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Perceived discrimination, ethnic identity, and ethnic-racial socialization in Chinese immigrant families before and after the COVID-19 outbreak: An exploratory natural experiment

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ABSTRACT

Emerging research from the United States indicates that people with an East Asian background experience COVID-19-related racial discrimination. There is some (although not consistent) evidence that these discrimination experiences can in turn have psychological and behavioral consequences, such as strengthening one’s ethnic identity and influencing parents’ ethnic-racial socialization practices. The current study presents a unique natural experiment examining self-reported perceived discrimination experiences, ethnic identity, and ethnic-racial socialization among 80 Chinese immigrant mothers in the Netherlands before and after the COVID-19 outbreak (39 mothers recruited before the start of the COVID-19 pandemic and 41 during). The main findings from our exploratory analyses indicated an impact of the pandemic with higher (subtle) discrimination and stronger ethnic identity among Chinese immigrant mothers living in the Netherlands, highlighting how personal experiences related to intergroup processes have changed as a result of the COVID-19 crisis in the European context.

Major societal events, such as the COVID-19 pandemic, can influence people’s lives drastically. The first coronavirus case was identified in Wuhan, China in late December 2019. After the World Health Organization (WHO) officially declared the outbreak of the coronavirus a pandemic, almost two million excess deaths were reported globally within six months (World Health Organization, 2021). The number of COVID-caused deaths increased daily in the early pandemic, leading to shocking images of overcrowded hospitals and makeshift graveyards in several countries (Orlandi, 2020). In addition, prevention policies such as travel bans, closed schools, and complete lockdowns significantly altered people’s daily lives for long periods of time. During the pandemic, emerging research indicates that people with an East Asian background, especially Chinese, in the diaspora experienced COVID-19-related acute racial discrimination (e.g., Cheah et al., 2020; Elias et al., 2021; Wu et al., 2021). Discrimination experiences are known to have negative mental health outcome (Pascoe & Richman, 2009), but can also have other psychological and behavioral consequences, such as strengthening one’s (heritage) ethnic identity (Umaña-Taylor et al., 2014), and even influence children via ethnic-racial socialization practices of parents in the family context (Umaña-Taylor & Hill, 2020; Simon, 2021).

Most of the studies looking at the effect of COVID-19 on East Asians’ discrimination experiences were conducted in the U.S. and...
collected data after the outbreak. Research is needed in European countries with sizeable East Asian populations, as discrimination experiences are contextually determined. The Netherlands is an interesting context within Europe for such studies, given that its ethnic diversity is increasing (Centraal Bureau voor de Statistiek, 2021a), and that individual and institutional racial discrimination is increasingly recognized (The Netherlands Institute for Human Rights, 2013; 2021; Weiner, 2014). In addition, data collected spanning the period before and after the COVID-19 breakout is needed to test the effect of COVID-19 on discrimination as well as its consequences for families’ lives. The current study on Chinese immigrant mothers in the Netherlands that focused on ethnic socialization and prejudice development made use of the naturally occurring split between data collection conducted before and after the pandemic breakout. The change in external circumstances in the middle of the study can be considered a natural experiment, and presents a unique opportunity to explore the impact of the pandemic on discrimination experiences, ethnic identity, and ethnic-racial socialization, of Chinese immigrant mothers in the Netherlands.

COVID-19 and discrimination experiences in the East Asian diaspora

Major societal events are discussed extensively by media and the general public. Media consumption of negative news can shape the public’s understanding of a social issue and establish or strengthen negative attitudes towards a specific group (e.g., immigrants; Arendt & Northup, 2015; Ittefaq et al., 2022; Menjivar, 2016). These negative attitudes may even last for years after the news report (Kroes et al., 2021). The initial COVID-19 outbreak and subsequent pandemic clearly constitute such a major societal event. The fact that this new virus was detected first in China led to racialized descriptions of the virus, such as it being labeled as ‘the Chinese virus’ in public discourse (Ittefaq et al., 2022). In addition, the virus was portrayed in the media as highly destructive and as a physical threat, leading to an increase of negative emotions in the general population such as fear, anger, anxiety, and hostility (Clissold et al., 2020; Ittefaq et al., 2022). Integrated Threat Theory (ITT) explains the pathway from these emotions (e.g., fear and anxiety) for an infectious disease to discrimination against Chinese people in the diaspora based on threat perception (Croucher, 2017; Stephan & Stephan, 2016). The main explanatory threat type related to the coronavirus is the realistic threat to one’s physical well-being (Croucher, 2017). The worry about the highly contagious nature of the virus and the lack of treatment options when the virus first broke out led to the stigmatization of people with an East Asian appearance. In both the U.S. and Europe, people with an East Asian appearance experienced COVID-19 related discrimination, and even violence (e.g., Cheah et al., 2020; Haft & Zhou, 2021; Smith et al., 2022).

Discrimination against an ethnic group refers to the unfair and prejudiced treatment to a specific group due to their racial origin (American Psychological Association, 2019). Furthermore, (perceived) discrimination experiences have a negative impact on both physical (e.g., hypertension, cardiovascular disease) and mental health (e.g., increased distress, and anxiety; Haft & Zhou, 2021; Lee & Waters, 2021; Pascoe & Richman, 2009; Todorova et al., 2010; Wu et al., 2021). During the COVID-19 pandemic, discrimination against East Asians was frequently reported in studies conducted in the U.S. (e.g., Cheah et al., 2020; Clissold et al., 2020; Haft & Zhou, 2021; Wu et al., 2021). For example, Cheah et al. (2020) found that nearly half of Chinese American parents and youngsters reported being directly targeted by COVID-19 racial discrimination online and/or in person. These experiences of East Asians are not limited to the American context, as the anti-Asian racist pandemic, together with the COVID-19 pandemic, was found to be present all over the world (e.g., Bhala et al., 2020; Cluskey, 2020). For example, thirty Chinese-Dutch people living in the Netherlands were interviewed during the COVID-19 pandemic, and reported more discrimination experiences and fear for violence than before the pandemic. In addition, the willingness to report these discrimination experiences to the police was found to be low, suggesting that the experiences might be far more prevalent than official statistics suggest (Broekroeflofs & Poerwoatmodjo, 2021).

Although an increasing number of studies examine the discrimination against East Asians during the COVID-19 pandemic and its negative impact on their well-being, almost all studies collected data after the outbreak of COVID-19. Therefore, the discussion about increased discrimination against East Asians is mostly based on deductive analyses based on previous events related to disease spreads and subsequent xenophobia (e.g., Clissold et al., 2020; Elias et al., 2021), descriptive investigation during the COVID-19 with a non-experimental design (e.g., Broekroeflofs & Poerwoatmodjo, 2021; Cheah et al., 2020), or a focus on negative physical and mental health consequences caused by discrimination experiences (e.g., Lee & Waters, 2021; Wu et al., 2021). To our knowledge, only Haft and Zhou (2021) did pre- and during-pandemic data collection among Chinese college students in the United States, presenting a similar natural experimental design as in the current study by comparing samples pre- and during-COVID-19 in the same study. Higher perceived discrimination in the during-COVID group than in the pre-COVID group was found (Haft & Zhou, 2021). This type of data is crucial to accurately examine potential differences in discrimination experiences among Chinese people residing outside of China.

Discrimination and ethnic identity

Ethnic identity is ‘a dynamic, multidimensional construct that indicates one’s identity of self as a member of an ethnic group’ (Phinney, 2003, p.63). An important dimension of ethnic identity is the subjective sense of belonging to a particular ethnic group (Phinney et al., 2001). For migrants, this ethnic belonging and identity can buffer the stress that comes with moving into a new society (Berry, 1992), and can be strengthened or blurred due to ethnicity-related stress (Rumbaut, 2008; Syed et al., 2018; Umana-Taylor et al., 2014). For example, immigrants can feel stronger belonging to their own ethnic group and emphasize solidarity when dealing with negative attitudes regarding their group (Phinney et al., 2001). A recent study also found a positive association between COVID-19-related discrimination against Chinese and ethnic identity in the Chinese diaspora residing in thirty-three different countries (Li et al., 2021). The association between perceived discrimination experiences and ethnic identity are conceptualized by two theoretical models. The rejection-identification model rooted in Social Identity Theory (SIT; Tajfel, 1981) indicates that increased discrimination and
marginalization experiences make individuals from an underrepresented ethnic group aware of their membership of a marginalized group, and this in turn can strengthen ethnic identity (Branscombe et al., 1999; Gonzales-Backen et al., 2018). The identification-attribute model explains the association in the opposite direction: stronger ethnic identity development may lead to a more sensitive recognition of stigma against their own underrepresented ethnic group, and negative social experiences may therefore be perceived as ethnic discrimination (Gonzales-Backen et al., 2018; Meca et al., 2020). Longitudinal studies that included both models, revealed that the association between perceived discrimination and ethnic identity is not straightforward, with some studies finding that discrimination predicts ethnic identity (Zeiders et al., 2019), others finding the reverse (Gonzales-Backen et al., 2018), and yet others revealing bidirectional associations (Cheon & Yip, 2019; Meca et al., 2020). The present study examines whether increased hostility against East Asians due to the pandemic predicts a stronger ethnic identity in the Chinese underrepresented group.

Discrimination and ethnic-racial socialization

Perceived discrimination may not only lead to increases in ethnic identity, but also to changes in interethnic attitudes and ethnic-racial socialization within the family context. Parental ethnic-racial socialization is a multifaceted construct that reflects how parents socialize children concerning the values and practices of their own or other ethnic groups, and also includes teaching children how to deal with potential racial bias and discrimination (Hughes et al., 2006; Umana-Taylor & Hill, 2020). Hughes and colleagues (2006) noted four dimensions of ethnic-racial socialization: cultural socialization (transmitting history, heritage, customs, cultural traditions, and pride of their own ethnicity), preparation for bias (increasing children’s awareness of discrimination and helping them be prepared to deal with discrimination experiences), promotion of mistrust (emphasizing distrust and wariness in interethnic interactions), and pluralism (emphasizing awareness of other ethnicities, or emphasizing individual qualities over ethnic group membership).

Of the four dimensions, cultural socialization and pluralism transfer most commonly from parents to children across ethnic groups (Hughes et al., 2006). Preparation for bias and promotion of mistrust socialization stem from the reality that underrepresented ethnic groups are treated unfairly (Simon, 2021). The understanding of how discrimination experiences might inform ethnic-racial socialization goals and practices is still limited, and patterns are not identical across different groups (Umana-Taylor & Hill, 2020). Specifically, literature reviews indicate that East Asian and Latinx parents in the U.S. showed much lower frequency of preparation for bias than African Americans in response to discrimination experiences (Hughes et al., 2006; Simon, 2021). In addition, the delivery of the types of ethnic-racial messages varies between East Asian and Latinx parents, depending on other factors such as immigration generational status and ethnic identity (Simon, 2021). Another study found that maternal discrimination experiences were not consistently related to more frequent cultural socialization (Hagelskamp & Hughes, 2014). In fact, maternal experiences of interpersonal discrimination and cultural socialization were negatively associated in the Chinese American sample (Hagelskamp & Hughes, 2014). It should also be noted that most ethnic-racial socialization research has been done within African American families in the U.S., while East Asian families are the least-studied families of color in White dominant societies (Hughes et al., 2006; Simon, 2021). Studies in this group specifically are therefore needed to more fully understand various dimensions of parental ethnic-racial socialization, and the ethnic-racial socialization behavior changes in response to discrimination experiences in the current era of the pandemic.

Chinese diaspora in the Netherlands

Research in intergroup relationship is needed in Europe, and the Netherlands is an interesting context given the rapid increase in ethnic diversity in that country in the last couple of decades. Almost one out of four people has an immigrant background, and approximately 14–16 % of the population has a non-Western immigrant background, depending on the definition (Centraal Bureau voor de Statistiek, 2021a). The first Chinese people came to the Netherlands in the early 20th century, with the arrival of a sailor in 1911. Chinese migrants initially came to the Netherlands for work, and then increasingly due to family reunification and for pursuing higher education (Gijbsberts et al., 2011). In the past century, the Chinese underrepresented group (0.6 % of the total Dutch population) has become the largest East Asian community, and the seventh largest non-Western underrepresented group in the Netherlands after those with roots in Turkey, Morocco, Suriname, Indonesia, the Antilles, and Syria (Centraal Bureau voor de Statistiek, 2021a). Additionally, since 2007, more immigrants arrived from mainland China to the Netherlands compared to those from Turkey who represent the largest underrepresented group in the Netherlands (Mandin & Gair, 2015). When compared with other large underrepresented groups, research shows that the Chinese in the Netherlands feel more accepted and less excluded in the host country and report less discrimination (Gijbsberts et al., 2011). However, since the ongoing negative messages in the news media about the COVID-19 outbreak in China, the underrepresented Chinese group has suffered from more discrimination experiences than before the pandemic (Broekrelofs & Poerwoatmodjo, 2021). For example, more than 5000 reports were received by the discrimination agency in the Netherlands in response to a song on a public radio show promoting mistrust and exclusion of Chinese immigrant people, and led to the petition “We zijn geen virussen! (We are not viruses)” was signed more than 65,000 times (Antidiscriminatievoorzieningen ADV Anti-discrimination agency, 2021). Additionally, without counting the report for this racist crown song, at least 314 COVID-19-related discrimination events were reported by people with an East Asian appearance, accounting for approximately 12 % of all the reported race-related discrimination incidents in the Netherlands in 2020 (Antidiscriminatievoorzieningen ADV Anti-discrimination agency, 2021).

The present exploratory study

The present exploratory study examines perceived discrimination experiences, ethnic identity, and ethnic-racial socialization of
Chinese(-Dutch) mothers who participated pre- and post- the first pandemic lockdown in the Netherlands. We will examine the following hypotheses: (H1) perceived discrimination experiences are higher post- than pre-COVID-19 outbreak, (H2) ethnic identity is stronger post- than pre-COVID-19 outbreak, (H3) ethnic-racial socialization is more frequent post- than pre-COVID-19 outbreak, (H4) the association between perceived discrimination and ethnic identity, and between perceived discrimination and maternal ethnic-racial socialization in terms of preparation for bias, are positive. Finally, the associations between perceived discrimination and the other dimensions of maternal ethnic-racial socialization are exploratory. The present study contributes to the existing literature by using a natural experiment to investigate potential differences in discrimination experiences, ethnic identity, and ethnic-related parenting (i.e., ethnic-racial socialization) among East Asian families in response to the COVID-19 pandemic in European context.

Method

The present study is part of a larger research project “The parenting origins of prejudice” which aims to examine whether sensitive parenting, parental ethnic ideologies, and ethnic socialization practices predict ethnic prejudice in children from different ethnic groups in the Netherlands, including the Chinese-Dutch group. The original project was not specifically designed to test the impact of the pandemic. However, COVID-19 broke out exactly in the middle of the data collection in the Chinese-Dutch group, leading to a dataset with half of the data collected before and half during the pandemic, which meets the conditions for a natural experiment. The methods and inclusion criteria were designed with the goals of the original study in mind, as the research team was not expecting a pandemic at that time. For the current exploratory study on the effects of the pandemic, we only used the data that are comparable before and after onset pandemic (for more information about the larger research project, see the supplemental document).

Sample

Family recruitment pre-COVID-19 was mainly face to face through events aimed at families and children with a Chinese background (e.g., Chinese New Year’s celebrations), charitable organizations providing Chinese language courses, social media, networks of researchers, and snowball sampling. Recruitment after the COVID-19 outbreak was done online through pitch presentations at online children’s events, a recruitment video, leaflet sharing via social media, and with the snowball procedure. Informed by the goals of the ongoing larger project on the parenting origins of how children develop views about diversity in Dutch society (see the supplemental document for details), the inclusion criteria were as follows: (1) the mother, or at least one of her parents, was born in mainland China, Hong Kong, Macau, or Taiwan (over 95% of Taiwan’s population is Han Chinese; Executive Yuan the Republic of China Taiwan, 2016), (2) the mother did not have severe mental or physical illness, (3) the mother has at least one child born post-2019, and (4) the mother was living together with the child in the Netherlands at the time of recruitment and data collection, (5) the child studied in a local Dutch elementary school, (6) the father was either born in mainland China, Hong Kong, Macau, Taiwan, or a North-Western European country, (7) participation of mothers was a criterion, while participation of fathers was optional. Couples in mixed relationships were also included in order to better represent the actual population. About a quarter of Chinese adults in a relationship in the Netherlands are part of an interracial couple, with the most common combination being a Chinese(-Dutch) female with a North-Western European male partner (Gijsberts et al., 2011).

Eighty-one families were recruited, but one mother did not complete the online questionnaire, which left us with a sample size of 80 mothers. Although we strived to include both mothers and fathers, only 37% of fathers participated in the present study. Because the number of fathers (n = 30) was not sufficient for the current analyses, they were excluded from the present study. Most of the parents were born in mainland China (97% of mothers and 68% of fathers). A few mothers were born in the Netherlands (1%), Taiwan (1%), and Thailand (1%), and a few fathers were born in the Netherlands (30%), Taiwan (1%), and Nigeria (1%). The participating mothers (N = 80) were aged between 32.31 and 50.70 years old (M = 40.35, SD = 3.88). Most mothers lived with a partner (95%), and were highly educated (bachelor’s degree or higher, 96%). Among females with an immigration background in the Netherlands, 34% is highly educated (Centraal Bureau voor de Statistiek Statistics Netherlands, 2021b). Most mothers were employed or self-employed (76%).

Procedure

The first case of COVID-19 in the Netherlands was confirmed on 27 February, 2020, and the first lockdown in the Netherlands was on 15 March, 2020. We considered the first lockdown as the breaking point at which the pandemic really started and was publicly confirmed in the Netherlands. Therefore, parents who filled in the online questionnaire before the first lockdown in the period from June 2019 up until March 2020 (n = 39) were regarded as pre-COVID-19-outbreak participants, while parents who filled in the online questionnaire from November 2020 to May 2021 did so after the first lockdown started (n = 41), and were thus regarded as participants post-COVID-19 outbreak.

All participating parents were asked to individually fill in an online questionnaire, which included questions about perceived discrimination experiences, ethnic identity, and ethnic-racial socialization measures. After the completion of the online questionnaire, each participating parent received a gift card of 20 euros. Consent forms were obtained from all the participating families. The vast majority mothers filled in the questionnaires in Chinese (96%) and a few in Dutch (4%). Ethical approval was obtained from the faculty ethical committee at the university.
**Measures**

**Maternal perceived discrimination experiences**

Mothers filled in the Perceived Discrimination Scale developed in the ICSEY (International Comparative Study of Ethnocultural Youth; Vedder et al., 2007) via the online questionnaire. The Perceived Discrimination Scale consisted of eight items with the aim of assessing the perceived frequency of being treated unfairly, or feeling unaccepted due to their Chinese ethnic background (e.g., “I have been teased or insulted because of my Chinese background”). Answer options ranged from 1 (strongly disagree) to 5 (strongly agree). Scores on the eight items were averaged, so that the total scores could range from 1 to 5, with higher scores reflecting more perceived discrimination experiences. The internal consistency of the scale was robust (Cronbach’s α = .81).

Subsequently, we performed a principal components analysis (PCA), using oblimin rotations with all the eight items of the scale to identify potential subscales. Oblimin rotations allow for the resulting factors to be correlated, which fits with our goal of identifying different aspects of discrimination as captured by the Perceived Discrimination Scale. In the first phase of PCA, the Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy was .71, above the average recommended value of .60, suggesting an acceptable data retention. Secondly, Bartlett’s test of sphericity was significant ($\chi^2 = 225.87, p < .001$), reconfirming the suitability for PCA. Finally, the communalities were all above .30 (see Table 1), again indicating items share certain common variance with each other. Based on these overall indicators, a PCA is suitable to be conducted for the Perceived Discrimination Scale. Two subscales (with a criterion factor of eigenvalue > 1) were extracted from the Perceived Discrimination Scale, explaining 60.2% of the variance. The first subscale explained 44.2% of the variance and the second subscale explaining 16.0%. Item 4 (having been teased or insulted) appeared in both subscales, but was included in the second subscale based on the content of the items and higher internal consistency for each subscale. Specifically, the first subscale was labeled subtle discrimination, which refers to personal feelings of not being treated fairly and the type of discrimination that can happen daily but is sometimes difficult to detect. The subtle discrimination subscale included items 1–3: thinking that people behave in a negative way towards me, feeling not accepted, feeling that people are against me because of my Chinese cultural background (Cronbach’s α = .80). The second subscale was labeled overt discrimination, reflecting relatively ‘rare’ events of experiencing strong racial antipathy, or institutional discrimination in specific situations. The overt discrimination subscale included items 4–8: having been teased or insulted; having been threatened or attacked; difficulties buying a house; difficulties finding a job, having received worse healthcare service because of my Chinese cultural background (Cronbach’s α = .74).

**Ethnic identity**

Mothers completed an online questionnaire concerning their ethnic identity that included three items: (‘I feel a strong attachment towards the Chinese group; I feel that I am part of Chinese culture; I find myself a Chinese’; Vedder et al., 2007). Answer options ranged from 1 (strongly disagree) to 5 (strongly agree). Scores on the three items were averaged, with a higher score reflecting a stronger Chinese ethnic identity of the participants. The internal consistency of the three questions related to ethnic identity was reasonable (Cronbach’s α = .67).

**Ethnic-racial socialization**

Mothers filled in the Parental Racial-Ethnic Socialization Behaviors Questionnaire (Hughes & Johnson, 2001) online. The questionnaire aims to assess the frequency of a range of communications and behaviors to children concerning interethnic relations in the

Table 1

| Items                                                                 | Pre-COVID M (SD) | Post-COVID M (SD) | Component 1 | Component 2 | Communalinity |
|----------------------------------------------------------------------|------------------|-------------------|-------------|-------------|---------------|
| 1. I think that people with a Dutch/Western cultural background have behaved in a negative way towards people with a Chinese background. | 2.28 (0.79)      | 2.80 (0.75)       | .799        | .68         |               |
| 2. I don’t feel accepted by people with a Dutch/Western cultural background. | 2.33 (0.93)      | 2.85 (0.88)       | .835        | .74         |               |
| 3. I feel people with a Dutch/Western cultural background have something against me. | 2.03 (0.63)      | 2.37 (0.73)       | .849        | .67         |               |
| 4. I have been teased or insulted because of my Chinese cultural background. | 2.51 (1.10)      | 2.34 (1.09)       | .387        | .325        | .35           |
| 5. I have been threatened or attacked because of my Chinese cultural background. | 1.77 (0.84)      | 2.02 (0.85)       | .611        | .59         |               |
| 6. In the Netherlands I experienced that I could not rent or buy a house/apartment because I have a Chinese cultural background. | 1.49 (0.82)      | 1.73 (0.67)       | .931        | .74         |               |
| 7. I have (had) difficulty finding a job because I have a Chinese cultural background. | 2.03 (0.90)      | 2.27 (0.87)       | .605        | .46         |               |
| 8. The healthcare that I and my family receive is worse than the healthcare that people with a Dutch/Western cultural background receive. | 1.41 (0.60)      | 1.85 (0.76)       | .709        | .58         |               |

Extraction Method: Principal Component Analysis. Rotation Method: Oblimin with Kaiser Normalization. Rotation converged in 10 iterations. Note. Factor loadings < .3 are suppressed.
past year. Two items were slightly adapted from ‘Encouraged child to read books (books related to own ethnic group and books related to other ethnic groups, respectively)’ to ‘Read books with your child’ due to the younger child age in the present study and the limited ability of some Chinese-Dutch children to read books in Chinese. The answer options ranged from 1 (never done) to 5 (more than 7 times). A total of 15 items measured four dimensions of parental ethnic-racial socialization: cultural socialization (4 items, e.g., ‘Talked to child about important people or events in your group’s history’), preparation for bias (5 items, e.g., ‘Talk to child about others trying to limit him or her because of race’), promotion of mistrust (2 items, e.g., ‘Done or said things to child to keep child from trusting kids of other races’), and pluralism (4 items, e.g., ‘Done or said things to show that all are equal regardless of race’). Scores on each subscale were averaged, with a higher score meaning a higher frequency of specific ethnic-related practices of the participating mothers in the past year. The internal consistency of subscales cultural socialization (Cronbach’s α = .69), preparation for bias (Cronbach’s α = .74) and pluralism (Cronbach’s α = .77) were found to be adequate, but that of the subscale promotion of mistrust was low (2 items, r = .40, p < .001). Due to the relatively low internal consistency and minor variation on the variable promotion of mistrust (91% of the participants had an average score of 1 or 1.5), it was dropped in the following analyses.

Sociodemographic variables

Mothers reported their sociodemographic characteristics in the screening questionnaire. Marital status was categorized as (0) living without or (1) with a partner, and the highest level of maternal education as (0) lower or (1) higher level (bachelor degree or higher). Cultural background of the (biological) father of the child was categorized as (0) North-Western European or (1) ethnic Chinese. The birth country of child was categorized as (0) in the Netherlands and (1) other countries and gender of child as (0) male and (1) female.

Analyses

Missing data (3 data points for the variables cultural socialization, preparation for bias, pluralism, respectively) was completely at random. Specifically, two missing data points from different cases in the subscales cultural socialization and preparation for bias were imputed with the average score of the items of that specific subscale (parts of items in this specific subscales were filled out by the mothers). One missing data point of a mother participating before the COVID-19 outbreak in the subscale pluralism (no items in this subscale were filled out) was imputed with the average score of all the other mothers filling out the questionnaire pre-COVID-19. The main variables were examined for outliers (i.e., 3.29 SD below or above the mean, Field, 2005). One outlier on preparation for bias was found and winsorized (i.e., brought the outlier closer to the other values of the set). No outliers were found for the other main variables. After these adaptations, all the variables were normally distributed (i.e., standardized skewness < 3.29). Preliminary analyses to examine sociodemographic differences in groups pre- and post-COVID-19 outbreak include independent t-tests (for continuous variables) and Pearson Chi-Square tests (for categorical variables). Of the Pearson Chi-Square tests, Fisher’s Exact Tests were used when the expected count in more than 20% of the cells was below five. In addition, Pearson and Point-Biserial correlations between sociodemographic variables and main variables were conducted to examine potential covariates.

The main analyses included independent t-tests with COVID-19 timing (i.e., pre- and post-COVID-19 outbreak) as the independent variable, and maternal perceived discrimination (including the total scale and two subscales), ethnic identity, and ethnic-racial socialization as dependent variables, separately (H1–3). One-way Analysis of Covariance (ANCOVA) was then conducted with covariates for each hypothesis. In addition, Pearson correlation analyses were used to examine potential associations between perceived discrimination, ethnic identity, and ethnic-racial socialization (H4). A priori power analyses with G*power 3.1 (Faul et al., 2007) showed that a sample size of 80 participants in the current study could detect a medium to large effect size for independent t-test (e.g., Cohen’s d = 0.65), and for a multiple linear regression with three predictors (e.g., R² = 0.15) with a power of 80% and an alpha of 0.05 to address the main hypotheses. The sample size was not big enough to detect small effects.

Results

Preliminary analyses

Preliminary analyses focused on examining potential covariates for the main analyses, and to this end investigated sociodemographic differences between the subsamples of participants pre- and post-COVID-19 outbreak, as well as associations between

Table 2
Descriptives of sociodemographic variables for the full sample and by context (pre- and post-COVID-19 outbreak) and differences.

| Variables                                      | Full sample | Pre-COVID N = 39 | Post-COVID N = 41 | p     |
|------------------------------------------------|-------------|------------------|-------------------|-------|
| M (SD) Maternal age (years)                    | 40.35(3.88) | 41.44(4.01)      | 39.31(3.49)       | .013  |
| % high educated mothers                        | 96          | 95               | 98                | .611  |
| % mothers living with partner                  | 95          | 92               | 98                | .353  |
| % paternal ethnicity Chinese (vs. North-Western European) | 68          | 59               | 76                | .112  |
| % female (children)                            | 53          | 54               | 51                | .814  |
| M (SD) Child age (years)                       | 9.48(1.23)  | 9.57(1.12)       | 9.38(1.34)        | .503  |
| % Child born in the Netherlands                | 61          | 67               | 56                | .332  |
sociodemographic variables and the main outcome variables of the study. Table 2 shows descriptive sociodemographic statistics for the total sample as well as for the subsamples who participated before and after the COVID-19 outbreak. There was only one group difference in sociodemographic variables pre- and post-COVID-19 outbreak which was for maternal age, with the post-COVID-outbreak group being younger than pre-COVID group ($t(78) = 2.55, p = .013$). Regarding associations between sociodemographic variables and the outcome variables, we found that younger maternal age was related to more perceived discrimination ($r = -.29, p = .009$). Further, mothers with an ethnically Chinese partner perceived more perceived discrimination than mothers with a North-Western European partner ($r = .22, p = .024$). None of the sociodemographic variables were related to maternal ethnic identity or to the three subscales of maternal ethnic-racial socialization. Because maternal age and paternal ethnicity were significantly associated with maternal perceived discrimination, these two variables were added as covariates in the analyses testing H1. Maternal age was also added as a covariate in the analyses for H2 and H3 because there was a significant difference in the age of the mothers pre- and post-COVID-19 outbreak.

Main analyses

**Difference in perceived discrimination by COVID-19 timing**

Perceived discrimination experiences were higher for mothers who filled in the questionnaire after the COVID-19 outbreak compared to the mothers who did so before the outbreak ($t(78) = -2.48, p = .015$). This difference was no longer significant after controlling for maternal age and paternal ethnicity ($F(1, 76) = 2.99, p = .088$), although there was still a trend towards significance. Looking at the two discrimination subscales, subtle discrimination was significantly higher during than before the pandemic ($t(78) = -3.12, p = .003$), which remained significant after controlling for maternal age and paternal ethnicity, ($F(1, 76) = 6.60, p = .012$). There was no significant difference between mothers participating before or after the pandemic outbreak regarding overt discrimination ($t(78) = -1.51, p = .135$).

**Differences in ethnic identity and ethnic-racial socialisation by COVID-19 timing**

Table 3 shows the results for pre-post COVID-19 outbreak differences in ethnic identity (H2) and ethnic racial socialization (H3). Because no differences were found between results with and without the covariate, the results without the covariate are reported. Maternal ethnic identity was significantly higher post- than pre-COVID-19 outbreak ($t(78) = -2.39, p = .019$). No significant differences between mothers before and after the COVID-19 outbreak were found in how frequently mothers engaged in maternal cultural socialization, preparation for bias, and pluralism.

**Perceived discrimination in relation to ethnic identity and ethnic-racial socialization**

Table 4 shows the association between the main variables. No significant association was found between maternal perceived discrimination and maternal ethnic identity ($r = .20, p = .076$), though the relation did approach the borderline of significance. In addition, maternal perceived discrimination was positively associated with maternal preparation for bias socialization ($r = .32, p = .004$), but not with the other socialization practices. Maternal cultural socialization, preparation for bias, and pluralism were positively associated with each other.

**Discussion**

The present exploratory study examined perceived discrimination experiences, ethnic identity, and ethnic-racial socialization among Chinese-(Dutch) mothers pre- and post- the first lockdown due to the COVID-19 pandemic in the Netherlands. Results showed that Chinese-Dutch mothers participating post-COVID-19 breakout reported more discrimination experiences, specifically subtle discrimination, and stronger ethnic identity than mothers participating pre-COVID-19, while no differences were found in their ethnic-racial socialization practices. In addition, the association between perceived discrimination and ethnic identity approached significance. Perceived discrimination experiences were positively associated with preparation for bias, but not with other maternal ethnic-racial socialization practices.

We found that maternal perceived discrimination experiences were higher after the COVID-19 outbreak than before, but the difference was no longer significant after controlling for maternal age and paternal ethnicity. Additionally, subtle discrimination was significantly higher after than before the outbreak, and this pattern was not found for overt discrimination. The present results support

### Table 3

| Variables                  | Range | Pre-COVID M (SD) | Post-COVID M (SD) | t (78) | p   | Cohen’s d |
|----------------------------|-------|------------------|-------------------|--------|-----|-----------|
| Maternal perceived         | 1-5   | 1.98(0.49)       | 2.28(0.58)        | -2.48  | .015| -0.554    |
| discrimination             |       |                  |                   |        |     |           |
| Maternal subtle            | 1-5   | 2.21(0.65)       | 2.67(0.67)        | -3.12  | .003| -0.698    |
| discrimination             |       |                  |                   |        |     |           |
| Maternal overt             | 1-5   | 1.84(0.54)       | 2.04(0.66)        | -1.51  | .135| -0.338    |
| discrimination             |       |                  |                   |        |     |           |
| Maternal ethnic            | 1-5   | 4.21(0.63)       | 4.51(0.48)        | -2.39  | .019| -0.534    |
| identity                   |       |                  |                   |        |     |           |
| Maternal cultural          | 1-5   | 2.72(0.64)       | 2.82(0.89)        | -0.46  | .649| -0.102    |
| socialization              |       |                  |                   |        |     |           |
| Maternal preparation for   | 1-5   | 2.01(0.82)       | 2.17(0.79)        | -0.90  | .373| -0.200    |
| bias                       |       |                  |                   |        |     |           |
| Maternal pluralism         | 1-5   | 2.61(0.96)       | 2.64(1.11)        | -0.12  | .839| -0.027    |
Integrated Threat Theory (ITT; Croucher, 2017; Stephan & Stephan, 2016) at least when it comes to subtle discrimination. Because of the COVID-19 outbreak in Wuhan, this new virus was labeled ‘the Chinese virus’ in public discourse. The fear for the virus as a physical threat tended to bring greater prejudice and racial intolerance towards the Chinese underrepresented group (Bavel et al., 2020; Elias et al., 2021). In our study this was reflected in a higher level of experienced subtle discrimination in the post- compared to the pre-COVID-19 outbreak group. The insignificant results in overt discrimination and the total perceived discrimination scale with the addition of covariates were likely due to lack of statistical power, especially given that the size of the association without and with the covariates in the total scale did not change much, and the significance level increased to only just above the .05 threshold (from .015 to .088). Moreover, a meta-analysis review suggested that subtle discrimination was not less consequential for targets on damage in physical or psychological health, work-related outcomes and attitudes, than overt discrimination (Jones et al., 2016), or even impact more negatively (Molero et al., 2017). In other words, the results with the PCA identified subscales indicating an increase in subtle discrimination against the Chinese immigration group in the Netherlands may have a similar negative effect on the physical and mental health of the Chinese-Dutch. Further research is recommended to investigate the specific forms of microaggressions towards Chinese or other underrepresented groups and how these are interpreted or exert impact.

Although previous studies found that the age of Chinese-heritage participants was either not or positively associated with perceived discrimination experiences (Haft & Zhou, 2021; Hou et al., 2017; Juang et al., 2018), we found the opposite pattern: younger mothers (who were also overrepresented in the post-COVID-19 outbreak sample) perceived more discrimination. It may be that younger people tend to be more active on social media (Centraal Bureau voor de Statistiek Statistics Netherlands, 2021c) so younger mothers may have been exposed to more negative social media posts (e.g., jokes, radical comments, memes) directed at the Chinese group. More studies with a larger sample size are needed to understand the complicated relationship between age and discrimination perception.

Regarding paternal ethnicity, mothers with a Chinese partner reported more perceived discrimination experiences than the mothers who were also overrepresented in the post-COVID-19 outbreak sample. The fear for the virus as a physical threat was seen as crucial ethnicity-related events that impact people’s feelings towards host and heritage ethnic group. Thus, as expected, ethnic identity among Chinese immigrant mothers participating post-COVID-19 outbreak was stronger than that among mothers participating before the outbreak. One possible explanation for this result could be the mechanism that people’s group identification tends to increase in order to strengthen connections with ingroup members, and obtain support from their ethnic group when surrounded by negative ethnic-racial attitudes (Syed et al., 2018; Umana-Taylor et al., 2014). In addition, the results of the present study indicated that an increase in ethnic identity can happen in a relatively short period. The outbreak of COVID-19 followed by Anti-Asian hate crimes, but also for example the murder of George Floyd followed by a surge in visibility of the Black Lives Matter movement, can be seen as crucial ethnicity-related events that impact people’s feelings towards host and heritage ethnic group. Thus, we advise researchers in the future to be mindful of the effects of such events that happen during data collection on, for example, people’s ethnic identity, interethnic attitudes, and so forth.

Contrain to expectation, no significant differences in maternal ethnic-racial socialization before and after the outbreak of the pandemic were found, suggesting that mothers did not adjust their parenting behaviors after the COVID-19 outbreak. It may be that parenting behavior does not change easily. An overview of evidence about the impact of interventions on positive parenting practices in the past 20 years revealed only small effect sizes, i.e., at 0.10 on average (Supplee & Duggan, 2019). More generally, previous research has also shown that it is difficult for people to change health-related behaviors (Kelly & Barker, 2016) and sustain behavior changes (Bouton, 2014), even though the importance of health is undeniable for most of people. Another potential explanation lies in the way ethnic-racial socialization was measured. Due to the answering categories (e.g., 3–5 times, 6–7 times), we may not have observed changes in ethnic-socialization if a mother increased the frequency of ethnic-racial socialization practices, for example, from three to five times. In addition, mothers may increase the duration and depth of a single conversation which is not captured by the frequency of conversation. Other measures, such as video observation with an interactive parent-child task, or follow-up in-depth interview could be employed to provide more precise and complete information in research.

There was a positive trend towards significance for the association between perceived discrimination experiences and ethnic identity of mothers. This result does not lend strong support for the rejection-identification model (increased discrimination experiences strengthen one’s awareness of the membership in a marginalized group and leads to a stronger ethnic identity; Branscombe et al.,...
pandemic could also be a moderator of certain associations between discrimination and ethnic identity or ethnic-racial socialization. Pluralism focus on topics about history, culture, and overall equality, rather than discrimination (Hughes et al., 2006), and may therefore not have been directly impacted by the increase in discrimination experiences due to the pandemic.

This study has some limitations. First of all, the sample size was small and lacked statistical power to detect small effect sizes. Therefore, the findings in the present study should be considered as exploratory. We emphasize the need for further studies with larger sample sizes to investigate discrimination against underrepresented ethnic groups during the pandemic, and whether the COVID-19 pandemic could also be a moderator of certain associations between discrimination and ethnic identity or ethnic-racial socialization. Secondly, the participating mothers in the present study were quite highly educated (96% of whom were college educated) and highly educated people are more likely to perceive the discrimination caused by their race (Pew Research Center, 2019). Additionally, the focus of this paper was on mothers, who can be considered a particularly vulnerable group considering that racial discrimination is commonly gendered. For example, Asian women are frequently stereotyped as exotic and submissive. Additionally, Asian women experience more discrimination than Asian men (Gao & Sai, 2021; Mukkamala & Suyemoto, 2018). Taken together, the discrimination experiences found in the present study cannot be generalized to all Asian groups. Future studies should include diverse recruitment strategies to also include men.

The present exploratory study contributes to adding to the scarce research on East Asian-Dutch people when it comes to discrimination in the Netherlands. To the best of our knowledge, this paper is also the first to show that a major societal event (e.g., COVID-19 outbreak) can impact how members of an underrepresented ethnic group in Europe view their ethnic identity and discrimination experiences with a natural experiment design. We found significant differences pre- and post-COVID-19 outbreak in maternal discrimination experiences (specifically subtle) and maternal ethnic identity. Because subtle discrimination experiences have the same negative consequences as overt forms of discrimination experiences (Jones et al., 2016), media and policy makers should be aware of the negative consequences of framing and the nuances presented in media.

Future studies should be mindful of societal changes that may affect ethnicity-related attitudes and behaviors in the general population. Although 2020 was a year in which many pushed back against societal racism, more progress can be made. Researchers can contribute to the production of knowledge that helps to elucidate origins and consequences of ethnic discrimination against various groups in different national contexts, that in turn can be used to foster efforts towards more inclusive societies.

Declaration of interest

The authors report there are no competing interests to declare.

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Appendix A. Supporting information

Supplementary data associated with this article can be found in the online version at doi:10.1016/j.ijintrel.2022.09.001.
