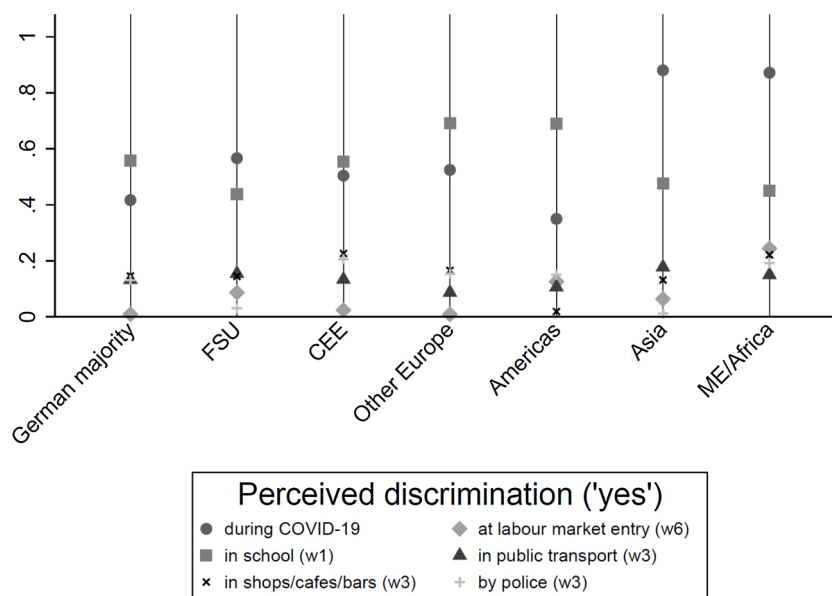


Fig. 3. Perceived discrimination in different contexts/at different points in time by country/region of origin (proportion).

Note: The results are calculated from an unbalanced sample, i.e. we consider different numbers of cases for the measures in the different waves in order to use the maximum of information available.

both American continents, report less discrimination.

On the right-hand side of the figure, we can see that a moderate proportion of about 10 per cent of ethnic minorities perceived more discrimination during the pandemic. However, when differentiating between different origin countries and regions, one group sticks out: more than half of the respondents of Asian origin report an increase in instances of CAD. This finding is particularly interesting when comparing it to the groups that normally feel most discriminated against and that are identified as the most discriminated groups in [Koopmans et al.'s \(2018\)](#) field experiment: only about 10 per cent of respondents from the Middle East (including Turkey) and Africa report more increasing discrimination during the COVID-19 pandemic.

In a second step, we compare the different origin groups with regard to discrimination or unfair treatment reported during the Corona pandemic and at several other points in time (i.e. at other CILS4EU-waves). At the age of 14–15 (wave 1) we collect reports of discrimination in the school context, at the age of 16–17 (wave 3) we focus on perceived discrimination in shops, cafes, bars, by the police, in public transport, and at the age of 19–20 (wave 6) we capture discrimination perceptions at the labour market entry.

As can be seen in [Fig. 3](#), in all origin groups a large share of respondents has reported discrimination since the Corona pandemic. Respondents with origins in the FSU, Asia, the Middle East and Africa report more discrimination during the Corona pandemic than at any other points in time. In fact, the difference between the discrimination reports during the pandemic and in-school discrimination (which is the second most frequent context, for which discrimination experiences are reported) is largest for young people with origins in Asia and the Middle East/Africa. The CEE group reports similar levels of discrimination at school and during the COVID-19 pandemic. Among the other groups, discrimination during the pandemic is reported second most often, somewhat less frequently than discrimination in the school context. The figure further demonstrates that perceived discrimination is much less common in the other four contexts, with slightly higher overall rates of discrimination reported by the ME/Africa group.

In sum, these first descriptive results provide convincing evidence that ethnic minorities report on average more instances of CAD than the majority native-born Germans. Furthermore, respondents of Asian origin are most likely to report discrimination during the Corona pandemic. In the following, we apply more sophisticated methods to

validate this finding and address potential mechanisms of self-reported discrimination.

6.2. Does the COVID-19 threat contribute to explaining self-reported CAD?

Since the dependent variable contains a substantial number of respondents who have never felt discriminated against (see [Fig. 2](#) above), excluding those individuals might introduce bias in the estimations. To address this possible selection bias, we run the Heckman sample selection correction, which involves simultaneously estimating the selection and outcome/response equations. Since the main outcome variable ('Since the beginning of the Corona pandemic, do you feel increasingly discriminated against or treated unfairly due to your ethnic background?') is measured on an ordinal scale ('Yes', 'Rather yes', 'Rather no', 'No'), we estimate an ordered probit model with Heckman selection (command: heckprobit in Stata 16.1). Model 1 and 2 in [Table 1](#) display the results of the initial model, in which the outcome equation only includes a dichotomous variable 'Immigrant: yes/no' (Model 1) or a more detailed coding of immigrant origin (Model 2) together with the variable pertaining to the epidemiological week (results not shown) and the share of votes for the right-wing party (a proxy for general anti-immigrant attitudes and sentiments in the population). These variables are also included in the selection equation, together with the highest parental ISEI (HISEI) in the family, respondents' educational background, their current situation and gender.

The results of the selection equation show that, all other things being equal, respondents with an immigrant background are more likely to report discrimination. Looking at the more detailed immigrant-origin variable, we find that respondents who originate from the Middle East, Africa and Asia are more likely to report discrimination than the majority native-born Germans, but also respondents from the FSU and other European countries report slightly higher rates of discrimination during the coronavirus pandemic. Regarding the other covariates, respondents from families with a higher ISEI score and those with upper secondary education (as compared to those with a lower secondary education) are less likely to report discrimination. On the other hand, unemployed respondents and those who stated that they did something else are slightly more likely to report discrimination than those working full-time or part-time. Furthermore, the results suggest that the extent of

Table 1

Results of ordered probit models with Heckman correction (unstandardised coefficients and robust standard errors in parentheses) predicting an increase in perceived discrimination since the COVID-19 pandemic.

	Model 1		Model 2		Model 3	Model 4
	Selection	Outcome	Selection	Outcome	Outcome	Outcome
Minority/Country of origin (Ref.: Germany)						
Minority: yes	0.43*** (0.07)	0.40* (0.18)			0.39* (0.19)	
Origin groups						
FSU			0.38* (0.15)	-0.00 (0.26)		-0.30 (0.25)
CEE			0.17 (0.11)	0.17 (0.20)		0.16 (0.20)
Other Europe			0.25+ (0.13)	0.02 (0.19)		-0.01 (0.20)
Americas			-0.30 (0.27)	0.55 (0.37)		0.64+ (0.35)
Asia			1.39*** (0.28)	1.18** (0.37)		1.29** (0.40)
ME/Africa			1.17*** (0.14)	0.41 (0.27)		0.44 (0.28)
AfD second vote in adm. district (share)	-0.68 (1.04)	0.97 (1.73)	-0.63 (1.08)	1.26 (1.93)	0.93 (1.79)	1.29 (2.06)
Adm. district no. ['Adn'] (new cases/100k, 7-day-av. (log))					-0.04 (0.16)	-0.04 (0.16)
Interactions						
Minority x Adn						
FSU x Adn					0.15 (0.19)	1.27** (0.41)
CEE x Adn						-0.21 (0.29)
Other Europe x Adn						0.34 (0.28)
Americas x Adn						0.90+ (0.49)
Asia x Adn						1.02** (0.39)
ME/Africa. x Adn						-0.04 (0.22)
HISEI	-0.01*** (0.00)		-0.01*** (0.00)			
Current situation (Ref.: full-/part-time work)						
School/studying	0.13 (0.08)		0.11 (0.08)			
Apprenticeship	0.16 (0.13)		0.16 (0.13)			
Unemployed/nothing	0.44** (0.17)		0.35+ (0.18)			
Something else	0.31+ (0.17)		0.30+ (0.18)			
Gender (Ref.: Female)						
Male	-0.03 (0.07)		-0.05 (0.07)			
Educational degree (Ref. lower secondary)						
Intermediate secondary	-0.13 (0.18)		-0.14 (0.19)			
Upper secondary	-0.51** (0.18)		-0.57** (0.18)			
Cut point 1		0.90* (0.39)		0.90* (0.42)	0.90* (0.42)	0.96* (0.45)
Cut point 2		1.42** (0.44)		1.44** (0.47)	1.41** (0.48)	1.52** (0.51)
Cut point 3		1.84*** (0.48)		1.90*** (0.52)	1.83*** (0.52)	2.00*** (0.56)
athrho		-0.59* (0.25)		-0.63* (0.25)	-0.61* (0.26)	-0.60* (0.25)
Intercept	0.64** (0.23)		0.57* (0.24)		0.64** (0.24)	0.57* (0.24)
Log pseudolikelihood	-2728.17		-2641.36		-2727.43	-2628.54
N	3,121	1,518	3,121	1,518	1,518	1,518

Note: Epidemiological week included in the outcome equation in all models, results not shown.

Sign.: + p < 0.1, * p < 0.05, ** p < 0.01, *** p < 0.001.

Model 1: Wald test of independent equations (rho = 0): chi2(1) = 5.75; Prob > chi2 = 0.017.

Model 2: Wald test of independent equations (rho = 0): chi2(1) = 6.60; Prob > chi2 = 0.010.

Model 3: Wald test of independent equations (rho = 0): chi2(1) = 5.38; Prob > chi2 = 0.020.

Model 4: Wald test of independent equations (rho = 0): chi2(1) = 5.58; Prob > chi2 = 0.018.

Source: CILS4EU, CILS4EU-DE and CILS4COVID.

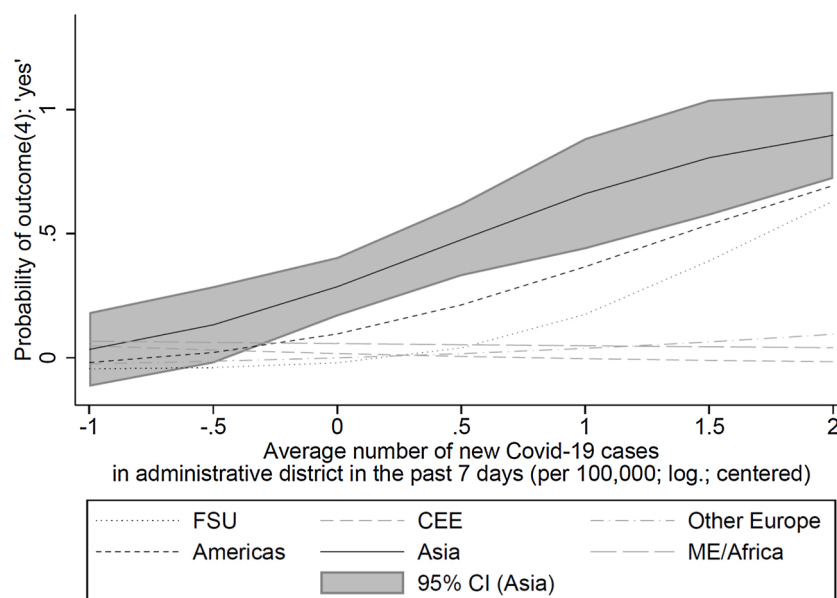


Fig. 4. Predicted probabilities for outcome 4 ('Yes') resulting from the interaction effect in Model 4.

anti-immigrant sentiments in the local area is not associated with higher probabilities of reporting perceived discrimination.

When examining the outcome equation, we observe differences between the German majority and immigrants in general, with the latter group reporting an increased perception of CAD during the pandemic (Model 1), which confirms our Hypothesis 1. A closer look at the different ethnic groups in Model 2 reveals pronounced differences between individuals of Asian descent and the German majority. These results echo the descriptive results from Fig. 2 of an increased perception of discrimination during the pandemic, especially among Asians, confirming Hypothesis 3. However, and in contrast to Hypothesis 2, there is no indication of an increase in perceived discrimination among other immigrant groups that are perceived to be particularly likely to transmit the coronavirus. Young people originating from countries in which particularly high levels of and/or a sharp increase in the incidence rate was observed (e.g. countries of the American continents, the FSU countries and other European countries) do not report significantly higher levels of discrimination compared to the majority native-born Germans, at least on average.

In the following, we further investigate whether CAD against outgroups is more pronounced when respondents reside in administrative districts with higher infection rates, i.e. in which the risk of being infected is comparably high and COVID-19 poses a realistic threat. In other words, we expect immigrants as an outgroup in general and particularly specific outgroups that are perceived to pose a higher COVID-19 transmission threat to be more affected by CAD when residing in the districts with higher incidence rates. To test these assumptions, we first introduce the (natural logarithm) seven-day average of new cases in an administrative district per 100,000 inhabitants and interact this variable with the dichotomous variable for the immigrant background in Model 3. The interaction effect is not statistically significant, which suggests that residing in an area with a high incidence rate is not related to increased CAD against immigrants in general.

In Model 4, we interact the variable pertaining to the seven-day average of new cases in an administrative district per 100,000 inhabitants with the detailed variable of country of origin to examine whether the relationship between the potential threat of being infected and CAD is specific to the origin group. This interaction effect is statistically significant and positive for respondents from Asia, the FSU and the Americas (at a level of 10 per cent for the latter), meaning that an increase in the number of new COVID-19 cases in the administrative

district is associated with an increase in reported CAD among these groups.¹³ To visualise this interaction effect, we display predicted probabilities for the category 4 of the dependent variable, i.e. the affirmative answer to the question whether respondents perceive increased discrimination during the COVID-19 pandemic, at different levels of the natural logarithm of the average number of new cases during the last seven days in the administrative district per 100,000 inhabitants. To keep the figure concise, we only display the 95 per cent confidence interval for the interaction effect pertaining to respondents of Asian origin. The three curves with a significant interaction effect are shown in black, while all non-significant interactions are grey. As can be seen, the probability that respondents of Asian, FSU and American origin report increased discrimination during the COVID-19 pandemic increases considerably as the number of COVID-19 cases in an administrative district increases (Fig. 4).

Turning back to Fig. 1, we notice that the countries of origin of the other two groups that reported an increased perception of discrimination besides the Asian one, i.e. Americas and FSU, experienced the highest increase in incidence rates during the fieldwork period. Due to the unfavourable COVID-19 pandemic dynamics, these countries were especially prominent in the German media and news during these times. Therefore, discrimination against respondents originating from the Americas or the FSU may be related to the fact that these individuals were perceived to be more likely to transmit the coronavirus. However, this is limited to the areas in which the COVID-19 threat is particularly pronounced. This finding confirms Hypothesis 4, indicating that in Germany members of ethnic minorities from countries that are known for their unfavourable COVID-19 dynamics are more likely to report discrimination when residing in districts with high levels of COVID-19 incidence.

7. Summary and conclusions

Drawing on data from the CILS4EU-DE add-on study CILS4COVID, we demonstrate that COVID-19-associated discrimination of minorities is also salient in Germany. Discrimination against ethnic and racial

¹³ We also use the 14-day average as sensitivity test, and the interaction effects for minorities from American and Asian countries remains. However, the interaction effect for minorities from FSU is less robust (no longer statistically significant).

minorities as an outgroup has increased significantly since the beginning of the COVID-19 pandemic. However, our analyses differentiated by origin group show that this effect is mostly driven by the Asian immigrant group. Like in several other countries, also in Germany Asian-origin individuals are more likely to be affected by discrimination since the outbreak of the pandemic. As this group did not pose a realistic threat of COVID-19 infection transmission during the period when the CILS4COVID survey was fielded, discrimination against this group can hardly be attributed to the threat explanation alone. The exponential growth of the virus was contained early in China and largely remained under control, whereas the number of new infections in other Asian countries picked up marginally only toward the end of the CILS4COVID observational period, slightly exceeding the levels documented for Germany. We therefore conclude that discrimination reported by Asian respondents is predominantly a mix of overt COVID-19-associated discrimination experienced by Asian-origin respondents and their attribution of negative experiences that might have occurred since the outbreak of the pandemic to CAD. It is important to note that Asian immigrants and their descendants are a minority group in Germany that have never before reported as much discrimination as during the COVID-19 pandemic.

Our study further demonstrates that—for some minority groups—the level of self-reported discrimination strongly depends on the dynamics of COVID-19 situation in the respondents' residential area. Respondents of (North or South) American, FSU and Asian origin are more likely to report CAD when the number of infections in their administrative district of residence is high. Whereas Asian minorities report pronounced levels of CAD both overall and in areas particularly affected by COVID-19, individuals of FSU and American origin report CAD only if residing in districts strongly affected by the COVID-19 pandemic. Given that their countries of origin have been affected by COVID-19 considerably more than Germany, both in terms of the overall number of COVID-19 cases and with respect to the unfavourable COVID-19 dynamics during the fieldwork period, we conclude that CAD reported by these groups might indeed be a reaction to the threat posed by the COVID-19 virus. It is interesting that ethnic minorities report CAD only if they come from countries that have been particularly affected by the COVID-19 pandemic and live in regions in Germany with high COVID-19 incidence rates.

Given the study's solely focus on young people, rather low number of cases for several minority groups and the skewed distribution for most groups on the outcome variable, our results have to be taken with caution. It must be noted that the significant interaction effects for respondents originating from the FSU and the Americas may be driven by few influential cases, while the interaction effect for Asian minorities is the most robust one. Furthermore, sensitivity analyses with OLS regression (and Heckman selection) confirm all three interaction effects for individuals from the FSU, Americas and Asia. Still, the robustness of our findings needs to be confirmed with larger minority samples, other age groups and other immigrant-receiving countries.

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