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Article

Ethnic Differences in Gender-Typical Occupational Orientations Among Adolescents in Germany

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Abstract
We illuminate the socio-cultural embeddedness of adolescents to explain gender-typical occupational orientations (GTOO) from an intersectional perspective. We investigate whether and why immigrant and native youths differ in their GTOO. These issues are of practical and political importance, as deviations from the norm of the autochthonous majority society can drive change in the gender segregation of the labor market on the one hand but can also lead to difficulties in accessing training and work on the other. We use cross-sectional data on ninth-graders from the German National Educational Panel Study, which allows us to analyze distinct dimensions of GTOO, i.e., expectations and aspirations. The results of stepwise multilevel models show that (a) differences in GTOO between immigrant and native youths apply to certain countries of origin—particularly females from Turkey, the country with the strongest contrast to the German context in terms of gender-related labor market characteristics, differ in their aspirations from native females—and (b) differences between immigrant and native German expectations shrink with immigrant generation and after controlling for aspirations. This indicates that assimilation processes involving socialization-related adaptation to the host society play a greater role than an increase in information about its labor market.

Keywords
career choice; country differences; gender; horizontal labor market segregation; immigrants; German National Educational Panel Study; occupational aspirations; occupational expectations

Issue
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1. Introduction

Like the labor markets of all Western countries, the German labor market is highly segregated by gender (Charles & Grusky, 2004). Horizontal segregation into typical “male” and typical “female” jobs gives rise to gender inequality, which usually goes hand in hand with vertical inequality, such as lower earnings in female-dominated occupations (e.g., Busch, 2013; Leuze & Strauß, 2016). Youths’ gender-typical occupational orientations (GTOO) play an important role in reproducing this labor market segregation and resulting social inequality (European Commission, 2009; Kleinert & Schels, 2020).

Previous research attempts to explain GTOO in terms of individual traits, self-concepts, or family influence (Eccles, 2011; Hardie, 2015; Polavieja & Platt, 2014). More recent studies, however, also focus on contextual influences on GTOO, such as peer or teacher influences in the school context (Hadjar & Aeschlimann, 2015; Legewie & DiPrete, 2014; Siembab & Wicht, 2020) or the influence of local labor markets (Flohr et al., 2020; Malin & Jacob, 2018).

Young immigrants are a highly interesting case for exploring GTOO from a contextual perspective. Their gender-specific socialization processes are embedded in the multiple contexts of their country of origin and their host society. As the gendered connotation of occupations is culture-specific (Hofstede, 2001), young immigrants' "frames of reference" (Hodkinson & Sparkes, 1997) about men's and women's careers may be shaped by different, and possibly even inconsistent, ideas about gender. This is important from a policy perspective because, on the one hand, multiculturalism and resulting differences in career choices can drive change in gender-segregated labor markets. On the other hand, if gender is an important hiring characteristic, atypical career choices can also lead to difficulties in accessing training and work. However, little is known about how gender and migration intersect in explaining occupational orientations (for exceptions regarding the US context see Baird, 2012; Hardie, 2015).

We aim to highlight the relevance of youths' sociocultural embeddedness in specific contexts when investigating the GTOO of immigrants compared to native youths in Germany. We address two central questions: (a) Do immigrants from certain countries of origin have different GTOO than native Germans? If so, (b) do these differences persist or diminish across immigrant generations due to acculturation? For this purpose, we use cross-sectional data on 10,264 ninth-graders from the German National Educational Panel Study (NEPS), which allows us to analyze theoretically distinct dimensions of GTOO. Moreover, the NEPS allows for nuanced analyses of differences between native Germans and immigrants by country of origin and immigrant generation (Olczyk et al., 2016).

2. Country Context

In Germany, around 20% of the total population had a migration background in 2010—this share had risen to roughly 25% by 2020. This includes all persons who were either not born with German citizenship themselves or who have at least one parent who was not born with German citizenship (German Federal Statistical Office, 2017, 2022). Until 2010, when the data on which our analyses are based were collected, migration in Germany was characterized by two main groups that differed in terms of integration and motivation.

One large group is the so-called guest workers, made up mainly of Turks who came to Germany with their families beginning in the 1960s, primarily to improve their economic situation. This is a negatively selected group in terms of this population's educational and economic resources and thus its integration into the German labor market, but a positively selected group in terms of its higher educational and occupational aspirations compared to native Germans (Salikutluk, 2016; Wicht, 2016). Another large group is the (late) repatriates. These are German minorities in the former Soviet Union (FSU) or Eastern Europe, especially Poland, who were able to resettle in Germany due to special regulations. Despite their comparatively high level of education, this group also must contend with problems in the education system and the labor market (Haberfeld et al., 2011; Kogan, 2011).

Since members of these ethnic groups immigrated to Germany at different times, it is important to consider their generational status, i.e., whether the respondents themselves were born abroad (first generation), their parents (second generation), or their grandparents (third generation; see Olczyk et al., 2016). FSU immigrants interviewed in the NEPS in 2010 are mostly first- or second-generation immigrants, while Turkish respondents belong mainly to the second generation, and Polish respondents to the third generation (for details on our operationalization of ethnic origin see Section 4.2). The NEPS data does not include information on migrants from recent refugee movements.

3. Theoretical Considerations

3.1. On the Concept of Occupational Orientation

Social psychology provides a multitude of concepts related to individual occupational orientation in general and GTOO in particular, including individual expectations and aspirations (Gottfredson, 2002; Sewell et al., 1969). Occupational expectations reflect anticipated career choices; they express an individual's beliefs about what they can reasonably expect to achieve considering their opportunity structure (resources and external circumstances). In contrast, aspirations are seen as giving expression to people's desires and wishes, which are detached from perceived opportunities proximal to career choice (Gottfredson, 2002; Rojewski, 2005). While related to different aspects of an individual's agency in career development, expectations and aspirations are closely linked to the individual's socially embedded learning experiences in childhood and adolescence (Lent et al., 1994; Sewell et al., 1969). In short, aspirations are assumed to arise from socialization processes; expectations additionally result from information about and perceptions of accessibility and structural barriers.

3.2. Theoretical Model of the Formation of GTOO Within Social Contexts

Gender—along with prestige—is considered a key driver of occupational orientation. Gottfredson's (2002) theory of circumscription, compromise, and self-creation states that the gender-typing of aspirations arises from socialization during the process of circumscription by way of internalizing the gender roles provided by the social contexts in which individuals find themselves. Exposure to the articulated and tacit expectations of significant others (see also Sewell et al., 1969, which focuses on status transmission processes) leads individuals to develop

gender-driven perceptions of themselves and the social world and, as a result, to narrow their range of desired occupations (i.e., occupational aspirations). In the process of compromise, which is more proximal to career choice, perceived opportunity structures come into the equation. From the already limited pool of aspired-to occupations, individuals exclude those they perceive to be difficult or impossible to achieve and adapt to goals they deem more achievable. That is, individuals gradually develop an idea of what to expect (i.e., occupational expectations; see Gottfredson, 2002).

3.3. Country-Specific Differences in GTOO

Societies differ significantly in their ideas about which occupations are considered more feminine or more masculine (Hofstede, 2001): In Russia, for example, most medical doctors are women, whereas in European countries this occupation is rather mixed (Ramakrishnan et al., 2014). Moreover, whether someone prefers a more gender-typical occupation or one that is more gender-atypical depends strongly on culture-specific socialization processes (Xie & Shauman, 1997). For the US context, studies find for example that African-Americans and Hispanics aspire to more gender-atypical occupations than do White youth (Baird, 2012; Hardie, 2015). Further evidence can be drawn from studies on gender-role attitudes among immigrants in Europe, according to which certain immigrants exhibit considerably different (mostly more traditional) value orientations compared to natives (Kretschmer, 2018; Röder & Mühlau, 2014).

The theory of segmented assimilation (Portes & Rumbaut, 2001) points to the role of contrasts between the socio-structural characteristics of the host society and specific countries of origin in understanding differences in immigrant acculturation processes. From this point of view, differences in GTOO between immigrant and native youth are not expected to be equal across immigrant groups but may depend on the specific contextual factors of the countries of origin (Heinz, 2009; Schoon & Lyons-Amos, 2016). Such discrepancies were found regarding educational orientations (McElvany et al., 2018; Salikutluk, 2016) and the socioeconomic status (SES) of occupations (Jonsson & Rudolphi, 2011; Wicht, 2016).

The main contextual factors are the sociostructural characteristics of the labor market in the countries of origin, including horizontal segregation and female labor force participation. Following Xie and Shauman (1997), adolescents' GTOO may reflect the actual distribution of men and women in the adult labor force through same-sex role models (Leuze & Helbig, 2015) relevant to aspirations or perceived structural barriers (Lent et al., 1994) relevant to expectations. Hence, we expect immigrants from countries with lower horizontal gender segregation than Germany to show less GTOO than native Germans. For countries with more horizontal gender segregation than Germany, the direction of the relationship is unclear because the occupations underlying gender segregation may differ.

We thus pose that the aspirations (H1a) and expectations (H1b) of immigrants from countries with lower horizontal gender segregation of the labor market (compared to Germany) are less gender-typical than those of native Germans.

Moreover, female labor force participation in the country of origin is assumed to be relevant for differences in GTOO between immigrant and native youth. In countries of origin with low female labor force participation, certain male-dominated occupations may typically be held by women in Germany. This is likely to be particularly relevant to the differences in GTOO between immigrant and native German boys. While boys from such countries of origin are likely to have more diverse same-sex role models and perceive fewer barriers based on gender, girls may lack same-sex role models in their country of origin.

We then pose that the expected differences in GTOO are more pronounced for boys from countries with lower female labor force participation (compared to Germany) than for girls (H1c).

Table 1 provides an overview of the country-specific sociostructural characteristics of Germany and the largest migrant groups there. Of the countries considered, Germany has the highest occupational gender segregation, as measured by the standardized dissimilarity index (39.9%), and a relatively balanced labor force participation of women (52.8%). In terms of these two measures, the strongest contrast is between Germany and Turkey. Therefore, we expect the largest difference in GTOO between boys from Turkey and native Germans and the smallest difference in GTOO between girls from Turkey and natives, as Turkish girls tend to lack same-sex role models in their country of origin. The characteristics of Poland and the FSU states are

Table 1. Gender-related labor market characteristics by country of origin.

		FSU			
	GER	KAZ	RUS	POL	TUR
Labor force participation rate of women [(a)]	52.8	65.4	55.9	48.3	27
Standardized Dissimilarity Index [(b)]	39.9	32.2	35.6	32.9	30.7

Notes: (a) data from 2010; (b) own calculations based on data from 2011, except Russia from 2016 (occupations classified according to ISCO-08 (for details see Busch, 2013, pp. 116–132). Source: International Labour Organization (2020a, 2020b).

more heterogeneous and partly comparable to those of Germany. However, the difference in the dissimilarity index between Germany and Kazakhstan is striking. Therefore, we expect larger differences in GTOO between immigrant youth from Kazakhstan and native German youth for both genders.

3.4. Decreasing Differences in GTOO With Immigrant Generation

As immigrants often stay in the host society for several generations, assimilation processes may emerge that entail diminishing cultural and social differences with the autochthonous majority society (Alba & Nee, 2003). Acculturation is a central component of assimilation: Immigrants adopt behaviors and cultural values of the host society over time and across immigrant generations (Gans, 2007), including GTOO. In this regard, Röder and Mühlau (2014) point to acculturation processes in gender role attitudes.

The role of acculturation in immigrant GTOO might be twofold: First, immigrants who initially lack information about the opportunity structures of the host country (paucity of information; see Kao & Tienda, 1998) may acquire or correct relevant knowledge over time. This might entail a compromise between their initial GTOO and the demands of the labor market, leading to an adjustment of expectations. Second, unlike first-generation immigrants, second- and third-generation immigrant youths may have internalized the social norms and values of the host society more strongly by being exposed to them over time. For them, the circumscription process of excluding unacceptable occupational alternatives might therefore be more influenced by the social structures of the host society, leading to shrinking differences between the gender-typical aspirations of immigrant and native youths.

Thus we pose that the differences in aspirations (H2a) and expectations (H2b) between immigrants and native Germans diminish across immigrant generations.

4. Data and Methods

4.1. Sample

We use representative data from the NEPS, which provides information on 22,467 German ninth-graders (Blossfeld & Roßbach, 2019; NEPS Network, 2019a, 2019b). We rely on two starting cohorts (SC) of the NEPS: SC3 "Paths Through Lower Secondary School" (N = 7,228) and SC4 "School and Vocational Training" (N = 15,239). Due to a different survey design and missing values in key independent variables, students who attended special-needs, elementary, or orientation stage schools were excluded.

The surveys were carried out in the classroom via paper and pencil interviews, starting in 2010. In our study, we primarily used data from the 5th wave of SC3 in 2014 and the second wave of SC4 in 2011, which we combined into one cross-sectional dataset. At this time, students were at the end of ninth grade, where some of them—especially those at lower secondary schools (*Hauptschule*)—were about to leave the general school system. In addition, we made use of data from prior waves to fill in missing information on relevant sociodemographics.

Complete information on all variables used in our analyses is available for 6,184 students. 7,525 students had missing values in at least one of the variables on occupational orientation (aspirations or expectations). Analyses of missing values show a systematic correlation with the school type students attends. Students at upper secondary schools (*Gymnasium*), whose transition to training often takes place after graduating in the 13th grade, three years later than students attending lower tracks, are less likely to provide information on their occupational orientation. We control for school type to avoid a systematic bias of the results due to that missing pattern. Other cases have missing values in control variables, especially the gender-typing of parental occupations.

We applied multiple imputations to deal with missing values in the control variables (Little & Rubin, 2002). Since under some circumstances imputed values of the dependent variable may add noise to the estimates of the analysis model (von Hippel, 2007), we excluded cases with missing information in those variables (N = 7,525). Also, we excluded students with missing information in our focal independent variables measuring immigrant generation and country of origin (N = 115). We used sequential imputation by chained equations to create 20 datasets. The imputation model encompasses all variables of our analyses models as well as auxiliary variables, including school type, gender, vocational interests, numeracy and literacy skills, and type of SC. The analysis sample comprises 4,868 male and 5,396 female students.

4.2. Measures

We use expectations and aspirations as measures of students' *occupational orientation*. Expectations were measured with the open-ended question: "Consider everything you know right now. What will probably be your occupation in the future?" (NEPS, 2013a, p. 129). Aspirations were measured with the open-ended question: "Imagine you had all opportunities to become what you want. What would be your ideal occupation?" (NEPS, 2013a, p. 128). The occupations mentioned by students are coded by NEPS according to the five-digit classification of occupations (KldB 2010, see German Federal Employment Agency, 2015), which allows us to merge occupation-related characteristics. We use the proportion of people in the occupation of the same sex as the respondent, as determined in the 2011 census, to map the gender-typing of occupational expectations

and aspirations (German Federal Statistical Office, 2014). Values range from .000 to .996.

We use immigrants' generation status and country of origin as measures of *ethnic origin*. The variables are based on information about students' country of birth, that of their parents, and that of their grandparents (for details see Olczyk et al., 2016). If respondents, their parents, and grandparents were born in Germany, they were classified as natives. We distinguished between immigrants from Turkey, the FSU, and Poland. Another group is made up of immigrants from other countries, which had to be pooled due to insufficient case numbers. As for immigrants' generation status, respondents who were born abroad belong to the first immigrant generation. Those born in Germany with at least one parent born abroad belong to the second generation. If respondents and their parents were born in Germany and at least one grandparent was born abroad, respondents are considered third-generation immigrants. Due to an insufficient number of observations, we were not able to consider a combination of the country of origin and immigrant generation in a single variable.

We use the grade point average in math and German to measure *academic achievement*. The information is based on student responses to questions concerning their last mid-year report card. Values range from 1 (*best grade*) to 6 (*worst grade*).

The variable *school type* is based on information about the sampling procedure that explicitly accounted for stratification by school type. In Germany, *Gymnasium* is the highest school type, offering the opportunity to obtain a university entrance certificate. Among the school types below *Gymnasium*, many *Länder* distinguish between *Hauptschule* (lowest level) and *Realschule* (intermediate level), whereas other *Länder* combine these two types (schools with several courses of education). Finally, some *Länder* offer comprehensive schools, where the qualification students can obtain depends on how well they do during their course of education.

To depict the *sociocultural familial background* of the respondents, we use three variables: The first one is the number of books available in the household as a measure of cultural capital (Sieben & Lechner, 2019). This variable is based on student assessments supported in the questionnaire by a visual illustration (NEPS, 2013a, pp. 64–65, 2013b, p. 29). The scale ranges from 1 (*none* or *only very few books*) to 6 (*enough to fill shelf units*). The second variable is parental SES as measured by the highest ISEI (Ganzeboom et al., 1992) of parental occupations. Values range here from 11.56 to 88.96. The third variable is the gender-typing of maternal and paternal occupations. This variable is measured by the same-sex share of persons in the respective parent's occupation, as determined in the 2011 census. Values range from .002 to .997.

Finally, we use a binary indicator to distinguish the SC3 *subsample* from that of SC4. This information is available in the survey design of the NEPS.

Table 2 shows the descriptive statistics for all variables used in our analyses as well as information on the survey instruments, scales, and coding.

Table 2. Descriptive statistics (non-imputed values).

	Males			Females		
	x̄/%	SD	N	x̄/%	SD	N
Gender-typical expectations	.71	.26	5,476	.65	.24	5,983
Gender-typical aspirations	.73	.23	5,476	.58	.24	5,983
Migration background (ref. natives)	.67	.47	3,654	.63	.48	3,772
1st generation	.05	.23	301	.05	.22	303
2nd generation	.18	.38	972	.21	.40	1,225
3rd generation	.10	.30	549	.11	.32	683
Country of origin (ref. Germans)	.67	.47	3,653	.63	.48	3,771
POL	.05	.22	275	.05	.23	321
FSU	.05	.22	266	.05	.23	320
TUR	.05	.22	277	.06	.23	348
Other	.18	.39	1,005	.20	.40	1,223
Grades (math & German)	2.91	.74	5,180	2.83	.77	5,744
School type (ref. *Gymnasium*)	.32	.47	1,773	.38	.49	2,292
Comprehensive school	.10	.30	536	.10	.30	596
Realschule (secondary school)	.25	.43	1,379	.23	.42	1,349
School with several courses of education	.09	.28	479	.09	.29	553
Hauptschule (lower secondary school)	.24	.43	1,309	.20	.40	1,193
No. of books in household	3.77	1.52	5,176	3.91	1.47	5,690
Highest parental ISEI	52.59	20.29	4,210	52.15	20.34	4,701
Mother's occupation (female share)	.71	.23	3,728	.72	.23	4,200
Father's occupation (male share)	.75	.24	3,604	.75	.24	3,938
SC3 (ref. SC4)	.28	.45	5,476	.28	.45	5,983

4.3. Analytic Strategy

We ran gender-separated models based on both the country of origin and immigrant generation to examine the presumed differences in GTOO between immigrant and native youths. We follow a stepwise approach and present models for occupational expectations and aspirations as well as models for expectations while controlling for aspirations. This enables us to distinguish information-driven from socialization-driven differences in GTOO between immigrant and native youths.

To account for the clustering of students within schools, we used linear random intercept models (Rabe-Hesketh & Skrondal, 2012). In all models, we included school type, grades in math and German, cultural capital, highest parental SES, and gender-typing of maternal and paternal occupation as covariates to rule out the possibility that GTOO differences between immigrant and native students are partly due to differences in these variables.

5. Results

5.1. Descriptive Results

We start with a descriptive look at the differences in GTOO between native and immigrant youth. Table 3 shows, by gender and migration, the means and standard deviations of gender-typical expectations and aspirations, the top three occupations named as expectations and aspirations (top 3 occupations), and the share of students covering the most popular ten occupations as a measure of the concentration of expected and aspired occupations (% top 10).

Without controlling for other characteristics, the mean differences in GTOO between native Germans and immigrants from certain countries of origin are small for both genders, varying by two percentage points. Among boys, however, there are substantial differences between native Germans and immigrant generations. There is also a stronger concentration of occupations among Turkish students than among native Germans for both genders.

A look at the top three occupations reveals interesting findings. For example, many Turkish and FSU males and first-generation male immigrants expect to become bankers, which is a mixed occupation in Germany, given the 30–70 classification of the gender segregation of occupations (e.g., Polavieja & Platt, 2014), but that tends to have a higher share of women (62%), according to the 2011 census (German Federal Statistical Office, 2014). Among the top three expected occupations of first-generation male immigrants are also female-dominated retail sales occupations (72% women). For females from Turkey, medical doctor, a very balanced occupation (51% women), is one of the top three expected occupations. Females from Turkey and the FSU also aspire to become lawyers, which is a mixed occupation but tends to be male-dominated (34% women).

5.2. Multivariate Results

In our multivariate analyses, we first consider differences in GTOO by country of origin. Figure 1 shows the results for both male and female students (see Table A1 in the Supplementary File for the full regression results).

For males, the expectations and aspirations of students from the FSU and Turkey are statistically significantly less gender-typical than those of native Germans; for students originating from Poland, the difference was less significant, though here too aspirations were less gender-typical compared to those of natives. The differences in expectations between immigrants and native Germans diminish substantially after controlling for aspirations and remain only to a small extent for students from Turkey, indicating that differences in the gender-typing of the ethnic groups can be attributed to differences in aspirations.

Concerning females, our results only suggest differences in the GTOO between students from Turkey and native Germans, with more pronounced associations in the expectations compared to aspirations. Differences in expectations become statistically insignificant after controlling for aspirations. Females from Turkey aspire to occupations with a 7-percentage point lower share of women and thus tend to aspire to less gender-typical occupations. However, considering the estimated intercept of .54, they still on average aspire to mixed occupations.

We found the most pronounced differences in point estimates between students from Germany and Turkey, the country with the lowest gender segregation as measured by the dissimilarity index (H1a and H1b). After introducing gender-typical aspirations into the models explaining expectations, our results suggest that differences in expectations are due to differences in aspirations (H1a), i.e., they are driven by country-specific differences in socialization rather than differences in labor market information (H1b). Considering the overlapping confidence intervals for the groups of origin, differences between immigrant groups are not statistically significant. Our results also indicate differences in the associations examined between the female and male samples, as we found no differences between FSU and native German females, unlike for the male sample. However, contrary to our hypotheses (H1c), the differences in GTOO between Turkish and German students are quite similar for males and females.

Next, we look at differences in GTOO between native German and immigrant youths of different immigrant generations. Figure 2 shows the results for both male and female students (see Table A2 in the Supplementary File for the full regression results).

Again, our results indicate substantial differences in the associations between GTOO and immigrant generation by gender. While immigrants in the male sample show less gender-typical aspirations and expectations across all immigrant generations than do native Germans,

Table 3. Descriptive statistics of GTOO by ethnic origin and gender (non-imputed values).

	Males			Females		
	x̄	SD	% Top 10	x̄	SD	% Top 10
Expectations						
Natives	.72	.26	30%	.64	.24	38%
Top 3 occupations	automotive technician (5%), police officer (4%), mechatronics engineer (3%)			childcare worker (8%), teacher (6%), office clerk and secretary (4%)		
Poland	.71	.27	31%	.66	.23	42%
Top 3 occupations	woodworker, furniture-maker (4%), automotive technician (4%), mechanical engineer (3%)			childcare worker (9%), teacher (6%), retail salesperson (5%)		
Former Soviet Union	.71	.26	35%	.67	.22	45%
Top 3 occupations	automotive technician (5%), banker (5%), mechanical engineer (4%)			office clerk and secretary (6%), teacher (6%), banker (6%)		
Turkey	.70	.28	50%	.67	.24	55%
Top 3 occupations	automotive technician (9%), banker (8%), police officer (8%)			retail salesperson (8%), medical doctor (8%), childcare worker (6%)		
1st generation immigrants	.66	.28	38%	.68	.23	43%
Top 3 occupations	banker (6%), retail salesperson (5%), automotive technician (5%)			banker (6%), office clerk and secretary (6%), nursing (6%)		
2nd generation immigrants	.69	.27	33%	.66	.23	46%
Top 3 occupations	automotive technician (5%), banker (5%), police officer (4%)			retail salesperson (7%), childcare worker (7%), teacher (5%)		
3rd generation immigrants	.69	.26	28%	.65	.23	41%
Top 3 occupations	automotive technician (5%), teacher (4%), police officer (4%)			childcare worker (8%), teacher (8%), office clerk and secretary (5%)		
Aspirations						
Natives	.74	.23	35%	.58	.24	35%
Top 3 occupations	athlete (8%), pilot (5%), managing director (4%)			medical doctor (6%), childcare worker (6%), teacher (4%)		
Poland	.72	.22	34%	.58	.23	34%
Top 3 occupations	athlete (7%), architect (4%), pilot (4%)			medical doctor (5%), childcare worker (5%), clinical psychologist (4%)		
Former Soviet Union	.72	.22	35%	.58	.23	40%
Top 3 occupations	athlete (7%), lawyer (5%), pilot (4%)			medical doctor (7%), lawyer (5%), banker (5%)		
Turkey	.73	.22	60%	.57	.23	50%
Top 3 occupations	athlete (12%), pilot (11%), police officer (9%)			medical doctor (13%), lawyer (6%), teacher (5%)		
1st generation immigrants	.69	.24	44%	.59	.23	40%
Top 3 occupations	athlete (10%), pilot (5%), actor (5%)			medical doctor (8%), banker (5%), lawyer (5%)		
2nd generation immigrants	.72	.22	42%	.56	.24	39%
Top 3 occupations	athlete (10%), pilot (7%), managing director (4%)			medical doctor (8%), lawyer (5%), childcare worker (5%)		
3rd generation immigrants	.70	.23	35%	.58	.24	34%
Top 3 occupations	athlete (8%), pilot (5%), medical doctor (4%)			childcare worker (5%), medical doctor (4%), clinical psychologist (4%)		

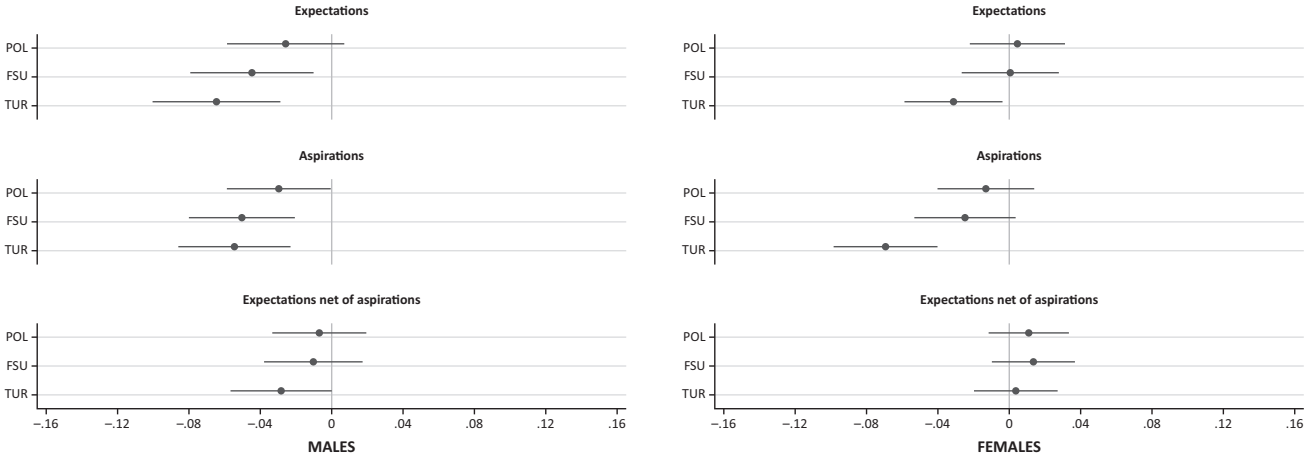

Figure 1. Differences in GTOO by country of origin (ref. Germans) for the male and female samples. Notes: Linear random intercept models; 95% confidence interval; N(males) = 4,868; N(females) = 5,396; N(schools-males) = 608; N(schools-females) = 610. Higher values of GTOO refer to a higher same-sex share in respective occupations. Controls: school type, grades in math and German, cultural capital, highest parental SES, gender-typing of parental' occupations. Intercepts (males): expectations .63, aspirations .73, and expectations net of aspirations .13; intercepts (females): expectations .57, aspirations .54, and expectations net of aspirations .28.

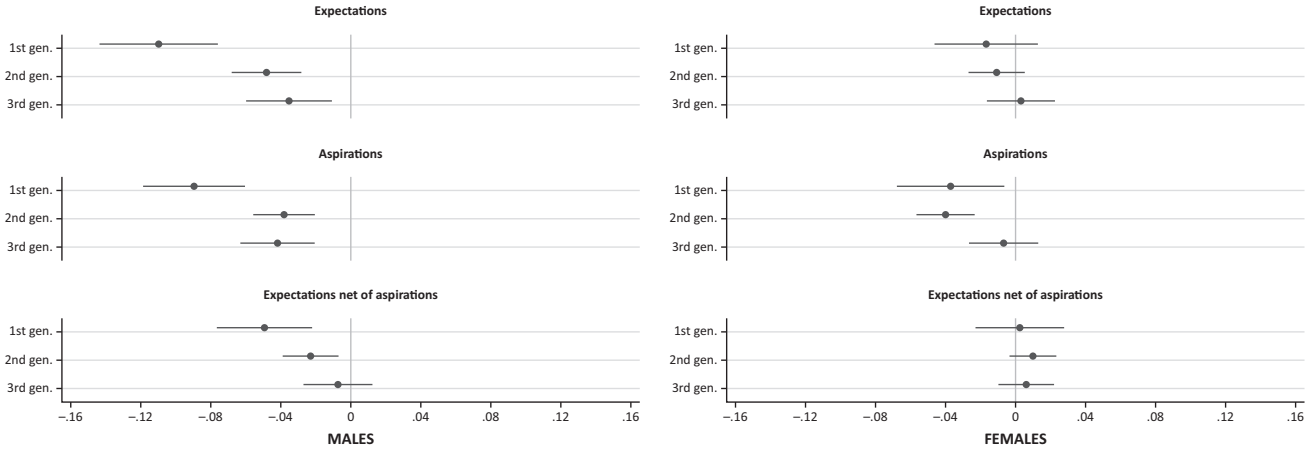

Figure 2. Differences in GTOO by immigrant generation (ref. Germans) for the male and female samples. Notes: Intercepts (males): expectations .63, aspirations .73, and expectations net of aspirations .13; intercepts (females): expectations .56, aspirations .54, and expectations net of aspirations .28. Other notes from Figure 1 also apply here.

only immigrants of the first two generations in the female sample show less gender-typical aspirations than native Germans. Also, the less gender-typical aspirations are more pronounced for males than for females. For males, first-generation immigrants on average aspire to occupations with a 9-percentage point lower share of men and expect to obtain occupations with an 11-percentage point lower share of men than do native Germans. Given the intercepts of .63 (expectations) and .73 (aspirations), first-generation immigrant males still aspire to and expect occupations that are classified as mixed.

Concerning our hypotheses 2a and 2b, our results for males indicate shrinking differences in aspirations and expectations between immigrants and natives across immigrant generations. For women, the models do not suggest a statistically significant decline in differences between immigrant generations. By introducing gender-typical aspirations to the models explaining expectations, we aimed to shed light on why differences in GTOO between natives and immigrants decrease with the immigrant generation: They may decrease due to socialization processes (decreasing aspirations) and/or due to information gains concerning the structural properties of the host society's labor market (decreasing expectations when aspirations are controlled). In line with H2b, after controlling for aspirations in the model predicting expectations, our results still show differences in expectations between immigrants and native Germans for males. However, compared to the model explaining expectations without considering aspirations, the

estimates decrease by about half and become statistically insignificant for third-generation immigrants compared to natives, supporting H2a.

6. Discussion

6.1. Summary

We illuminated the role of the intersection between gender and migration in explaining the occupational orientations of youths. Using data on ninth-graders from the NEPS, we investigated differences between gender-typical occupational aspirations and expectations of immigrant and German youths. First, we found origin-specific differences in GTOO: A descriptive look at the most frequent occupational aspirations and expectations shows that, compared to native Germans, immigrant youths more often mention occupations that can be considered mixed or less gender-typical in the German context. Moreover, our multivariate models reveal that especially immigrant boys expect and aspire to occupations with a lower same-sex share than German boys; differences between girls were not statistically significant. Our results support previous research that has found origin-specific differences regarding both GTOO (Baird, 2012; Hardie, 2015) and the social status of aspired occupations (e.g., Wicht, 2016). In line with segmented assimilation theory (Portes & Rumbaut, 2001), the differences in GTOO between immigrant and native youth apply only to certain origin groups: Turkish males and females as well as males from the FSU. Most notably, only females from Turkey, the country with the most pronounced contrast to the German context, differ in their GTOO from native females (the differences in GTOO between groups of origin in the male sample are not statistically significant). This could be due to a lack of same-sex role models (Xie & Shauman, 1997), causing females to tend to be oriented towards native German males.

Second, the differences between the GTOO of immigrant and native youth are subject to processes of acculturation, as the differences between immigrant and native expectations shrink with immigrant generation and substantially alter after controlling for aspirations. This speaks for socialization processes in the host society, i.e., the internalization of the social structures of the host society, rather than for an increase in information about the host society's labor market with immigrant generation. These results also support previous studies finding declining differences in gender ideology between immigrants and natives across immigrant generations (e.g., Röder & Mühlau, 2014). Our findings suggesting assimilation processes are also consistent with studies showing that there is a disproportionate percentage of foreign as compared to German apprentices in highly gender-segregated occupations such as hairdresser, medical assistant, retailer, and car mechanic (Siegert, 2009). This could be due to assimilation processes driven by the labor or training market.

6.2. Limitations

Some methodological limitations of our study need to be considered. First, due to an insufficient number of cases, we were unable to analyze the relationship between GTOO and the joint importance of country of origin and immigrant generation. Second, due to limited data, we use country of origin as a container for various structural differences and could not directly examine the relationship between country-specific structural properties and GTOO. Third, we do not consider cultural differences across countries of origin, such as norms and values regarding gender-typical career choices, as no such data are available. Finally, as the data used are cross-sectional, our results can only be interpreted correlatively and not causally.

7. Conclusion

Our results support the assumption that the gender-typing of occupations is culturally determined (Hofstede, 2001). Thus, the GTOO of immigrant youths are influenced by multiple cultural contexts: They come with a "frame of reference" shaped by their country of origin or that of their families, which they later adapt by internalizing the social structures and value orientations of the host society.

This acculturation process can have different implications for immigrants and their integration into the training market. On the one hand, by adapting to the GTOO of autochthones, immigrants may better meet the demands of the labor market and potentially increase their chances of a smooth transition into the training market. On the other hand, their adaptation may involve compromises associated with adverse consequences, such as lower well-being (Hardie, 2014) or dropping out of training (Beckmann et al., 2021). Future research is needed to investigate the consequences of acculturation processes in immigrant GTOO for both the well-being of immigrants as well as their labor market integration.

Moreover, another outstanding research question is the extent to which origin-specific differences in GTOO are related to other dimensions of occupational orientations, such as social status. For example, immigrants often have higher educational orientations (e.g., Salikutluk, 2016) and aspire to higher status occupations (Wicht, 2016) that are considered less gender-segregated (Busch, 2013; Siembab & Wicht, 2020). A task for future research would therefore be to examine whether this tendency toward more gender-atypical occupations is attributable to the level of SES of immigrants' occupational orientations.

From a macro perspective, gender-atypical career plans may have the long-term potential to reduce persistent gender segregation and gender inequalities in the labor market that result from occupational choices. With this in mind, it might be useful to take measures that encourage young immigrants to maintain their

gender-atypical career plans rather than "accepting" possible compromises. However, this also requires a training and labor market that is amenable to gender-atypical career choices.

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Conflict of Interests

The authors declare no conflict of interest.

Supplementary material

Supplementary material for this article is available online in the format provided by the author (unedited). The syntax for replicating the analyses reported here can be found at https://doi.org/10.7802/2392.

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