

DISCRIMINATION, NARRATIVES, AND FAMILY HISTORY: AN EXPERIMENT WITH JORDANIAN HOST AND SYRIAN REFUGEE CHILDREN

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Abstract—We measure the prevalence of discrimination between Jordanian host and Syrian refugee children attending school in Jordan. Using a simple sharing experiment, we find only a small degree of out-group discrimination. However, Jordanian children with Palestinian roots do not discriminate at all, suggesting that a family history of refugee status can generate solidarity with new refugees. We also find that parents' narratives about the refugee crisis are correlated with their children's degree of out-group discrimination, particularly among Syrian refugee children, suggesting that discriminatory preferences are being transmitted through parental attitudes.

I. Introduction

SINCE the outbreak of the Syrian Civil War in 2011, over 650,000 Syrian refugees have sought shelter in Jordan and registered with the United Nations High Commissioner for Refugees (UNHCR).¹ The resulting sudden increase in the population size of around 10% has put an enormous strain on Jordan's resource-poor economy, in particular on its water resources, waste management, housing stock, and labor market (see, among others, Proktor, 2014; Stave & Hillesund, 2015; Francis, 2015; Razzaz, 2017).²

The year 2019, when we conducted our study, was the ninth year of the conflict, and most Syrian refugees in Jordan no longer had plans to return to Syria. The majority appear likely to stay for decades to come, just as previous refugees from Iraq and, above all, Palestine did. Their successful integration into Jordanian society has thus become a matter of central importance for the country's stability in a fragile region.

We investigate two factors that may generate frictions for the successful integration of refugees into society: the prevalence of out-group discrimination by both the refugee and the

host population and the perception of facts and prevailing narratives pertaining to the consequences of the refugee influx. We study discrimination among Syrian and Jordanian children who, in all likelihood, will have to live together in Jordan for the long run. Since economic preferences seem to develop early in life (Fehr, Bernhard, & Rockenbach, 2008) and discrimination between different (ethnic or language) groups has been shown to emerge in childhood (Angerer et al., 2016; Bindra, Glätzle-Rützler, & Lergetporer, 2020), studying discrimination by and against refugee children will help to better understand the roots of potential discrimination by adults. Focusing on children is also motivated by the fact that recent work has shown that the social preferences of children are still malleable (Cappelen et al., 2020; Kosse et al., 2020), while the social preferences of adults seem to be relatively stable and harder to change (Carlsson, Johansson-Stenman, & Nam 2014). Therefore, understanding discrimination in childhood may inform possible policy interventions to fight discrimination and support the successful integration of refugees into the local society.

Besides studying children's discriminatory behavior, we examine their parents' narratives about the consequences of Syrian immigration and can hence assess the influence of parents' attitudes on their child's degree of discrimination. Complementing our analysis of parental attitudes, we study whether a family history of refugee status can generate solidarity with new refugees. We do this by evaluating the influence of being a descendant of Palestinian refugees on children's behavior.

In our experiment, we study two sharing tasks and one allocation task with 456 children, aged 9 and 10 years. A novel feature of our study is that we can explore discrimination both against and by refugee children in a naturally arising, controlled, and symmetric setting—that of Jordanian double-shift schools. Such schools are effectively operating two schools under one roof: one in the morning for Jordanians and one in the afternoon for Syrians (Albert et al., 2017). Such double-shift schools were established in Jordan to manage the integration of Syrian refugee children into its education system. We ran our experiment in thirteen such double-shift schools with children from the morning and the afternoon shifts, allowing us to measure their social preferences toward their in-group and out-group. In addition, we collected survey data from all children and a large subset of their parents in order to assess the influence of some relevant aspects of the child's family background.

To the best of our knowledge, our study is the first to explore discriminatory behavior against and by refugee children in an experimental setting. In our setting, ethnic differences between the refugee and host population are comparatively

Received for publication August 6, 2020. Revision accepted for publication May 11, 2021. Editor: Shachar Kariv.

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We thank two anonymous referees and the editor, Shachar Kariv, for very helpful comments, as well as Noura Shahed, Nedjma Koval, and the entire Integrated International team for excellent help in conducting this experiment. The project has been approved by the Research Ethics Review at Wissenschaftszentrum Berlin (no. 2019/1/61) and preregistered at the AEA RCT Registry as Trial 4063 prior to data collection. (See <https://doi.org/10.1257/rct.4063-1.0>.) We gratefully acknowledge financial support from Deutsche Forschungsgemeinschaft (DFG, German Research Foundation) under Germany's Excellence Strategy (EXC 2126/1 390838866).

A supplemental appendix is available online at https://doi.org/10.1162/rest_a_01090.

¹The Jordanian government reports that the country hosts 1.4 million Syrian refugees. The larger number is most likely because many refugees have not registered officially.

²A dissenting view is presented in Fallah, Krafft, and Wahba (2019), who conclude that Jordanians in areas with higher concentrations of refugees experienced no worse labor market outcomes than those in areas with lower concentrations.

small, and there are no language barriers or major cultural or religious differences. Thus, our study comes close to identifying a pure refugee status effect on discrimination. Our choice of studying discrimination and its determinants with 9- and 10-year-olds is motivated by the observation in an earlier study by Angerer et al. (2016) that discrimination between in-group and out-group members starts to increase around this age (in Angerer et al., 2016, the in-group was defined by sharing a common language in the bilingual Italian province of South Tyrol). Hence, studying primary school children, as we do with Syrian and Jordanian children, seems to capture a sensitive period for the potential formation and increase of out-group discrimination, and knowing more about its determinants during this sensitive period may yield important information for public policy.

Overall, we find that in our sample of Jordanian host and Syrian refugee children, out-group discrimination of both populations is very low, and overall levels of generosity are high. However, there are several intriguing details. First, looking at the host country's children, we find significant differences in behavior between Jordanian children with and without Palestinian (i.e., refugee) roots. While Jordanian children without Palestinian roots discriminate significantly against the Syrian out-group, we find that Jordanian children with Palestinian roots (whose parents, grandparents, or great-grandparents were themselves refugees) do not discriminate at all between Jordanians and Syrians. While one may attribute this to a strong and shared refugee identity, this is by no means self-evident, as more settled refugees or migrants have been reported to turn against newcomers in other settings.³

Second, when we examine the determinants of discrimination, we find a tight link between parents' narratives and children's discriminatory behavior, particularly for the Syrian (refugee) children. This suggests that discriminatory preferences are being transmitted through repeated narratives at home. For example, if Syrian parents think that Jordanians should do everything that they can to help Syrian refugees in this humanitarian crisis, their children show significantly more discrimination against Jordanian host country children.

Our paper contributes to several strands of literature. First, it builds on the work studying the formation of prosocial preferences in children (Fehr et al., 2008; Fehr, Glätzle-Rützler, & Sutter, 2013; Cavatorta, Zizzo, & Daoud, 2020; Cappelen et al., 2020; Kosse et al., 2020). The evidence regarding discriminatory behavior by kindergarten and preschool students is somewhat mixed. List, List, and Samek (2017) find no discrimination by 3- to 5-year-olds, while Bindra et al. (2020)

show that out-group discrimination emerges in a group of 3- to 6-year-olds and increases with age. Our experimental subjects' age group of 9 to 10 years is most comparable to the studies by Angerer et al. (2016, 2017), which focus on primary school children (aged 7 to 11). They find discriminatory behavior among these primary school children from different language groups in northern Italy. Yet none of the previously mentioned papers examine refugee children or their parents' attitudes toward the host country. A recent paper by Alan et al. (2021) is also related to our research. They study the integration of Syrian refugees in Turkey and provide evidence that a perspective-taking intervention in schools where approximately 16% of the children are refugees lowers peer violence, social exclusion, and ethnic segregation, thereby promoting prosocial behavior. They also study giving behavior but explore only whether there are differences in giving to a random recipient or to a Syrian refugee child. They do not examine differences in behavior between refugee and host children and cannot explore the role of parents' narratives or having a family history of refugee status for discrimination, which we view as novel contributions to the literature on the economic preferences of children.

Second, we relate to the literature studying refugee integration and the reaction of local communities to the sudden arrival of refugees. Several recent papers have studied the impact of refugee arrivals, showing, for example, that local Swedish residents avoided reading positive news about refugees (Freddi, 2021). Exposure to refugees did not increase right-wing support in Germany (Schaub, Gereke, & Baldassarri, 2021) and decreased it in Italy (Gamalerio et al., 2023). In northern Lebanon, increasing the salience of the "refugee crisis" reduced locals' trust and prosocial preferences toward refugees (Hager & Valasek, 2022). In a lab-in-the-field experiment in the central Mount Lebanon region, Drouvelis et al. (2021) show that homogeneous groups cooperate better in public goods games than groups that are composed of both (adult) Lebanese host and Syrian refugee subjects. Alrababa'h et al. (2021) report that personal exposure to economic impacts resulting from the refugee crisis is not associated with anti-refugee sentiments among natives in Jordan. Yet all of these studies relate to adult behavior and attitudes. For these adults, the inflow of refugees interacts with preexisting attitudes to precipitate potential discriminatory behavior. In contrast, we study children who have grown up in the middle of the refugee crisis, which has spanned their formative years, and ask how this has influenced the development of their prosocial preferences, specifically those relating to out-group discrimination as such discriminatory preferences can create a severe impediment for integration.

Third, we contribute to the relatively sparse literature in economics studying the role that narratives play for behavior, a topic largely ignored by economics until relatively recently. To quote Akerlof and Snower (2016, p. 58), "Standard economics omits the role of narratives (the stories that people tell themselves and others) when they make all kinds of decisions. Narratives play a role in understanding the

³See, for example, Vila (2000), Moukarbel (2009), or Kalupe (2018). In general, the arrival of new immigrants can activate different responses by existing immigrant minorities. It can either induce the existing minority to distance themselves from the new arrivals to try to assimilate more with the majority (Fouka, Mazumder, & Tabellini 2022), or it can prompt them to draw parallels with their personal family history and thus increase empathy toward the new arrivals (Dinas, Fouka, & Schläpfer, 2021; Williamson et al., 2020).

environment; focusing attention; predicting events; motivating action; assigning social roles and identities; defining power relations; and establishing and conveying social norms.” More recently, however, narratives have garnered some attention in economics, resulting in a recent flurry of activity on the topic (Shiller, 2017; Benabou, Falk, & Tirole, 2020; Spiegler, 2020; Eliaz & Spiegler, 2020; Mailath & Samuelson, 2020; Hillenbrand & Verrina, 2022). We contribute evidence to one particular aspect of narratives by showing that the stories parents tell at home may be important for the formation of their children’s social preferences and discriminatory behavior.

In the next section, we present the background to our study and describe the experimental design and procedures. Results are presented in section III, and section IV concludes the paper.

II. Experimental Setting, Design, and Procedures

The Kingdom of Jordan is as geopolitically important as it is unusual due to its long history of absorbing refugees. Circassian immigration during the Ottoman occupation in the nineteenth century was the first notable wave. Palestinians who lost their homelands in the (1948/1967) Arab-Israeli wars form the largest single contingent, while after the Gulf War of 1991, another wave of refugees came from Iraq. Since the large influx of Syrian refugees after 2011, Jordanians have been internationally commended for their generosity in hosting the Syrians, of whom fewer than 20% live in camps. Jordan provides subsidized health care⁴ for all registered refugees and free schooling for all UNHCR registered children, with children making up around half of the Syrian refugee population. Regular schooling has been achieved by establishing so-called double-shift schools that effectively operate two schools under one roof—one in the morning for Jordanians, one in the afternoon for Syrians (Albert et al., 2017).

In conducting our experiment, we worked together with Integrated International, an Amman-based consultancy specialized in program implementation and evaluation. In collaboration with UNICEF, Integrated International was working in fifty double-shift schools—each physical school effectively operating two schools under one roof, one in the morning for Jordanian children and one in the afternoon for Syrians—on the introduction of digital tools for learning. Integrated International and UNICEF allowed us to run our experiment in thirteen of these double-shift schools, one of them a girls’-only school and all others mixed-gender schools. All schools are situated in the north of Jordan, where the majority of Syrian refugees reside.⁵ The choice of schools was driven by

⁴Under severe financial duress, the Jordanian government had to reduce subsidies in early 2018. The fee for an emergency checkup is, however, still below JOD 10 (approximately US\$14).

⁵One potential concern could be that the influx of refugees changed the composition of Jordanian children attending the public schools that we visited. This would be the case if more discriminatory families moved

their locations (to reflect the geographical distribution of the larger set of double-shift schools; see the map in figure A4 in the appendix) and by school size (to ease logistics). Within schools, we either sampled all classes with 9- and 10-year-olds or a random subsample. In the online appendix we show in tables A1 and A2 that neither children nor teachers differ noticeably on observable characteristics or survey responses when we compare the thirteen double-shift schools in which we ran our experiment with the full set of fifty double-shift schools in which Integrated International was working for UNICEF.

Overall, we had 456 participating children, 232 from the morning shift and 224 from the afternoon shift. Additionally, we succeeded in surveying 395 parents (one per child, covering 87% of the 456 children)—187 Jordanian parents of children from the morning shift and 208 Syrian parents of children from the afternoon shift.⁶ In table A3 in the online appendix, we present demographic information, socioeconomic characteristics, information about the extent of contact with members of the out-group, and whether Jordanians had Palestinian roots. We present these data for our full sample, as well as separately for Jordanians and Syrians. For instance, we see that 48% of Jordanians had Palestinian roots, while only a few (4%) had Syrian relatives. The level of education is considerably higher in the group of Jordanian parents compared to the Syrian parents. All (except nine) of the surveyed Syrian parents came to Jordan after 2011, which means that our Syrian sample contains, except for a negligible fraction, refugee families that moved because of the outbreak of the Syrian civil war (in our regressions, we focus on the families that came to Jordan since 2011). We do not have data on family income but can use information on parental education, household possessions, and books, which constitute frequently used measures of socioeconomic status when working with adolescents.⁷ In our regressions in section III,

their children away from double-shift schools to avoid any interaction with refugees. Two factors speak against this concern. First, the families in our sample are not wealthy enough to move to private schools. The average annual fees for the private schools close to our thirteen double-shift schools amount to around 600 JOD per child, representing 14% of annual per capita GDP. With an average of 4.6 children per family, sending all of them to private school would cost more than 60% of annual per capita GDP. Second, the schools have strict catchment areas that substantially constrain school choice.

⁶To be precise, not all children in the morning shift are Jordanian and not all children in the afternoon shift are Syrian. Ninety-five percent of morning shift parents report being Jordanian (and 2.7% Syrian), and 88% of the afternoon shift parents report being Syrian (and 7.7% Jordanian). In our analysis, we keep the full samples because non-Jordanian children attending the morning shift are already more integrated into Jordanian society and non-Syrian children in the afternoon are likely to have a refugee background. Our results are robust to the exclusion of these children. For expositional simplicity, we refer to the children in the morning (afternoon) shift as Jordanians (Syrians).

⁷The OECD/PISA SES index, comprising the components “parental education,” “parental occupation,” and the family wealth possessions subindex, has been validated as a reliable proxy for socioeconomic status (Schulz, 2005; Rutkowski & Rutkowski, 2013). The PISA SES index has been used repeatedly to capture SES among teenagers (Hanushek & Woessmann, 2011; Woessmann, 2016), and the number of books available at home has

we control for the background variables included in table A3 to account for potential effects of education, demographic variables, or family history.

In the experiment, we implemented a sequence of three tasks.⁸ In each of the first two tasks, subjects had to allocate five toys between themselves and another, anonymous child. In one task, the other child was from the same shift; in the other task, the other child was from the other shift. The sequence was randomized, but as we do not find meaningful order effects, we will report results using the pooled data below.⁹ In addition, we varied the salience of the two group identities in the instructions. In one condition, we simply referred to children from the morning and afternoon shifts; in another, we added the reminder that there are mainly Jordanian children in the morning shift and mainly Syrian children in the afternoon shift. This variation had no effect on behavior, from which we conclude that all children were perfectly aware of who attends the morning and afternoon shifts. This is not that surprising as the daily shift change features very prominently in the school routine, with one shift marching out of school while the next shift is approaching it (see Albert et al., 2017, for a video of the shift change). In section III, we focus on the pooled data.

In the third task, a third-party allocation task, subjects had to allocate five toys between another child from the same shift and a child from the other shift, with both children unknown to the subject. They received five additional toys for themselves for completing this task, independent of their choice.

In our data analysis, we build a composite measure of out-group discrimination from these three tasks. This is done mainly for two reasons. First, a compound measure reduces measurement error (see Gillen, Snowberg, & Yariv, 2019). Second, looking at all three tasks allows us to consider out-group discrimination both when self-interest is involved (tasks 1 and 2) and when this is not the case (task 3). In principle, the extent of discrimination against an out-group may vary, contingent on whether self-interest is involved or not. For example, studying only tasks 1 and 2 could hide discriminatory behavior if self-interest dominates and a child keeps all five toys for him- or herself in both tasks. Only behavior in task 3 (where self-interest is ruled out) would then reveal any form of out-group discrimination. Hence, we believe that

it is a useful approach to combine all three tasks to elicit a composite measure of out-group discrimination.¹⁰

In all three tasks, we opted to have an odd number of toys to remove the possibility of a fifty-fifty split. Güth, Huck, and Müller (2001) show that equal splits have an appeal to participants over and above pure fairness considerations due to their focal nature. Of course, this forces subjects to favor one side over the other in each of the three tasks.

All of the children also completed two surveys, which were part of a larger educational program financed by UNICEF and administered by Integrated International. Our experiment took place halfway between these two surveys.

We conducted the experiment with the help of thirteen thoroughly trained enumerators. All had worked with Integrated International before and were experienced in administering surveys to children. Children were taken out of their classrooms to complete the tasks one-on-one with the enumerators to ensure that the children fully understood the tasks and were not influenced by the other children in their class. Choices in the sharing tasks were made directly with the toys. After children had chosen their preferred allocation, the toys were put into envelopes. The name of the decision-making child was written on one of the envelopes, while the envelopes for the passive receiving children remained blank. The receiving children were a different group from the active decision-making children, and this was known to the active children; that is, they knew that they would not receive any rewards in addition to the rewards they received from their own choices. All envelopes were distributed at the end of the school day (or the following day, when decisions made in the afternoon were relevant for morning recipients). (For more details on the procedures, see the online appendix.)

III. Results

A. Children's Behavior: Main Descriptive Statistics

Table 1 summarizes the main descriptive statistics for the three tasks. The first column shows the average amount given to the other child when the other child was in the same shift, that is, from the in-group. The second column shows the average amount given to the other child when the other child was in the other shift, that is, from the out-group. The third column shows the difference between both amounts and whether this difference is significantly different from 0. The fourth column shows the average amount allocated in task 3 to a child from the other shift. The fifth column presents an overall measure of discrimination, derived from the three tasks in the following way: We add (i) the difference between the amount given to a recipient from the in-group and the amount given to a

been found to be another important proxy for SES in the PISA test (Woessmann, 2016).

⁸All tasks and rewards were piloted in a different double-shift school one week before the actual experiment. This allowed us to ensure that the children enjoyed receiving the different toys. We used different toys (e.g., balloons, pencils, or stickers) in each of the tasks to avoid diminishing marginal returns but chose gender-neutral toys of a similar quality for each task. After the three tasks described in detail here, we implemented a fourth task measuring grit (Duckworth et al., 2007; Alan, Boneva, & Ertac 2019). We do not report the results from this task as it is orthogonal to the focus of this paper and unrelated to issues of discrimination.

⁹For example, when we consider our main comparisons of giving behavior (as in table 1) and use a regression analysis to interact these decisions with a variable capturing the order of decisions, all the interaction coefficients are insignificant.

¹⁰In figure A1 in the online appendix, we plot the relationship between out-group discrimination derived from tasks 1 and 2 and out-group discrimination in task 3. The figure reveals that there is no clear-cut relationship between the two measures, which also suggests that in task 3, children did not systematically favor the group that had received less when combining the choices in tasks 1 and 2.

TABLE 1.—DESCRIPTIVE STATISTICS AND HYPOTHESIS TESTS FOR THE THREE TASKS

	Tasks 1 and 2: Giving to In-Group ^a	Tasks 1 and 2: Giving to Out-Group ^a	Tasks 1 and 2: Difference in Giving (In-Group – Out-Group)	Task 3: Allocation to Out-Group ^b	Discrimination (Aggregate Measure) ^c	<i>N</i>
Morning shift (Jordanians)	2.35 (0.67)	2.25 (0.59)	0.10** (0.85)	2.28*** (0.56)	0.32*** (1.01)	224
Afternoon shift (Syrians)	2.43 (0.69)	2.35 (0.70)	0.08* (0.87)	2.24*** (0.63)	0.34*** (1.10)	232
<i>p</i> (Diff ≠ 0)	0.19	0.10	0.84	0.53	0.85	

Standard deviations in parentheses; * $p < .1$, ** $p < .05$, and *** $p < .01$. Significance levels indicated by asterisks result from testing for discrimination against the out-group (i.e., one-sided t -tests testing whether column 3 > 0, column 4 < 2.5, and column 5 > 0, respectively).

^aChildren were given five toys to distribute between themselves and another child in the respective shift. The figures in these columns (1 and 2) report how many out of those five toys were given to the other child (with the rest kept by the decision-making child).

^bIn task 3, children had to allocate five toys between a child from their own shift and a child from the other shift. The figures in column 4 report how many toys were given to the child from the other shift.

^cThe aggregate discrimination measure adds the discrimination from tasks 1 and 2 to that in task 3, that is, column 3 + (2.5 – column 4).

recipient from the out-group (in tasks 1 and 2), and (ii) the difference between 2.5 toys and the amount allocated to an out-group child (in task 3). Higher values of this composite index indicate stronger discrimination against the out-group (that is, against children from the other country), and we observe values between -3.5 and 3.5 (theoretically, values between -7.5 and 7.5 are possible). We draw three main conclusions from table 1.

1. Our subjects from both the morning and the afternoon shifts are unusually generous. All relevant models of social preferences (such as Fehr & Schmidt, 1999; Bolton & Ockenfels, 2000; or Charness & Rabin, 2002) suggest that subjects will allocate at least three toys to themselves, since disadvantageous inequality is assumed to hurt more than advantageous inequality. This means that, on average, we should see at most two toys being allocated to the other child. In contrast, what we observe is that the recipient children get between 2.25 and 2.43 toys on average. We observe 41.1% (resp. 33.0%) of subjects in the morning shift allocating more to the other child than to themselves when the recipient is in the in-group (out-group). The corresponding numbers for the afternoon shift are 45.3% (42.7%).¹¹
2. While discrimination is statistically significant, when looking at the combination of tasks 1 and 2 (column 3), at task 3 only (column 4), or when combining all tasks (column 5), the magnitudes of the differences between giving to the in-group and out-group are small in economic terms. Moreover, the level of discrimination is statistically indistinguishable between Jordanian and Syrian children in all cases.
3. In the third-party allocation task, subjects make, on average, choices that are very similar to their choices in tasks 1 and 2, where self-interest is involved. Specifically, they treat a child from the same shift versus a child from the other shift similarly to how they treat

themselves versus another child. Notice, however, that again, the average allocated to the other shift is above 2 for both groups. In the morning shift, 28.1% of subjects favor the child from the other shift over the child from their own shift; in the afternoon, it is 25.9% of subjects.

B. Parents' Narratives

When communities or entire nations experience a departure from life as usual, the collective effort to make sense of events often results in multiple narratives being propagated through society (Boudes & Laroche, 2009; Innes, 2010; Blinder & Allen, 2016; Greussing & Boomgaarden, 2017; Eberl et al., 2018). Hence, it is plausible that parents' interpretation of the Syrian refugee crisis and its impact on daily life in Jordan is transmitted to their children, potentially influencing their discriminatory behavior. To provide evidence on this, we collected measures of the parents' perceptions of the crisis. In particular, we asked parents to assess their agreement with the following four statements on a scale from 1 (totally disagree) to 10 (totally agree):

- “The Syrian crisis is a tragedy, and Jordanians should do everything they can to help the Syrian refugees, irrespective of the costs.”
- “Jordanians have already done so much for the Syrian refugees; it is time for other countries to do more to help.”
- “The Syrian crisis has increased housing rental prices in Jordan.”
- “The Syrian crisis has made it more difficult to find jobs in Jordan.”

Table 2 summarizes the average response to each of these questions by the parents of Jordanian and Syrian children (the full distributions are shown in figure A3 in the online appendix). The main observation is that, overall, the two groups of parents share a relatively similar understanding of the

¹¹In figure A2 in the online appendix, we show the distribution of choices in the three different tasks. Applying a Kolmogorov-Smirnov test we do not see any significant distributional differences between morning and afternoon shift for any of the three tasks.

TABLE 2.—PARENTS' PERCEPTIONS OF THE REFUGEE CRISIS: AVERAGE AGREEMENT ON A SCALE FROM 1 (TOTALLY DISAGREE) TO 10 (TOTALLY AGREE)

Perception	Parents of Children in the Morning Shift (Jordanians)	Parents of Children in the Afternoon Shift (Syrians)	<i>p</i> (Diff ≠ 0)
Jordanians morally obliged to help	7.4 (2.2)	8.1 (1.9)	<0.01
Jordan has done enough	8.7 (1.8)	9.0 (1.6)	0.22
Rental prices increased	8.2 (2.1)	8.6 (1.8)	0.04
Jobs more difficult to find	7.9 (2.5)	8.0 (2.2)	0.72
<i>N</i>	187	208	

Standard deviations in parentheses.

crisis. One major difference is observed in the degree to which the parents assess the refugee crisis as being a tragedy, implying a moral imperative that Jordanians should do everything they can to assist. On this dimension, Syrian parents are more strongly in favor than their Jordanian counterparts. However, both sets of parents agree to the same degree that Jordanians have done enough to help and that jobs are more difficult to find as a consequence of the Syrian crisis. Both groups find themselves agreeing that housing prices increased as a consequence of the crisis, with a slightly, but significantly, stronger sentiment measured for the Syrians, which is probably due to a larger fraction of renters among them.

C. *Covariates of Discrimination: The Role of Parents' Narratives and Family History*

Although, on average, children do not discriminate a lot between their in-group and out-group, we want to understand how out-group discrimination depends on various covariates. In particular, we examine the role of parents' narratives about the refugee crisis and the impact of a family history of refugee status.

For this purpose, we regress our composite measure of out-group discrimination on children's characteristics and their parents' narratives, controlling for the background variables listed in table A3 in the online appendix.

Table 3 shows our estimation results, clustering errors at the class level. Columns 1 and 2 consider Jordanian children from the morning shift, and columns 3 and 4 consider Syrian children from the afternoon shift. The first column for each shift reports estimates without controlling for background and SES variables, and the second includes these further controls (and table A4 in the online appendix shows the estimates for these controls). Given that this table includes explanatory variables that refer to parents, the number of observations is smaller than the total number of children because not all parents completed our questionnaire.

There are two key insights from table 3. First, *the family history of children from the host country matters*. Jordanian children with Palestinian roots discriminate significantly less against Syrians than other Jordanians without Palestinian roots do. In fact, examining the relationship between Pales-

tinian roots and out-group discrimination directly, we find that Jordanian children with Palestinian roots do not discriminate at all in favor of their in-group (i.e., fellow Jordanians).¹² A plausible explanation for this is that a shared refugee identity (even though at different points in time) substantially increases the Palestinians' solidarity with Syrian refugee children.¹³ This is striking as the children with Palestinian roots have not been refugees themselves (for most of them, not even their parents were), but, of course, due to the ongoing conflict about their homeland, identifying as Palestinian is important to most Jordanian adults whose parents or grandparents were forced to leave in 1948 or later. We also note that having Syrian relatives reduces out-group discrimination of Jordanian children significantly, even more so in magnitude than having Palestinian roots. While this result may not be surprising (Jordanian children with Syrian relatives may be expected to treat Syrian refugee children relatively better than Jordanians without Syrian relatives do), recall that the number of Jordanian children with Syrian relatives is very small (at 4%; see table A3 in the online appendix).

Second, *parents' narratives about the refugee crisis matter*. While parental narratives are jointly significant for both populations (*F*-test, $p < 0.08$ for the morning shift and $p < 0.01$ for the afternoon shift), they are particularly important for the Syrian population. Among them, parents' narratives appear to be more closely associated with children's discriminatory behavior against the out-group. Three of the four narratives are significant in isolation, with coefficient signs that point in the directions one would expect.¹⁴ When parents

¹²Specifically, a regression of discrimination on only the binary Palestinian roots variable and a constant (with standard errors clustered at the class level as in table 3) yields a Palestinian roots coefficient of -0.342 ($p = 0.044$) and a constant of 0.489 ($p < 0.001$). The implied out-group discrimination level of children with Palestinian roots is 0.147 ($p = 0.290$), which is not statistically different from 0.

¹³We cannot completely rule out alternative explanations, such as the possibility that children with Palestinian roots differ systematically from other Jordanian children without Palestinian roots along some dimension that is independent of their heritage. However, given that we can control in table 3 for a host of background variables of parents (including education and proxies for income), we consider such alternative explanations to be unlikely.

¹⁴We conjectured that narratives that stress the burden imposed by refugees on Jordanians would reduce out-group discrimination, while narratives that stress Syrian entitlement would increase out-group discrimination.

TABLE 3.—COVARIATES OF OUT-GROUP DISCRIMINATION

Dependent Variable: Out-Group Discrimination – Composite Index	(1) Jordanian Children, Morning Shift	(2) Jordanian Children, Morning Shift (with SES) [#]	(3) Syrian Children, Afternoon Shift	(4) Syrian Children, Afternoon Shift (with SES) ^b
Time going to that school (years)	0.014 (0.082)	0.047 (0.092)	–0.099 (0.093)	–0.144 (0.095)
Out-group friends at school (=1)	–0.069 (0.195)	–0.020 (0.214)	0.108 (0.181)	0.077 (0.189)
Number of out-group friends	0.045 (0.131)	0.057 (0.125)	–0.043 (0.033)	–0.038 (0.038)
Out-group friends at school (=1) × Number of out-group friends	–0.010 (0.138)	–0.051 (0.134)	0.043 (0.048)	0.043 (0.053)
Having Syrian relatives (=1)	–0.660* (0.380)	–0.712* (0.356)		
Having Palestinian roots (=1)	–0.347** (0.150)	–0.337* (0.174)		
Having Jordanian relatives (=1)			–0.112 (0.230)	–0.183 (0.257)
Distance from origin to Amman (in 100 km)			–0.062 (0.056)	–0.050 (0.055)
Time in Jordan (years)			–0.018 (0.091)	–0.023 (0.084)
Jordanians morally obliged to help	0.035 (0.033)	0.022 (0.035)	0.086** (0.032)	0.096** (0.032)
Jordan has done enough	–0.063 (0.051)	–0.035 (0.050)	–0.122* (0.060)	–0.117* (0.065)
Rental prices increased	0.062** (0.028)	0.068** (0.029)	0.047 (0.048)	0.026 (0.057)
Jobs more difficult to find	–0.032 (0.024)	–0.031 (0.027)	–0.069** (0.034)	–0.076** (0.030)
SES controls	No	Yes	No	Yes
R ²	0.07	0.12	0.06	0.11
Observations ^a	178	178	174	174

Cluster-robust standard errors (clustered at the class level) in parentheses; “number of out-group friends” is mean centralized. See the appendix for full regression results.

^aNine parents did not indicate whether they had Syrian relatives or Palestinian roots. For some parents of children in the afternoon shift, we do not have information on their origin in Syria and whether they have relatives in Jordan. Moreover, we have excluded nine observations from the afternoon shift that reported an arrival time in Jordan before the outbreak of the war. This explains the lower number of observations in the regressions compared to table 1.

^bSee table A4 in the online appendix for the full model that also shows the estimates for the SES-control variables listed in table A3. * $p < .1$, ** $p < .05$, and *** $p < .01$.

think that “Jordan has done enough” and that, as a consequence of the refugee influx, “jobs are more difficult to find,” Syrian children discriminate less. With standard deviations (SD) around 2 in these variables, a 1 SD increase in agreement to both of these statements is associated with a decrease of 0.4 SD in out-group discrimination. However, if they agree more strongly with the statement that “the crisis is a tragedy, and Jordanians should do everything they can to help the Syrian refugees,” then their children discriminate more against the Jordanians. For the Jordanian children, narratives of parents are less often (although jointly) significant. Yet also for them, we see that stronger parental agreement to the statement of “rental prices increased because of the refugee crisis” is associated with more out-group discrimination against Syrian children. This suggests that a narrative stressing increased economic hardships (here, regarding the market for real estate) goes hand in hand with more out-group discrimination against the out-group that is blamed for being responsible for these hardships.¹⁵

¹⁵It is important to note that the differing roles of the two groups in relation to each of the narratives manifests in mirrored sign predictions for the regression coefficients (e.g., a negative coefficient for Jordanians and a positive coefficient for Syrians, for an economic harm narrative, since

We do not find robust evidence in support of the contact hypothesis (Amir, 1969; Rao, 2019) which predicts less out-group discrimination by those who are exposed to more contact with an out-group. Neither the number of out-group friends at school nor the total number of friends from the out-group are significantly related to the degree of out-group discrimination once we control for family background.¹⁶

The education of parents, however, matters. Compared to the benchmark of “Literate, but incomplete high-school,” higher education of parents reduces the level of out-group discrimination significantly (see table A4 in the online appendix). Household size or belongings (like a smartphone or books) do not matter for the extent of out-group discrimination.¹⁷

both may view the arrival of the Syrian refugees as the “cause” of the change in Jordanian society).

¹⁶A potential correlation between these two variables, or with the time spent at the school variable, might raise issues of multicollinearity. Yet these correlations are lower than one might expect (pair-wise Pearson correlation coefficients never exceed 0.31), and for each of the variables that we use, the variation that is unexplained by the remaining variables exceeds commonly used thresholds to indicate multicollinearity. To further reduce linear dependency when using an interaction term, we mean-centralize the number of out-group friends.

¹⁷With respect to religion, the vast majority of subjects in our sample are likely to be Muslims since about 95% of Jordanians and almost 90% of

IV. Conclusion

We study discrimination by and against refugee children to understand the roots of discriminatory behavior between native and immigrant children that, other than their refugee status, largely share a common language, culture, and religion. Our unique setting in Jordanian double-shift schools, which teach native Jordanians in the morning shift and refugee Syrian children in the afternoon, can thus capture the effect of refugee status with respect to being discriminated against and discriminating against others. Using data from a survey of parents enables us to address the role of narratives and family history on discrimination.

Our study shows remarkably little out-group discrimination among Jordanian and Syrian refugee children (despite being significant, the extent of out-group discrimination is economically small). This is coupled with very high levels of generosity toward others. Both findings contrast sharply with similar experiments in Western settings (Sutter, Zoller, & Glätzle-Rützler, 2019, for a survey). One caveat of our results is that our experimental design does not allow us to isolate the underlying reason for this observed generosity (and hence provide a complete explanation for the difference in relation to Western settings). However, a shared religion, culture, and language, as well as Bedouin hospitality culture and the Kingdom of Jordan's history of absorbing and integrating refugees, are all factors that may contribute to the striking pattern.¹⁸ Differentiating between these potential drivers of prosocial behavior in a cross-country setting could be an exciting avenue for future research.

The data collected from our experiment and the corresponding survey, however, allow us to contribute to understanding the channels that drive differences in out-group discrimination *within the population we sample from* (as opposed to explaining the low baseline level that we observe throughout). Parents' narratives about the refugee crisis matter, in particular for Syrian children whose lives have been much more dramatically altered than the lives of the Jordanian families. If parents hold narratives that Jordan as the host country should do more for Syrians, we see more out-group discrimination by Syrian children (against Jordanian children). At the same time, parental perceptions of the economic consequences of the refugee crisis are related to children's out-group discrimination for both groups of children.

Equally important to our finding on the role of narratives is our result for the Jordanian population where we observe that children with Palestinian roots do not discriminate at all against Syrian children. Clearly, family history (going

Syrians are. We did not ask for the degree of religiosity, which one might consider to be potentially important for out-group discrimination. Yet it is unclear what to expect. More religious individuals might want to treat all humans equally, independent of group membership. At the same time, more religious people might discriminate more on the basis of expectations about a recipient's religiosity. In fact, Chuah et al. (2016) show that more religious people are more willing to discriminate.

¹⁸See Alshoubaki and Harris (2018) for the role of such factors for successful integration of Syrians in Jordan.

back over fifty years) matters for the prosocial behavior of the children we observe. It appears that already our 9- and 10-year-old subjects, whose parents, grandparents, or great-grandparents lost their homes in the 1948 or 1967 Arab-Israeli wars, have been instilled with a refugee identity that generates solidarity with other refugee children.

REFERENCES

- Akerlof, G., and D. Snower, "Bread and Bullets," *Journal of Economic Behavior and Organization* 126 (2016), 58–71. 10.1016/j.jebo.2015.10.021
- Alan, S., C. Baysan, M. Gumren, and E. Kubilay, "Building Social Cohesion in Ethnically Mixed Schools: An Intervention on Perspective-Taking," *Quarterly Journal of Economics* 136:4 (2021), 2147–2194. 10.1093/qje/qjab009
- Alan, S., T. Boneva, and S. Ertac, "Ever Failed, Try Again, Succeed Better: Results from a Randomized Educational Intervention on Grit," *Quarterly Journal of Economics* 134 (2019), 1121–1162.
- Albert, P., P. Ellguth, M. Fels, H. Harmgart, and S. Huck, "double-shift.org. A Multimedia Documentary (Berlin: WZB, 2017).
- Alrababa'h, A., A. Dillon, S. Williamson, J. Hainmueller, D. Hangartner, and J. Weinstein, "Attitudes toward Migrants in a Highly Impacted Economy: Evidence from the Syrian Refugee Crisis in Jordan," *Comparative Political Studies* 54 (2021), 33–76.
- Alshoubaki, W., and M. Harris, "The Impact of Syrian Refugees on Jordan: A Framework for Analysis," *Journal of International Studies* 11 (2018), 154–179. 10.14254/2071-8330.2018/11-2/11
- Amir, Y., "Contact Hypothesis in Ethnic Relations," *Psychological Bulletin* 71:5 (1969), 319–342. 10.1037/h0027352, PubMed: 4892571
- Angerer, S., G. Dutcher, D. Glätzle-Rützler, P. Lergepporter, and M. Sutter, "Gender Differences in Discrimination Emerge Early in Life: Evidence from Primary School Children in a Bilingual City," *Economics Letters* 152 (2017), 15–18. 10.1016/j.econlet.2016.12.031
- Angerer, S., D. Glätzle-Rützler, P. Lergepporter, and M. Sutter, "Cooperation and Discrimination within and across Language Borders: Evidence from Children in a Bilingual City," *European Economic Review* 90 (2016), 254–264. 10.1016/j.euroecorev.2016.02.022
- Benabou, R., A. Falk, and J. Tirole, "Narratives, Imperatives, and Moral Persuasion," Princeton University mimeograph (2020).
- Bindra, P. C., D. Glätzle-Rützler, and P. Lergepporter, "Discrimination at Young Age: Experimental Evidence from Preschool Children," *Journal of Economic Behavior and Organization* 175 (2020), 55–70. 10.1016/j.jebo.2019.12.026
- Blinder, S., and W. L. Allen, "Constructing Immigrants: Portrayals of Migrant Groups in British National Newspapers, 2010–2012," *International Migration Review* 50 (2016), 3–40. 10.1111/imre.12206
- Bolton, G., and A. Ockenfels, "ERC: A Theory of Equity, Reciprocity and Competition," *American Economic Review* 90 (2000), 166–193. 10.1257/aer.90.1.166
- Boudes, T., and H. Laroche, "Taking Off the Heat: Narrative Sensemaking in Post-Crisis Inquiry Reports," *Organization Studies* 30 (2009), 377–396. 10.1177/0170840608101141
- Cappelen, A., J. A. List, A. Samek, and B. Tungodden, "The Effect of Early-Childhood Education on Social Preferences," *Journal of Political Economy* 128 (2020), 2739–2758. 10.1086/706858, PubMed: 34675446
- Carlsson, F., O. Johannsson-Stenman, and P. K. Nam, "Social Preferences Are Stable over Long Periods of Time," *Journal of Public Economics* 117 (2014), 104–114. 10.1016/j.jpube.2014.05.009
- Cavatorta, E., D. Zizzo, and Y. Daoud, "Does Exposure to Violence Affect Reciprocity? Experimental Evidence from the West Bank," mimeograph (2020).
- Charness, G., and M. Rabin, "Understanding Social Preferences with Simple Tests," *Quarterly Journal of Economics* 117 (2002), 817–869. 10.1162/0033535302760193904
- Chuah, S. H., S. Gächter, R. Hoffmann, and J. H. W. Tan, "Religion, Discrimination and Trust across Three Cultures," *European Economic Review* 90 (2016), 280–301. 10.1016/j.euroecorev.2016.03.008
- Dinas, E., V. Fouka, and A. Schläpfer, "Family History and Attitudes toward Outgroups: Evidence from the European Refugee Crisis," *Journal of Politics* 83:2 (2021), 647–661. 10.1086/710016

- Drouvelis, M., B. Malaeb, M. Vlassopoulos, and J. Wahba, "Cooperation in a Fragmented Society: Experimental Evidence on Syrian Refugees and Natives in Lebanon," *Journal of Economic Behavior and Organization* 187 (2021), 176–191. 10.1016/j.jebo.2021.04.032
- Duckworth, A., C. Peterson, M. Matthews, and D. Kelly, "Grit: Perseverance and Passion for Long-Term Goals," *Journal of Personality and Social Psychology* 92 (2007), 1087–1101. 10.1037/0022-3514.92.6.1087, PubMed: 17547490
- Eberl, J., C. Meltzer, C. T. Heidenreich, B. Herrero, N. Theorin, F. Lind, ... J. Strömbäck, "The European Media Discourse on Immigration and Its Effects: A Literature Review," *Annals of the International Communication Association* 42 (2018), 207–223. 10.1080/23808985.2018.1497452
- Eliaz, K., and R. Spiegler, "A Model of Competing Narratives," *American Economic Review* 110 (2020), 3786–3816. 10.1257/aer.20191099
- Fallah, B., C. Krafft, and J. Wahba, "The Impact of Refugees on Employment and Wages in Jordan," *Journal of Development Economics* 139 (2019), 203–216. 10.1016/j.jdeveco.2019.03.009
- Fehr, E., H. Bernhard, and B. Rockenbach, "Egalitarianism in Young Children," *Nature* 454 (2008), 1079–1083. 10.1038/nature07155, PubMed: 18756249
- Fehr, E., D. Glätzle-Rützler, and M. Sutter, "The Development of Egalitarianism, Altruism, Spite and Parochialism in Childhood and Adolescence," *European Economic Review* 64 (2013), 369–383. 10.1016/j.euroecorev.2013.09.006
- Fehr, E., and K. Schmidt, "A Theory of Fairness, Competition, and Cooperation," *Quarterly Journal of Economics* 114 (1999), 817–868. 10.1162/003355399556151
- Fouka, V., S. Mazumder, and M. Tabellini, "From Immigrants to Americans: Race and Assimilation during the Great Migration," *Review of Economic Studies* 89:2 (2022), 811–842. 10.1093/restud/rdab038
- Francis, A., *Jordan's Refugee Crisis* (Washington, DC: Carnegie Endowment for International Peace, 2015).
- Freddi, E., "Do People Avoid Morally Relevant Information? Evidence from the Refugee Crisis," this REVIEW 103:4 (2021), 605–640.
- Gamalerio, M., M. Luca, A. Romarri, and M. Viskanic, "Refugee Reception, Extreme-Right Voting, and Compositional Amenities: Evidence from Italian Municipalities," *Regional Science and Urban Economics* 100 (2023), 103892. 10.1016/j.regsciurbeco.2023.103892
- Gillen, B., E. Snowberg, and L. Yariv, "Experimenting with Measurement Error: Techniques with Applications to the Caltech Cohort Study," *Journal of Political Economy* 127 (2019), 1826–1863. 10.1086/701681
- Güth, W., S. Huck, and W. Müller, "The Relevance of Equal Splits in Ultimatum Games," *Games and Economic Behavior* 37 (2001), 161–169.
- Greussing, E., and H. Boomgaarden, "Shifting the Refugee Narrative? An Automated Frame Analysis of Europe's 2015 Refugee Crisis," *Journal of Ethnic and Migration Studies* 43 (2017), 1749–1774. 10.1080/1369183X.2017.1282813
- Hager, A., and J. Valasek, "The Impact of Forced Migration on In-Group and Outgroup Social Capital," WZB discussion paper SPII 2020-301 (2022). https://papers.ssrn.com/sol3/papers.cfm?abstract_id=4060072.
- Hanushek, E. A., and L. Woessmann, "The Economics of International Differences in Educational Achievement" (pp. 89–200), in E. A. Hanushek, S. Machin, and L. Woessmann, eds., *Handbook of the Economics of Education*, vol. 3 (Amsterdam: Elsevier, 2011). 10.1016/B978-0-444-53429-3.00002-8
- Hillenbrand, A., and E. Verrina, "The Asymmetric Effect of Narratives on Prosocial Behavior," *Games and Economic Behavior* 135 (2022), 241–270. 10.1016/j.geb.2022.06.008
- Innes, A. J., "When the Threatened Become the Threat: The Construction of Asylum Seekers in British Media Narratives," *International Relations* 24 (2010), 456–477. 10.1177/0047117810385882
- Kalupe, H., "Community-Based Organisations' Role in Refugee Integration: A Case Study in Kristiansand, Norway," master's thesis, University of Agder (2018). <http://hdl.handle.net/11250/2565634>
- Kosse, F., T. Deckers, H. Schildberg-Hörisch, and A. Falk, "The Formation of Prosociality: Causal Evidence on the Role of the Social Environment," *Journal of Political Economy* 128 (2020), 434–467. 10.1086/704386
- List, A. J., J. A. List, and A. Samek, "Discrimination among Pre-School Children: Field Experimental Evidence," *Economics Letters* 157 (2017), 159–162. 10.1016/j.econlet.2017.06.006
- Mailath, G., and L. Samuelson, "Learning under Diverse World Views: Model-Based Inference," *American Economic Review* 110 (2020), 1464–1501. 10.1257/aer.20190080
- Moukarbel, N., *Sri Lankan Housemaids in Lebanon: A Case of "Symbolic Violence" and "Everyday Forms of Resistance"* (Amsterdam: Amsterdam University Press, 2009).
- Proktor, K., *Tapped Out: Water Scarcity and Refugees Pressures in Jordan* (Portland, OR: Mercy Corps, 2014).
- Rao, G., "Familiarity Does Not Breed Contempt: Generosity, Discrimination, and Diversity in Delhi Schools," *American Economic Review* 109 (2019), 774–809. 10.1257/aer.20180044
- Razzaz, S., *A Challenging Market Becomes Even More Challenging: Jordanian Workers, Migrant Workers and Refugees in the Jordanian Labour Market* (Beirut: International Labour Organization, 2017).
- Rutkowski, D., and L. Rutkowski, "Measuring Socioeconomic Background in PISA: One Size Might Not Fit All," *Research in Comparative and International Education* 8 (2013), 259–278. 10.2304/rcie.2013.8.3.259
- Schaub, M., J. Gereke, and D. Baldassarri, "Strangers in Hostile Lands: Exposure to Refugees and Right-Wing Support in Germany's Eastern Regions," *Comparative Political Studies* 54 (2021), 686–717. 10.1177/0010414020957675
- Schulz, W., "Measuring the Socio-Economic Background of Students and Its Effect on Achievement in PISA 2000 and PISA 2003," mimeograph (2005).
- Shiller, R., "Narrative Economics," *American Economic Review* 107 (2017), 967–1004. 10.1257/aer.107.4.967
- Spiegler, R., "Behavioral Implications of Causal Misperceptions," *Annual Review of Economics* 12:1 (2020), 81–106. 10.1146/annurev-economics-072219-111921
- Stave, S. E., and S. Hillesund, *Impact of Syrian Refugees on the Jordanian Labor Market* (Geneva: International Labour Organization, 2015).
- Sutter, M., C. Zoller, and D. Glätzle-Rützler, "Economic Behavior of Children and Adolescents: A First Survey of Experimental Economics Results," *European Economic Review* 111 (2019), 98–121. 10.1016/j.euroecorev.2018.09.004
- Vila, P., *Crossing Borders, Reinforcing Borders: Social Categories, Metaphors, and Narrative Identities on the US-Mexico Frontier* (Austin: University of Texas Press, 2000).
- Williamson, S., C. Adida, A. Lo, M. Platas, L. Prather, and S. Werfel, "Increasing Immigrant Inclusion: Family History, Empathy, and Immigration in the United States," Immigration Policy Lab working paper 20-01 (2020).
- Woessmann, L., "The Importance of School Systems: Evidence from International Differences in Student Achievement," *Journal of Economic Perspectives* 30 (2016), 3–32. 10.1257/jep.30.3.3