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Angelina Springer

MEASURING IDENTITY
AND ACCULTURATION
IN THE NATIONAL
EDUCATIONAL PANEL
STUDY (NEPS)

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Measuring Identity and Acculturation in the National Educational Panel Study (NEPS)

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Abstract

This survey paper discusses the identity and acculturation measurement instruments implemented in the National Educational Panel study (NEPS), which are based on the Multigroup Ethnic Identity Measure (MEIM) and the Vancouver Index of Acculturation (VIA). The paper provides an overview of the theoretical considerations underlying their construction in the context of research on immigrants' identity and acculturation. Moreover, the implementation of these instruments in the NEPS is described and findings on distributions and construct quality are provided.

Keywords

national identity, ethnic identity, acculturation

1. Introduction

The interest in immigrants' and their descendants' national and ethnic identity has increased in the past decade. Still, most German longitudinal studies (e.g., the Socio-Economic Panel [SOEP¹] and the Children of Immigrants Longitudinal Survey in Four European Countries [CILS4EU²]) measure national and ethnic identity with just one item. Other studies have implemented more detailed measurements but use them only in cross-sectional surveys (Leszczensky & Gräbs Santiago, 2014; Maehler, 2019; van Hove, 2016). Moreover, researchers have focused more on immigrants' identification with the countries of origin than on their identification with the receiving countries. This one-sided focus partly stemmed from the widely held but now outdated perception that a person can have only one identity and two identities, ethnic and national, were necessarily negatively correlated. Nowadays, a dual identity is commonly regarded as normal (Phinney & Ong, 2007). The National Educational Panel Study (NEPS, Blossfeld, Roßbach & von Maurice, 2011) offers a wide range of items to measure both national and ethnic identity in the German context and in a longitudinal perspective, thus making it possible to capture changes over time. In addition, the NEPS provides tools to measure acculturation.

While the NEPS national and ethnic identity measurement scale is an adaption of the Multigroup Ethnic Identity Measure (MEIM) (Phinney, 1992), which enables measuring ethnic identity in different cultural contexts, the acculturation scale is an adaption of the Vancouver Index of Acculturation (VIA) (Paulhus, 2013).

2. Theoretical background and measurement instruments

According to Social Identity Theory (SIT), social identity is „part of an individual's self-concept which derives from his knowledge of his membership of a social group (or groups) together with the value and emotional significance attached to that membership“ (Tajfel, 1978, p. 63). Most currently applied measures of ethnic identity are based on this notion of social identity and conceptualize a person's ethnic identity as one component of an individual's self-concept.

Phinney (1992) developed a measurement tool, the *Multigroup Ethnic Identity Measure* (MEIM), to capture the ethnic identity of various ethnic groups, covering identity aspects that are common across ethnic groups. Previous ethnic identity measures, in contrast, were only applied to specific ethnic groups (e.g., African American, Hispanics; Phinney, 1992). Accordingly, it was not possible to compare ethnic identity between different ethnic groups. By removing contents related to single groups, Phinney (1992) developed a 23-item

¹ TNS Infratest Sozialforschung. 2016. Erhebungsinstrumente des IAB-SOEP-Migrationssamples 2016: Integrierter Personen- und Biografiefragebogen (Erstbefragte 2016), Stichproben M1-M2. SOEP Survey Papers 360: Series A. Berlin: DIW/SOEP.

² Kalter, Frank; Kogan, Irena; Dollmann, Jörg (2019): Children of Immigrants Longitudinal Survey in Four European Countries - Germany (CILS4EU-DE) - Reduzierte Version. Reduzierter Datenbestand zum Download und zur off-site Nutzung. GESIS Datenarchiv, Köln. ZA6656 Datenfile Version 4.0.0, <https://doi.org/10.4232/cils4eu-de.6656.4.0.0>.

questionnaire, of which 14 items measure ethnic identity, while the rest captures other-group orientations and the ethnic group assignment. In the original instrument, Phinney (1992) identified four components of ethnic identity: (a) self-identification and ethnicity, (b) ethnic behaviors and practices, (c) affirmation and belonging, and (d) ethnic identity achievement. In a factor analysis, the 14-item measurement tool resulted in a single factor for ethnic identity (Phinney, 1992). Later, Roberts et al. (1999) identified two factors, the first being exploration (5 items capturing the effort to inform oneself about the one's ethnic group) and the second being commitment (7 items capturing feelings of belonging and commitment to a group). In 2007, Phinney and Ong revised the MEIM and reduced both scales to three items each.

Although the MEIM has become a well-established scale, it has a major drawback. The instrument was exclusively designed to capture ethnic identification (Maehler, 2019). National identity, i.e., the identification with the host country, has received less attention, because it was assumed that individuals can only be attached to one context. Accordingly, it was expected that “when ethnic identity is strong national identity is necessarily weak, and vice versa.” (Phinney, Berry, Vedder & Liebkind, 2006: p, 77). However, this notion has been challenged by acculturation scholars.

Another research branch has focused on national identification, namely acculturation studies. Acculturation refers to changes that occur through intercultural contact. This involves changes in experience, attitudes, behavior, language proficiency and use, and cultural identification. Due to the broad definition of acculturation, national and ethnic identification can be seen as components of acculturation (Phinney et al., 2006).

Earlier research assumed acculturation to be a unidimensional process, meaning that immigrants would orient themselves either to one group or to the other (Berry et al., 2006). However, in the early 1970s doubts about this view were raised (Berry, 1974). They were subsequently addressed in several studies (e.g., Ryder, Alden, & Paulhus, 2000). Over the past decades, different acculturation measures have been proposed; one measure—the *Vancouver Index of Acculturation* (VIA)—has prevailed. The VIA was developed to assess various dimensions of acculturation. While the MEIM scale focuses on “changes in oneself”, the VIA scale measures changes in attitudes and behavior. Moreover, it captures the adjustment process to the host country and the attachment to the country of origin.

3. Measuring identity and acculturation in the National Educational Panel Study

In this section, I describe the measures applied in the National Educational Panel Study (NEPS). As with many instruments in the NEPS, it is a challenge to construct them in a way that ensures comparability across ages. The *Multigroup Ethnic Identity Measure* (MEIM) and the *Vancouver Index of Acculturation* (VIA), have been adapted accordingly (by Aileen Edele and Benjamin Schulz).

Although the MEIM was originally designed to measure ethnic identity, the NEPS includes national identity measure as well. Moreover, some other adaptations to the German context had to be made. For instance, the item wording had to be changed, such that the questions referred to “people in/from Germany” (for the measure of national identity) and “people from [country of origin]” (for the measure of ethnic identity) rather than to a special ethnic group, as in the original instrument. In paper-based questionnaires (Pen-and-Paper Personal Interview [PAPI]), immigrant students were asked to indicate the countries their families originated from before answering the questions on their identification with the ethnic context. In computer-assisted interviews ((Computer Assisted Telephone Interview [CATI], Computer Assisted Personal Interview [CAPI], and Computer Assisted Web Interview [CAWI]), the country of birth of the participants (first generation) or their parents (second generation) was used as a reference for the country of origin. If only one parent was born outside of Germany, this country was used in the items; if both parents were born in different countries other than Germany, the participants had to choose the country they knew better. Due to time restrictions, only one component of the MEIM was measured: affirmation and belonging. The instrument consists of 11 items in total, 6 for national identity and 5 for ethnic identity. Most items are the same for national and ethnic identity. One item, which asks whether respondents feel part of a (certain) society, was used only for the destination context.³ The items measuring national identification were asked first, the ethnic identification items second. Moreover, in most starting cohorts (SCs) the national identity measure was applied to natives as well.

The *Vancouver Index of Acculturation* (VIA) instrument also required modifications. Four items were used to measure acculturation for the ethnic context.⁴

Table 1 presents an overview of the German adaptation of the MEIM and VIA in the NEPS. A detailed description of the items and their wording in German as well as their English translation can be found in Table 1A in the Appendix. As shown, participants were asked to rate how much they agreed with each statement. For most items, a 4-point Likert scale was used, ranging from “Strongly agree” (1) to “Strongly disagree” (4); only for two items, t428050 and t428300, a 5-point scale was used, ranging from “Very strongly” (1) to “Not at all” (5).

Moreover, the last three items in the overview, t42825a–t42825c, which refer to cultural habits, can be found both in the original MEIM, although in a different form, and in acculturation studies. I consider these items as a single component and use them for construct validation. The scales for the cultural habits items range from “Always” (1) to “Never” (5) for t42825a and t42825b and “Yes, all” (1) to “No, none” (4) for t42825c.

³ This item was not implemented in SC5.

⁴ In SC4 Wave 1 (parents) acculturation was also measured for the German context.

Table 1: Overview of the German Adaption of MEIM and VIA Items in the NEPS⁵

Variable	Item Wording	Variable	Item Wording
t428000	I feel closely connected to the people in Germany.	t428120	I feel closely connected to the people from [country of origin].
t428010	I feel uncomfortable belonging to the people in Germany.	t428130	I feel uncomfortable belonging to the people from [...].
t428030	It is important to me to be associated with the people in Germany.	t428140	It is important to me to be associated with the people from [...].
t428040	I feel very comfortable when I am with people from Germany.	t428150	I feel very comfortable when I am with people from [...].
t428060	I feel that I am part of German society.		
t428050	And to what extent do you identify yourself with people in Germany overall?	t428300	And to what extent do you identify yourself with people from [...] overall?
		t428170	I like doing things with people from [...].
		t428180	I often act in a way that is typical for people from [...].
		t428190	It is important to me to live according to the traditions of [...].
		t428210	It is important to me to have friends from [...].
		t42825a	How often do you listen to music from [...]?
		t42825b	How often do you cook according to the tradition of [...]?
		t42825c	Do you celebrate [...] holidays?

Note: In SC4 Wave 1 and 2, the wording “German origin culture” or the “culture of the country of origin” were used instead of “Germany” or “country of origin”.

⁵ Please note that the English translations in the NEPS Scientific Use Files might differ slightly from this presentation. The translation in the NEPS Scientific Use Files was not used in the actual surveys, while the version presented above is mostly based on the original items.

Table 2 presents an overview of the times of measurement of identity and acculturation in the NEPS starting cohorts. As the NEPS is designed as multi-informant study, both children/students (targets) and their parents were asked to answer these items. As can be seen in Table 2, the identity and acculturation instruments have been used with targets (children and adolescents) and their parents in three starting cohorts (SC2, SC3, SC4). Since empirical studies have shown that children undergo changes in their social identity during adolescence (Phinney & Chavira, 1992), identity and acculturation were measured starting at age twelve. In most starting cohorts, there are at least at two different measurement points. The NEPS thus captures changes in national and ethnic identity over time, but also across different ages and immigrant generations.

Table 2: Measurement Timing

Starting cohort	Wave	Year	Age/Grade	Informant	Mode
SC 1	4	2015	3 y/o	Parents	CAPI
	9	2020	9 y/o	Parents	CAPI
SC 2	6	2016	9 y/o (Grade 4)	Parents	CATI
	9	2018	12 y/o (Grade 7)	Target	PAPI/online
	9	2019	12y/o (Grade 7)	Parents	CATI
SC 3	3	2012	12 y/o (Grade 7)	Target	PAPI ⁶
	4	2013	13 y/o (Grade 8)	Target	PAPI
	4	2013	13 y/o (Grade 8)	Parents	CATI
	9	2017	17 y/o (Grade 12)	Target	PAPI (+CAWI) ⁷
	10	2018	18 y/o (Grade 13)	Target	CATI+CAWI
SC 4	1	2010	14 y/o (Grade 9)	Parents	CATI ⁸
	2	2011	15 y/o (Grade 9)	Targets	PAPI
	7	2013	17 y/o (Grade 12)	Targets	PAPI + CATI/CASI
	9	2015	19 y/o	Targets	CATI/ CASI
SC 5	2	2011	3 rd Semester	Target	CAWI
	6	2013	6 th Semester	Target	CAWI
	11	2016	Labor market	Target	CAWI
	14	2018	Labor market	Target	CAWI
SC 6	4	2011	Labor market	Target	CATI/ CAPI-Mix ⁹
	8	2015	Labor market	Target	CATI/ CAPI-Mix
	11	2019	Labor market	Target	CATI/ CAPI-Mix

Note: In the starting cohorts, in which parents were interviewed, the age refers to the age or grade of the target person.

⁶ Short version.

⁷ Measured only for students in grade 12 (PAPI and CAWI).

⁸ Only (national and ethnic) acculturation was measured.

⁹ Not measured in the refreshment sample.

4. Results

The analyses are based on NEPS data from the following Scientific Use Files:

- Starting Cohort 3, Grade 5: 10.5157/NEPS:SC3:10.0.0
- Starting Cohort 4, Grade 9: 10.5157/NEPS:SC4:11.0.0
- Starting Cohort 5, First-Year Students: 10.5157/NEPS:SC5:14.0.0
- Starting Cohort 6, Adults: 10.5157/NEPS:SC6:11.0.0

From 2008 to 2013, NEPS data was collected as part of the Framework Program for the Promotion of Empirical Educational Research funded by the German Federal Ministry of Education and Research (BMBF). As of 2014, NEPS has been carried out by the Leibniz Institute for Educational Trajectories (LifBi) at the University of Bamberg in cooperation with a nationwide network.

In the following, I first present descriptive analyses. For the sake of brevity, I focus on the target persons only. In the subsequent section, I present quality measures for the MEIM and the VAT instruments. These include reliability analyses, factor analyses, measurement invariance testing, and construct validity.

4.1 Descriptive analysis

For the presentation of the distributions, I focus on target persons of immigrant origin (i.e., the first and second generation; (Olczyk et al. 2016)¹⁰). This approach allows for contrasting national identity with ethnic identity. In the section on measurement invariance, I consider the three largest ethnic groups in Germany and compare them to native-born ethnic majority members. I recoded the answer scales in ascending order, from “Strongly disagree” (1) to “Strongly agree” (4) and from “Very strongly” (1) to “Not at all” (5).

Table 3 presents the means, standard deviations, skewness, and kurtosis of the MEIM and VIA items for all starting cohorts. In all starting cohorts, the target persons exhibit higher values on national identity than on ethnic identity items. A closer inspection of the single items reveals that two items have lower mean values compared to the other items: the two negatively worded items, t428010 and t428130. Apart from these two items, none of the other items has a substantially skewed distribution. Some items are skewed to the left or to the right only in some starting cohorts. The same patterns are visible for the kurtosis. Some items (t428040, t428020) deviate more than others from the normal distribution, but only in some starting cohorts. In particular, the negatively worded items—t428010 and t428130—show high values in the adult cohort (SC6).

¹⁰ The generation status is based on variable t400500_g1v1 (Olczyk et al. 2016).

Table 3: Descriptive Statistics for Identity and Acculturation Items

		SC3 W3	SC3 W4	SC3 W9	SC3 W10	SC4 W7	SC4 W9	SC5 W2	SC5 W6	SC5 W11	SC6 W4	SC6 W8
I feel closely connected to the people in Germany.	Variable	t428000	t428000	t428000	t428000	t428000	t428000	t428000	t428000	t428000	t428000	t428000
	Mean	3.06	2.82	2.92	3.14	3.03	3.10	2.89	2.85	3.08	3.3	3.45
	SD	0.77	0.75	0.74	0.65	0.68	0.67	0.68	0.70	0.72	0.69	0.68
	Skewness	-0.61	-0.34	-0.36	-0.41	-0.4	-0.37	-0.32	-0.48	-0.49	-0.71	-1.11
	Kurtosis	3.18	2.93	2.96	3.33	3.27	3.09	3.21	3.43	3.10	3.26	4.06
	N	1416	1,456	585	812	2,824	2,069	2,365	2,022	828	1,550	1,509
I feel uncomfortable belonging to the people in Germany.	Variable	t428010	t428010	t428010	t428010	t428010	t428010	t428010	t428010	t428010	t428010	t428010
	Mean	1.6	1.62	1.64	1.38	1.41	1.39	1.51	1.56	1.55	1.33	1.36
	SD	0.79	0.75	0.67	0.59	0.63	0.58	0.65	0.66	0.68	0.62	0.69
	Skewness	1.19	1.02	0.77	1.42	1.49	1.33	1.11	0.98	1.02	2.09	2.19
	Kurtosis	3.69	3.50	3.35	4.66	5.03	4.45	3.91	3.68	3.47	7.64	7.69
	N	1409	1,459	584	811	2,854	2,069	2,361	2,017	827	1,547	1,510
It is important to me to be associated with the people in Germany.	Variable	t428030	t428030	t428030	t428030	t428030	t428030	t428030	t428030	t428030	t428030	t428030
	Mean	2.97	2.72	2.69	2.9	3.05	3.04	2.74	2.62	2.68	3.26	3.35
	SD	0.86	0.86	0.85	0.87	0.81	0.79	0.86	0.86	0.96	0.82	0.8
	Skewness	-0.49	-0.25	-0.31	-0.44	-0.54	-0.51	-0.27	-0.2	-0.20	-0.94	-1.07
	Kurtosis	2.55	2.42	2.53	2.53	2.77	2.78	2.43	2.41	2.10	3.25	3.47
	N	1399	1,434	583	810	2,840	2,066	2,359	2,011	828	1,540	1,502

		SC3 W3	SC3 W4	SC3 W9	SC3 W10	SC4 W7	SC4 W9	SC5 W2	SC5 W6	SC5 W11	SC6 W4	SC6 W8
I feel very comfortable when I am with people from Germany.	Variable	t428040	t428040	t428040	t428040	t428040	t428040	t428040	t428040	t428040	t428040	t428040
	Mean	3.24	3.01	3.02	3.39	3.31	3.38	3.10	3.06	3.13	3.5	3.58
	SD	0.75	0.76	0.65	0.57	0.64	0.57	0.61	0.59	0.65	0.60	0.59
	Skewness	-0.77	-0.58	-0.40	-0.39	-0.68	-0.4	-0.36	-0.38	-0.51	-0.89	-1.34
	Kurtosis	3.21	3.24	3.61	2.97	3.81	3.00	3.84	4.21	3.70	3.43	5.09
	N	1392	1,440	575	810	2,842	2,067	2,343	2,007	827	1,538	1,497
I feel that I am part of German society.	Variable		t428060	t428060	t428060	t428060	t428060				t428020	t428020
	Mean		2.96	3.14	3.47	3.32	3.42				3.53	3.67
	SD		0.86	0.75	0.59	0.66	0.61				0.67	0.58
	Skewness		-0.55	-0.73	-0.69	-0.78	-0.70				-1.39	-1.74
	Kurtosis		2.73	3.51	2.90	3.8	3.29				4.71	5.73
	N		1,446	583	811	2,850	2,070				1,548	1,509
And to what extent do you identify yourself with people in Germany overall?	Variable	t428050	t428050	t428050	t428050	t428050	t428050	t428050	t428050	t428050	t428050	t428050
	Mean	3.77	3.48	3.72	3.78	3.68	3.82	3.69	3.67	3.77	3.89	3.95
	SD	0.93	0.85	0.84	0.71	0.76	0.73	0.84	0.8	0.88	0.78	0.75
	Skewness	-0.46	-0.33	-0.44	0.01	-0.33	-0.3	-0.28	-0.23	-0.25	-0.39	-0.39
	Kurtosis	3.09	3.33	3.43	2.54	3.56	3.28	3.05	3.05	2.58	3.26	3.18
	N	1410	1,456	588	812	2,856	2,071	2,366	2,014	827	1,549	1,509

		SC3 W3	SC3 W4	SC3 W9	SC3 W10	SC4 W7	SC4 W9	SC5 W2	SC5 W6	SC5 W11	SC6 W4	SC6 W8
I feel closely connected to the people from [country of origin].	Variable	t428120	t428120	t428120	t428120	t428120	t428120	t428120	t428120	t428120	t428120	t428120
	Mean	2.99	3.01	2.70	2.66	2.78	2.64	2.22	2.09	2.27	2.63	2.66
	SD	0.85	0.87	0.91	0.95	0.93	0.92	1.01	0.98	0.94	1.03	1.06
	Skewness	-0.59	-0.55	-0.24	-0.25	-0.33	-0.2	0.25	0.37	0.07	-0.19	-0.16
	Kurtosis	2.76	2.57	2.27	2.15	2.25	2.21	1.9	2	2	1.89	1.79
	N	1432	1,342	521	752	2,489	1,915	2,322	1,890	812	1,404	1,210
I feel uncomfortable belonging to the people from [...].	Variable	t428130	t428130	t428130	t428130	t428130	t428130	t428130	t428130	t428130	t428130	t428130
	Mean	3.54	3.5	3.44	3.67	1.44	1.43	1.47	1.53	1.53	1.46	1.42
	SD	0.73	0.76	0.69	0.58	0.65	0.66	0.7	0.72	0.73	0.73	0.71
	Skewness	-1.58	-1.47	-1.15	-1.74	1.42	1.63	1.49	1.34	1.33	1.69	1.85
	Kurtosis	5.04	4.56	4.16	5.70	4.71	5.64	4.88	4.52	4.37	5.54	6.29
	N	1414	1,336	518	751	2,482	1,905	2,316	1,884	812	1,384	1,183
It is important to me to be associated with people from [...].	Variable	t428140	t428140	t428140	t428140	t428140	t428140	t428140	t428140	t428140	t428140	t428140
	Mean	3.06	3.06	2.75	2.67	2.82	2.66	2.16	2.04	2.19	2.43	2.45
	SD	0.9	0.90	0.95	1.00	0.92	0.95	1.01	0.97	0.96	1.08	1.12
	Skewness	-0.63	-0.66	-0.33	-0.19	-0.37	-0.18	0.35	0.46	0.26	0.07	0.07
	Kurtosis	2.52	2.60	2.22	1.96	2.28	2.12	1.96	2.08	2.03	1.74	1.65
	N	1414	1,331	517	750	2,482	1,907	2,322	1,886	812	1,383	1,183

		SC3 W3	SC3 W4	SC3 W9	SC3 W10	SC4 W7	SC4 W9	SC5 W2	SC5 W6	SC5 W11	SC6 W4	SC6 W8
I feel very comfortable when I am with people from [...].	Variable	t428150	t428150	t428150	t428150	t428150	t428150	t428150	t428150	t428150	t428150	t428150
	Mean	3.28	3.24	3.09	3.20	3.21	3.18	2.71	2.65	2.86	2.96	3.04
	SD	0.79	0.83	0.79	0.76	0.76	0.72	0.93	0.94	0.83	0.95	0.98
	Skewness	-0.93	-0.92	-0.64	-0.76	-0.80	-0.74	-0.45	-0.42	-0.62	-0.63	-0.70
	Kurtosis	3.33	3.24	3.08	3.32	3.44	3.60	2.38	2.31	3.03	2.48	2.42
	N	1402	1,324	514	747	2,470	1,894	2,310	1,862	810	1,356	1,159
And to what extent do you identify yourself with people from [...] overall?	Variable	t428300	t428300	t428300	t428300	t428300	t428300	t428300	t428300	t428300	t428300	t428300
	Mean	3.64	3.64	3.27	3.15	3.23	3.10	2.45	2.34	2.53	2.68	2.67
	SD	1	1.07	1.1	1.08	1.04	1.08	1.27	1.23	1.12	1.29	1.22
	Skewness	-0.45	-0.52	-0.22	-0.19	-0.28	-0.19	0.32	0.43	0.19	0.13	0.10
	Kurtosis	2.95	2.66	2.42	2.45	2.62	2.47	1.94	2.05	2.16	1.94	2.01
	N	1419	1,339	517	752	2,485	1,910	2,330	1,888	811	1,406	1,196
I like doing things with people from [...].	Variable	t428170	t428170	t428170	t428170	t428170	t428170	t428170	t428170	t428170	t428170	t428170
	Mean	3.18	3.11	3.17	3.13	3.12	2.61	2.54	2.77	2.73	2.83	
	SD	0.81	0.79	0.77	0.82	0.77	0.98	0.97	0.92	1.04	1.07	
	Skewness	-0.81	-0.75	-0.74	-0.77	-0.69	-0.31	-0.25	-0.52	-0.33	-0.41	
	Kurtosis	3.2	3.33	3.24	3.16	3.26	2.09	2.06	2.51	1.93	1.9	
	N	1,333	511	746	2,454	1,886	2,287	1,855	808	1,356	1,166	

		SC3 W3	SC3 W4	SC3 W9	SC3 W10	SC4 W7	SC4 W9	SC5 W2	SC5 W6	SC5 W11	SC6 W4	SC6 W8
I often act in a way that is typical for people from [...].	Variable	t428180	t428180	t428180	t428180	t428180	t428180	t428180	t428180	t428180	t428180	t428180
	Mean	2.75	2.56	2.25	2.32	2.25	1.76	1.75	1.78	1.91	1.89	
	SD	0.93	0.96	0.93	0.96	0.94	0.89	0.87	0.86	0.98	0.99	
	Skewness	-0.31	-0.07	0.20	0.17	0.24	0.91	0.88	0.83	0.75	0.81	
	Kurtosis	2.25	2.05	2.12	2.08	2.12	2.82	2.8	2.80	2.43	2.52	
	N	1,317	509	742	2,445	1,891	2,313	1,870	809	1,368	1,169	
It is important to me to live according to the traditions of [...].	Variable	t428190	t428190	t428190	t428190	t428190	t428190	t428190	t428190	t428190	t428190	t428190
	Mean	2.65	2.48	2.19	2.35	2.27	1.75	1.71	1.81	1.79	1.77	
	SD	1.05	0.98	0.98	1.01	1	0.92	0.89	0.88	0.94	0.95	
	Skewness	-0.14	-0.02	0.37	0.18	0.23	0.92	1.03	0.78	0.95	1.03	
	Kurtosis	1.82	1.99	2.12	1.95	1.96	2.72	3.01	2.64	2.83	2.99	
	N	1,325	513	752	2,479	1,909	2,310	1,876	812	1,395	1,197	
It is important to me to have friends from [...].	Variable	t428210	t428210	t428210	t428210	t428210	t428210	t428210	t428210	t428210	t428210	t428210
	Mean	2.98	2.55	2.34	2.59	2.47	2.05	1.93	2.12	2.38	2.38	
	SD	0.98	1.01	0.95	0.98	0.94	1.03	0.99	1.05	1.10	1.14	
	Skewness	-0.6	-0.06	0.15	-0.09	0.02	0.52	0.65	0.40	0.12	0.16	
	Kurtosis	2.28	1.92	2.08	2	2.11	2.03	2.22	1.89	1.68	1.61	
	N	1,326	511	751	2,475	1,908	2,315	1,875	810	1,392	1,195	

Note: Only first- and second-generation immigrants were supposed to answer the questions about identity and acculturation. In the PAPI, however, some respondents without a migration background and from the third generation answered these question as well. Accordingly, I excluded all participants who do not belong to the first or second generation based on variable t400500_g1v1 (generation status).

4.2 Quality of measurement

4.2.1 Dimensional structure

As discussed earlier, the original ethnic identity items constituted a single factor. This was the result of the exploratory analysis by Phinney (1992). In a large study of the MEIM, Roberts et al. (1999) suggested a two-factor structure. To test the dimensions of the latent construct in the NEPS, I conducted an exploratory factor analysis, which suggests a single-dimensional model for national identity (not presented here). An additional confirmatory factor analysis (Table 4) reveals that the negatively worded item t428010 shows unsatisfactory loadings. All other factor loadings are between 0.53 and 0.85, depending on the starting cohort, which is acceptable. Note that the table does not include the values of χ^2/df , because almost all our models have higher values than the recommended value of 3 and because of χ^2 -statistics' sensitivity to sample size. Instead, I concentrate on the fit indices, which offer acceptable goodness-of-fit estimates. For instance, the Comparative Fit Index (CFI) exceeds the value of 0.90 in all starting cohorts, which is considered a good fit. The Root Mean Square Error of Approximation (RMSEA), however, is a little higher than 0.05 and therefore shows only a mediocre fit. Only in SC5 and in the last wave of SC3 the models provide a good fit.

I also ran confirmatory factor analyses for the ethnic identity measures (Table 5) and the acculturation measures (Table 6). The factor loadings range from 0.66 to 0.91 for ethnic identity (except for the negatively worded item t428130) and from 0.61 to 0.82 for acculturation. The goodness-of-fit estimates of ethnic identity offer good fit indices. In all starting cohorts, the CFI exceeds the value of 0.90 considerably. Moreover, the RMSEA either approaches the recommended value or is lower. In contrast, the acculturation model shows an unsatisfactory fit. While the CFI has acceptable values, the RMSEA values are not even close to the recommended values.

Table 4: Factor Loadings and Fit Indices for National Identity

	SC3	SC3	SC3	SC3	SC4	SC4	SC5	SC5	SC5	SC6	SC6
	W3	W4	W9	W10	W7	W9	W2	W6	W11	W4	W8
Factor loading											
I feel closely connected to the people in Germany.	.81	.67	.82	.82	.72	.78	.77	.78	.83	.78	.77
I feel uncomfortable belonging to the people in Germany.	-.53	-.51	-.50	-.36	-.49	-.43	-.47	-.48	-.54	-.35	-.34
It is important to me to be associated with the people in Germany.	.76	.7	.65	.53	.63	.61	.67	.67	.69	.61	.63
I feel very comfortable when I am with people from Germany.	.75	.72	.72	.61	.65	.58	.71	.67	.71	.63	.64
I feel that I am part of German society.		.78	.72	.66	.66	.69				.66	.67
And to what extent do you identify yourself with people in Germany overall?	.78	.77	.79	.73	.72	.73	.78	.80	.85	.74	.71
Fit indices											
CFI	.99	.97	.99	.99	.97	.96	1	1	1	.92	.95
SRMR	.02	.03	.02	.02	.03	.03	.01	.01	.01	.05	.04
RMSEA	.06	.08	.06	.05	.08	.08	.02	.03	.04	.12	.10
TLI	.98	.96	.98	.98	.95	.94	1	1	.99	.87	.92

Table 5: Factor Loading and Fit Indices for Ethnic Identity

	SC3	SC3	SC3	SC3	SC4	SC4	SC5	SC5	SC5	SC6	SC6
	W3	W4	W9	W10	W7	W9	W2	W6	W11	W4	W8
Factor loading											
I feel closely connected to the people from [country of origin].	.73	.86	.88	.85	.83	.85	.90	.91	.88	.84	.86
I feel uncomfortable belonging to the people from [...].	.44	-.43	.33	-.44	-.41	-.38	-.22	-.14	-.28	-.25	-.20
It is important to me to be associated with the people from [...].	.74	.86	.82	.82	.81	.8	.87	.88	.83	.85	.82
I feel very comfortable when I am with people from [...].	.77	.83	.76	.69	.72	.66	.75	.71	.67	.76	.71
And to what extent do you identify yourself with people from [...] overall?	.74	.78	.88	.86	.81	.85	.91	.92	.92	.84	.83
Fit indices											
CFI	.99	.99	.98	.99	.99	.98	1	1	.99	1	1
SRMR	.01	.02	.03	.02	.02	.04	.02	.02	.03	.01	.02
RMSEA	.04	.07	.11	.07	.06	.1	.05	.05	.08	.02	.04
TLI	.99	.98	.95	.98	.98	.96	.99	.99	.98	1	.99

Table 6: Factor Loadings and Fit Indices for Acculturation

	SC3	SC3	SC3	SC4	SC4	SC5	SC5	SC5	SC6	SC6
	W4	W9	W10	W7	W9	W2	W6	W11	W4	W8
Factor loadings										
I like doing things with people from [...].	.78	.67	.65	.64	.60	.73	.7	.64	.70	.61
I often act in a way that is typical for people from [...].	.67	.73	.76	.69	.75	.80	.82	.78	.82	.81
It is important to me to live according to the traditions of [...].	.64	.79	.68	.70	.76	.81	.81	.80	.80	.78
It is important to me to have friends from [...].	.71	.75	.75	.73	.71	.82	.81	.76	.77	.66
Fit indices										
CFI	.98	.99	.99	.95	.96	.95	.95	.93	.92	.91
SRMR	.03	.02	.02	.04	.04	.04	.04	.05	.05	.06
RMSEA	.11	.09	.1	.17	.16	.23	.22	.23	.27	.25
TLI	.94	.96	.96	.85	.87	.84	.85	.8	.77	.73

4.2.2 Item correlation

The correlation between the national identity items is acceptable. In some starting cohorts, the negatively worded item t428010 is below the threshold (Table A2). Moreover, the ethnic identity items show a higher correlation than the national identity items (Table A3). An exception is again the negatively worded item t428130. Finally, the correlation between the acculturation items (Table A4) is lower than it is for national and ethnic identity. However, the values are still acceptable.

4.2.3 Reliability

The reliability analysis of the three constructs shows a mostly good internal consistency. As can be seen in Table 7, Cronbach's alpha for the national identity scale ranges from .71 to .85 across all starting cohorts, indicating a good internal consistency. When omitting the negatively worded item t428010, the consistency slightly improves. A similarly consistent pattern results for the ethnic identity scale (Table 8). The measure yields a Cronbach's alpha over .80 for all starting cohorts, indicating good internal consistency.

Although the acculturation scale performs slightly worse, it is still acceptable, with most Cronbach's alphas being close to or above .80 (Table 9).

The item-total correlation (Table A5) points to values above the recommended value of 0.5 in all starting cohorts and waves. These findings also confirm the good reliability of the scales. Only the negatively worded items perform slightly worse than the other items.

Table 7: National Identity, Cronbach's alpha

	Variable	SC3	SC3	SC3	SC3	SC4	SC4	SC5	SC5	SC5	SC6	SC6
		W3	W4	W9	W10	W7	W9	W2	W6	W11	W4	W8
I feel closely connected to the people in Germany.	t428000	.8	.82	.81	.71	.77	.75	.75	.75	.79	.73	.73
I feel uncomfortable belonging to the people in Germany.	t428010	.86	.85	.86	.80	.81	.81	.82	.82	.85	.81	.81
It is important to me to be associated with the people in Germany.	t428030	.81	.82	.84	.77	.78	.77	.77	.77	.82	.76	.76
I feel very comfortable when I am with people from Germany.	t428040	.81	.81	.82	.75	.78	.78	.77	.77	.81	.76	.75
I feel that I am part of German society.	t428060 ¹¹		.81	.83	.75	.78	.77				.76	.75
And to what extent do you identify yourself with people in Germany overall?	t428050	.80	.81	.82	.73	.77	.76	.75	.74	.78	.74	.74
Cronbach's α total		.85	.85	.85	.79	.81	.80	.81	.81	.85	.79	.79

¹¹ t428060 corresponds to t428020 in SC6

Table 8: Ethnic Identity, Cronbach's Alpha

I feel closely connected to the people from [country of origin].	t428120	.77	.81	.79	.8	.78	.77	.77	.74	.76	.75	.72
I feel uncomfortable belonging to the people from [...].	t428130	.83	.90	.90	.88	.87	.87	.92	.92	.89	.89	.88
It is important to me to be associated with the people from [...].	t428140	.76	.81	.8	.80	.78	.78	.78	.75	.78	.75	.73
I feel very comfortable when I am with people from [...].	t428150	.75	.82	.80	.82	.79	.8	.8	.78	.80	.77	.75
And to what extent do you identify yourself with people from [...] overall?	t428300	.76	.83	.79	.8	.78	.77	.77	.74	.76	.75	.73
Cronbach's α total		.81	.87	.85	.85	.84	.83	.84	.83	.84	.83	.81

Table 9: Acculturation, Cronbach's Alpha

	Variable	SC3 W4	SC3 W9	SC3 W10	SC4 W7	SC4 W9	SC5 W2	SC5 W6	SC5 W11	SC6 W4	SC6 W8
I like doing things with people from [...].	t428170	.71	.8	.77	.75	.78	.85	.85	.82	.84	.79
I often act in a way that is typical for people from [...].	t428180	.75	.78	.73	.73	.73	.83	.82	.78	.81	.74
It is important to me to live according to the traditions of [...].	t428190	.76	.76	.77	.73	.73	.83	.82	.78	.82	.76
It is important to me to have friends from [...].	t428210	.74	.77	.73	.71	.73	.82	.81	.77	.81	.76
Cronbach's α total		.79	.82	.80	.78	.80	.87	.86	.83	.86	.81

4.2.4 Construct validity

In a next step I checked for the construct validity of the various scales on national and ethnic identity, acculturation, and cultural habits, as I expected these constructs to be correlated. For this purpose, I concentrated only on SC4 Wave 7. As can be seen in Table 10, the ethnic identity construct is significantly related to the acculturation and the cultural habit scale, thus suggesting construct validity.

Moreover, I could not find a relationship between the national and the ethnic identity measure. This finding is also consistent with previous research (Leszczensky & Gräbs Santiago, 2014).

Table 10: Construct Validity

	National identity	Ethnic identity	Acculturation	Cultural habits
National identity	1			
Ethnic identity	0.0285	1		
Acculturation	-0.0472*	0.771***	1	
Cultural habits	0.0096	0.178***	0.201***	1

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

4.2.5 Descriptive results for different ethnic groups

Table 11 shows descriptive statistics for the national and ethnic identity measures for the three largest ethnic groups in Germany. These are persons of Polish and Turkish origin and immigrants and their descendants from the former Soviet Union. The table also provides results for the identity measures for native-born ethnic majority members.

One of the most interesting observations from the group comparison is that target persons from the former Soviet Union show a higher national identification than those with a Polish and a Turkish background. This pattern is present in almost all starting cohorts and waves. Only in the adult cohort (SC6), the item means are higher for individuals of Polish origin. In the remaining starting cohorts, only natives show higher values than individuals who have their roots in the former Soviet Union. However, this does not apply to all starting cohorts: for instance, in SC4, the means of national identity is higher for target persons with a Polish background and from the former Soviet Union than for individuals from the native-born ethnic majority. Individuals of Turkish origin show the lowest values for national identity in all starting cohorts.

In general, respondents of migrant origin identify less with people from their country of origin than with native-born ethnic majority members. However, there are some differences between the groups. Target persons with a Turkish background identify more with people from their country of origin than those of Polish origin or from the former Soviet Union. The differences are statistically significant in most cases.

Table 11: Means of National and Ethnic Identity Items for Different Ethnic Groups

	Poland	Turkey ¹²	SU ¹³	German
SC3 W3				
I feel closely connected to the people in Germany.	3.15**	2.93	2.97	
I feel uncomfortable belonging to the people in Germany.	1.53**	1.81	1.62**	
It is important to me to be associated with the people in Germany.	3.05*	2.86	2.86	
I feel very comfortable when I am with people from Germany.	3.35**	3.1	3.18	
I feel that I am part of German society.				
And to what extent do you identify yourself with people in Germany overall?	3.83*	3.62	3.71	
I feel closely connected to the people from [country of origin].	2.97	3.09	2.84***	
I feel uncomfortable belonging to the people from [...].	1.49	1.55	1.51	
It is important to me to be associated with the people from [...].	2.86***	3.19	2.89***	
I feel very comfortable when I am with people from [...].	3.29	3.32	3.17*	
And to what extent do you identify yourself with people from [...] overall?	3.51**	3.79	3.37***	
SC3 W4				
I feel closely connected to the people in Germany.	2.76	2.80	2.83	2.84
I feel uncomfortable belonging to the people in Germany.	1.45***	1.74	1.6*	1.41***
It is important to me to be associated with the people in Germany.	2.82*	2.62	2.69	3.02***
I feel very comfortable when I am with people from Germany.	3.07	2.92	2.99	3.18***
I feel that I am part of German society.	3.04***	2.62	3.03***	3.29***
And to what extent do you identify yourself with people in Germany overall?	3.53*	3.35	3.57**	3.74***
I feel closely connected to the people from [country of origin].	2.87**	3.16	2.78***	
I feel uncomfortable belonging to the people from [...].	1.58	1.56	1.55	
It is important to me to be associated with the people from [...].	2.81***	3.2	2.86***	
I feel very comfortable when I am with people from [...].	3.09*	3.32	2.99***	
And to what extent do you identify yourself with people from [...] overall?	3.37***	3.87	3.37***	
SC3 W9				
I feel closely connected to the people in Germany.	2.88	2.80	3.07**	2.85
I feel uncomfortable belonging to the people in Germany.	1.63	1.62	1.58	1.65
It is important to me to be associated with the people in Germany.	2.45*	2.79	2.74	2.57*
I feel very comfortable when I am with people from Germany.	2.96	3.02	3.04	3.00
I feel that I am part of German society.	3.19	2.93	3.26**	3.16**

¹² Reference group¹³ Former Soviet Union

And to what extent do you identify yourself with people in Germany overall?	3.69	3.70	3.84	3.64
I feel closely connected to the people from [country of origin].	2.45***	3.08	2.55***	
I feel uncomfortable belonging to the people from [...].	1.55	1.49	1.6	
It is important to me to be associated with the people from [...].	2.43***	3.2	2.63***	
I feel very comfortable when I am with people from [...].	2.91**	3.36	3.06**	
And to what extent do you identify yourself with people from [...] overall?	2.98***	3.9	3.13***	

SC3 W10

I feel closely connected to the people in Germany.	3.10	3.12	3.26*	3.02
I feel uncomfortable belonging to the people in Germany.	1.41	1.36	1.34	1.46
It is important to me to be associated with the people in Germany.	2.82*	3.05	3.02	2.69***
I feel very comfortable when I am with people from Germany.	3.38	3.40	3.41	3.33
I feel that I am part of German society.	3.56**	3.34	3.63***	3.44*
And to what extent do you identify yourself with people in Germany overall?	3.78	3.79	3.93	3.72
I feel closely connected to the people from [country of origin].	2.62**	3.02	2.41***	
I feel uncomfortable belonging to the people from [...].	1.28	1.38	1.39	
It is important to me to be associated with the people from [...].	2.60**	2.99	2.39***	
I feel very comfortable when I am with people from [...].	3.31	3.36	3.10**	
And to what extent do you identify yourself with people from [...] overall?	2.92***	3.64	2.89***	

SC4 W7

I feel closely connected to the people in Germany.	3.00	3.04	3.08	2.96*
I feel uncomfortable belonging to the people in Germany.	1.43	1.41	1.38	1.42
It is important to me to be associated with the people in Germany.	2.99***	3.18	3.09*	3.00***
I feel very comfortable when I am with people from Germany.	3.28	3.30	3.31	3.32
I feel that I am part of German society.	3.39***	3.18	3.45***	3.45***
And to what extent do you identify yourself with people in Germany overall?	3.73*	3.61	3.77***	3.78***
I feel closely connected to the people from [country of origin].	2.65***	3.01	2.56***	
I feel uncomfortable belonging to the people [...].	1.45	1.48	1.47	
It is important to me to be associated with the people from [...].	2.63***	3.1	2.58***	
I feel very comfortable when I am with people from [...].	3.06***	3.26	3.11**	
And to what extent do you identify yourself with people from [...] overall?	3.11***	3.47	2.99***	

SC4 W9

I feel closely connected to the people in Germany.	3.04	3.05	3.16*	2.93***
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I feel uncomfortable belonging to the people in Germany.	1.52***	1.37	1.29*	1.52***
It is important to me to be associated with the people in Germany.	2.89***	3.12	3.16	2.81***
I feel very comfortable when I am with people from Germany.	3.35	3.36	3.41	3.29*
I feel that I am part of German society.	3.43**	3.27	3.5***	3.40***
And to what extent do you identify yourself with people in Germany overall?	3.74	3.77	3.9*	3.68*
<hr/>				
I feel closely connected to the people from [country of origin].	2.68*	2.86	2.42***	
I feel uncomfortable belonging to the people from [...].	1.39	1.48	1.44	
It is important to me to be associated with the people from [...].	2.65**	2.91	2.43***	
I feel very comfortable when I am with people from [...].	3.25	3.2	3.12	
And to what extent do you identify yourself with people from [...] overall?	3.12**	3.42	2.8***	
<hr/>				
SC5 W2				
<hr/>				
I feel closely connected to the people in Germany.	2.94*	3.1	2.88***	
I feel uncomfortable belonging to the people in Germany.	1.57*	1.42	1.51	
It is important to me to be associated with the people in Germany.	2.62***	3.08	2.9*	
I feel very comfortable when I am with people from Germany.	3.11	3.14	3.11	
And to what extent do you identify yourself with people in Germany overall?	3.72	3.71	3.64	
<hr/>				
I feel closely connected to the people from [country of origin].	2.23***	2.83	2.32***	
I feel uncomfortable belonging to the people from [...].	1.42	1.5	1.61	
It is important to me to be associated with the people from [...].	2.11***	2.89	2.21***	
I feel very comfortable when I am with people from [...].	2.74***	3.12	2.72***	
And to what extent do you identify yourself with people from [...] overall?	2.43***	3.36	2.57***	
<hr/>				
SC5 W6				
<hr/>				
I feel closely connected to the people in Germany.	2.89	2.9	2.87	
I feel uncomfortable belonging to the people in Germany.	1.53	1.63	1.47*	
It is important to me to be associated with the people in Germany.	2.63*	2.81	2.84	
I feel very comfortable when I am with people from Germany.	3.05	3.04	3.14	
And to what extent do you identify yourself with people in Germany overall?	3.75	3.65	3.77	
<hr/>				
I feel closely connected to the people from [country of origin].	2.1***	2.87	2.21***	
I feel uncomfortable belonging to the people from [...].	1.50	1.59	1.7	
It is important to me to be associated with the people from [...].	2.02***	2.82	2.09***	
I feel very comfortable when I am with people from [...].	2.60***	3.14	2.77***	
And to what extent do you identify yourself with people from [...] overall?	2.35***	3.47	2.55***	
<hr/>				

SC5 W11

I feel closely connected to the people in Germany.	3.12	3.22	3.24
I feel uncomfortable belonging to the people in Germany.	1.52	1.41	1.38
It is important to me to be associated with the people in Germany.	2.58**	2.99	2.99
I feel very comfortable when I am with people from Germany.	3.07*	3.32	3.28
And to what extent do you identify yourself with people in Germany overall?	3.8	3.97	3.96
I feel closely connected to the people from [country of origin].	2.09***	2.75	2.27***
I feel uncomfortable belonging to the people from [...].	1.5	1.64	1.67
It is important to me to be associated with the people from [...].	1.92***	2.71	2.15***
I feel very comfortable when I am with people from [...].	2.7*	3	2.88
And to what extent do you identify yourself with people from [...] overall?	2.33***	3.24	2.5***

SC6 W4

I feel closely connected to the people in Germany.	3.31**	3.06	3.16	3.32***
I feel uncomfortable belonging to the people in Germany.	1.38	1.33	1.36	1.35
It is important to me to be associated with the people in Germany.	3.25	3.28	3.49*	3.16
I feel very comfortable when I am with people from Germany.	3.47	3.45	3.47	3.47
I feel that I am part of German society.	3.57**	3.33	3.37	3.66***
And to what extent do you identify yourself with people in Germany overall?	3.94	3.81	3.72	3.94
I feel closely connected to the people from [country of origin].	2.41***	3.27	2.77***	
I feel uncomfortable belonging to the people from [...].	1.43	1.48	1.48	
It is important to me to be associated with the people from [...].	2.19***	3.24	2.58***	
I feel very comfortable when I am with people from [...].	2.69***	3.37	3.07**	
And to what extent do you identify yourself with people from [...] overall?	2.35***	3.78	2.84***	

SC6 W8

I feel closely connected to the people in Germany.	3.52**	3.23	3.29	3.39*
I feel uncomfortable belonging to the people in Germany.	1.37	1.48	1.4	1.42
It is important to me to be associated with the people in Germany.	3.43	3.30	3.39	3.19
I feel very comfortable when I am with people from Germany.	3.64**	3.39	3.53	3.51
I feel that I am part of German society.	3.73***	3.41	3.46	3.74***
And to what extent do you identify yourself with people in Germany overall?	4.04**	3.7	3.71	3.88
I feel closely connected to the people from [country of origin].	2.35***	2.92	2.83	
I feel uncomfortable belonging to the people from [...].	1.48	1.45	1.49	

It is important to me to be associated with the people from [...].	2.15***	3.02	2.55**
I feel very comfortable when I am with people from [...].	2.73***	3.34	3.2
And to what extent do you identify yourself with people from [...] overall?	2.25***	3.35	2.75***

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

5. Summary and conclusions

This survey paper provides an overview of the instruments measuring national identity, ethnic identity, and acculturation in the NEPS. Besides describing the general components of these instruments and their German adaption in the NEPS, it offers detailed information on item selection for the different starting cohorts and waves.

The results demonstrate that the German adaption of the *Multigroup Ethnic Identity Measure* and the *Vancouver Index of Acculturation* are reliable measures. Although the various NEPS studies are composed of different samples, the descriptive results for the instruments show similar patterns, with an almost normal distribution. The findings are also consistent across different migrant groups. The scales therefore are well suited for use in general population surveys as well as in panel studies with ethnic diverse samples.

The survey paper, in addition, provides information on reliability and validity. Reliability estimates and factor analyses confirm the assumptions about these instruments' dimensionality. The factor analyses reveal a single factor for each construct: national identity, ethnic identity, and acculturation. The analyses also show a good reliability in general. Additional validation analyses using the correlations between the instruments also yield expected results, thereby corroborating the instruments' validity. The correlation of national identity with ethnic identity is weak, which is also consistent with earlier findings.

At the same time, the evidence also points to some modifications of these scales. One suggestion is to drop the items with negative wording, t428010 for national identity and t428130 for ethnic identity. It is also important to apply the acculturation scale to the national context as well.

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Appendix

Table A1: Items and Wording

Variable	German questionnaire	English translation
t428000	Ich fühle mich den Menschen in Deutschland eng verbunden.	I feel closely connected to the people in Germany.
Response Scale	1: trifft völlig zu 2: trifft eher zu 3: trifft eher nicht zu 4: trifft gar nicht zu	1: Strongly agree 2: Slightly agree 3: Slightly disagree 4: Strongly disagree
Missings	-97 verweigert -98 weiß nicht	-97 Refused -98 Don't know
t428010	Es ist mir unangenehm, zu den Menschen in Deutschland zu gehören.	I feel uncomfortable belonging to the people in Germany.
Response Scale	1: trifft völlig zu 2: trifft eher zu 3: trifft eher nicht zu 4: trifft gar nicht zu	1: Strongly agree 2: Slightly agree 3: Slightly disagree 4: Strongly disagree
Missings	-97 verweigert -98 weiß nicht	-97 Refused -98 Don't know
t428030	Es ist mir wichtig, zu den Menschen in Deutschland zu gehören.	It is important to me to be associated with the people in Germany.
Response Scale	1: trifft völlig zu 2: trifft eher zu 3: trifft eher nicht zu 4: trifft gar nicht zu	1: Strongly agree 2: Slightly agree 3: Slightly disagree 4: Strongly disagree
Missings	-97 verweigert -98 weiß nicht	-97 Refused -98 Don't know
t428040	Ich fühle mich sehr wohl, wenn ich mit Menschen aus Deutschland zusammen bin.	I feel very comfortable when I am with people from Germany.
Response Scale	1: trifft völlig zu	1: Strongly agree

	2: trifft eher zu 3: trifft eher nicht zu 4: trifft gar nicht zu	2: Slightly agree 3: Slightly disagree 4: Strongly disagree
Missings	-97 verweigert -98 weiß nicht	-97 Refused -98 Don't know
t428060/t428020	Ich fühle mich als Teil der deutschen Gesellschaft.	I feel that I am part of German society.
Response Scale	1: trifft völlig zu 2: trifft eher zu 3: trifft eher nicht zu 4: trifft gar nicht zu	1: Strongly agree 2: Slightly agree 3: Slightly disagree 4: Strongly disagree
Missings	-97 verweigert -98 weiß nicht	-97 Refused -98 Don't know
t428050	Und wie sehr fühlen Sie sich den Menschen in Deutschland zugehörig?	And to what extent do you identify yourself with people in Germany overall?
Response Scale	1: sehr stark 2: stark 3: mittelmäßig 4: kaum 5: gar nicht	1: Very strongly 2: Strongly 3: Average 4: Hardly 5: Not at all
Missings	-97 verweigert -98 weiß nicht	-97 Refused -98 Don't know
t428120	Ich fühle mich den Menschen im [Herkunftsland] eng verbunden.	I feel closely connected to the people from [country of origin].
Response Scale	1: trifft völlig zu 2: trifft eher zu 3: trifft eher nicht zu 4: trifft gar nicht zu	1: Strongly agree 2: Slightly agree 3: Slightly disagree 4: Strongly disagree
Missings	-97 verweigert -98 weiß nicht	-97 Refused -98 Don't know

t428130	Es ist mir unangenehm, zu den Menschen aus [...] zu gehören.	I feel uncomfortable belonging to the people from [...].
Response Scale	1: trifft völlig zu 2: trifft eher zu 3: trifft eher nicht zu 4: trifft gar nicht zu	1: Strongly agree 2: Slightly agree 3: Slightly disagree 4: Strongly disagree
Missings	-97 verweigert -98 weiß nicht	-97 Refused -98 Don't know
t428140	Es ist mir wichtig, zu den Menschen aus [...] zu gehören.	It is important to me to be associated with the people from [...].
Response Scale	1: trifft völlig zu 2: trifft eher zu 3: trifft eher nicht zu 4: trifft gar nicht zu	1: Strongly agree 2: Slightly agree 3: Slightly disagree 4: Strongly disagree
Missings	-97 verweigert -98 weiß nicht	-97 Refused -98 Don't know
t428150	Ich fühle mich sehr wohl, wenn ich mit Menschen aus [...] zusammen bin.	I feel very comfortable when I am with people from [...].
Response Scale	1: trifft völlig zu 2: trifft eher zu 3: trifft eher nicht zu 4: trifft gar nicht zu	1: Strongly agree 2: Slightly agree 3: Slightly disagree 4: Strongly disagree
Missings	-97 verweigert -98 weiß nicht	-97 Refused -98 Don't know
t428170	Ich unternehme gerne etwas mit Menschen aus [...].	I like doing things with people from [...].
Response Scale	1: trifft völlig zu 2: trifft eher zu 3: trifft eher nicht zu 4: trifft gar nicht zu	1: Strongly agree 2: Slightly agree 3: Slightly disagree 4: Strongly disagree
Missings	-97 verweigert -98 weiß nicht	-97 Refused -98 Don't know

t428180	Ich verhalte mich oft typisch für Menschen aus [...].	I often act in a way that is typical for people from [...].
Response Scale	1: trifft völlig zu 2: trifft eher zu 3: trifft eher nicht zu 4: trifft gar nicht zu	1: Strongly agree 2: Slightly agree 3: Slightly disagree 4: Strongly disagree
Missings	-97 verweigert -98 weiß nicht	-97 Refused -98 Don't know
t428190	Es ist mir wichtig, nach [...] Traditionen zu leben.	It is important to me to live according to the traditions of [...].
Response Scale	1: trifft völlig zu 2: trifft eher zu 3: trifft eher nicht zu 4: trifft gar nicht zu	1: Strongly agree 2: Slightly agree 3: Slightly disagree 4: Strongly disagree
Missings	-97 verweigert -98 weiß nicht	-97 Refused -98 Don't know
t428210	Es ist mir wichtig, Freunde aus [...] zu haben.	It is important to me to live according to the traditions of [...].
Response Scale	1: trifft völlig zu 2: trifft eher zu 3: trifft eher nicht zu 4: trifft gar nicht zu	1: Strongly agree 2: Slightly agree 3: Slightly disagree 4: Strongly disagree
Missings	-97 verweigert -98 weiß nicht	-97 Refused -98 Don't know
t428300	Und wie sehr fühlen Sie sich den Menschen aus [...] insgesamt zugehörig?	And to what extent do you identify yourself with people from [...] overall?
Response Scale	1: sehr stark 2: stark 3: mittelmäßig 4: kaum 5: gar nicht	1: Very strongly 2: Strongly 3: Average 4: Hardly 5: Not at all

Missings	-97 verweigert -98 weiß nicht	-97 Refused -98 Don't know
t42825a	Wie oft hören Sie [...] Musik?	How often do you listen to music from [...]?
Response Scale	1: immer 2: oft 3: manchmal 4: selten 5: nie	1: Always 2: Often 3: Sometimes 4: Rarely 5: Never
Missings	-21: Befragter nimmt zwischen Musik des [...] und deutscher Musik keinen Unterschied wahr -20 trifft nicht zu, höre nie Musik -97 verweigert -98: weiß nicht	-21: Respondent does not observe a difference between the music of the country of origin and German music -20 Doesn't apply, I never listen to music -97 Refused -98 Don't know
t42825b	Wie oft wird bei Ihnen [...] Traditionen gekocht?	How often do you cook according to the tradition of [...]?
Response Scale	1: immer 2: oft 3: manchmal 4: selten 5: nie	1: Always 2: Often 3: Sometimes 4: Rarely 5: Never
Missings	-21: Befragter nimmt zwischen Kochtraditionen des [...] und deutschen Kochtraditionen keinen Unterschied wahr -20 trifft nicht zu, in unserer Familie wird nicht gekocht -97 verweigert -98 weiß nicht	-21: Respondent does not distinguish between cooking traditions from his/her country of origin and German cooking traditions -20: Does not apply, we do not cook in our family -97 Refused -98 Don't know
t42825c	Feiern Sie [...] Feiertage?	Do you celebrate [...] holidays?
Response Scale	1: ja, alle 2: ja, die meisten	1: Yes, all 2: Yes, most

	3: ja, manche	3: Yes, some
	4: nein, keine	4: No, none
Missings	-21: Befragter nimmt zwischen Feiertagen des [Herkunftsland] und deutschen Feiertagen keinen Unterschied wahr	-21: Respondent does not distinguish between public holidays in his/her country of origins and German public holidays
	-97 verweigert	-97 Refused
	-98 weiß nicht	-98 Don't know

Table A2: National Identity, Intercorrelation

SC3 W3	t428000	t428010	t428030	t428040	t428050	
t428000	1					
t428010	-0.408***	1				
t428030	0.616***	-0.376***	1			
t428040	0.595***	-0.419***	0.599***	1		
t428050	0.640***	-0.445***	0.572***	0.570***	1	
SC3 W4	t428000	t428010	t428030	t428040	t428060	t428050
t428000	1					
t428010	-.320***	1				
t428030	.498***	-.349***	1			
t428040	.520***	-.325***	.557***	1		
t428060	.479***	-.408***	.525***	.552***	1	
t428050	.519***	-.427***	.499***	.525***	.645***	1
SC3 W9	t428000	t428010	t428030	t428040	t428060	t428050
t428000	1					
t428010	-.416***	1				
t428030	.535***	-.341***	1			
t428040	.572***	-.379***	.523***	1		
t428060	.579***	-.336***	.446***	.561***	1	
t428050	.681***	-.400***	.495***	.530***	.587***	1
SC3 W10	t428000	t428010	t428030	t428040	t428060	t428050
t428000	1					
t428010	-.297***	1				
t428030	.417***	-.200***	1			
t428040	.498***	-.267***	.378***	1		
t428060	.567***	-.227***	.315***	.350***	1	
t428050	.598***	-.229***	.420***	.450***	.485***	1
SC4 W7	t428000	t428010	t428030	t428040	t428060	t428050
t428000	1					
t428010	-.397***	1				
t428030	.555***	-.380***	1			
t428040	.528***	-.392***	0.550***	1		
t428060	.536***	-.440***	.519***	.593***	1	
t428050	.606***	-.433***	.562***	.535***	.637***	1
SC4 W9	t428000	t428010	t428030	t428040	t428060	t428050
t428000	1					
t428010	-.309***	1				
t428030	.443***	-.295***	1			

t428040	.444***	-.298***	.446***	1		
t428060	.570***	-.288***	.354***	.374***	1	
t428050	.565***	-.299***	.477***	.377***	.509***	1

SC5 W2	t428000	t428010	t428030	t428040	t428050
t428000	1				
t428010	-.348***	1			
t428030	.505***	-.322***	1		
t428040	.553***	-.333***	.487***	1	
t428050	.610***	-.388***	.521***	.539***	1

SC5 W6	t428000	t428010	t428030	t428040	t428050
t428000	1				
t428010	-.375***	1			
t428030	.516***	-.306***	1		
t428040	.543***	-.314***	.455***	1	
t428050	.621***	-.403***	.545***	.516***	1

SC5 W11	t428000	t428010	t428030	t428040	t428050
t428000	1				
t428010	-.426***	1			
t428030	.556***	-.386***	1		
t428040	.602***	-.414***	.480***	1	
t428050	.714***	-.458***	.598***	.585***	1

SC6 W4	t428000	t428010	t428030	t428040	t428020	t428050
t428000	1					
t428010	-.253***	1				
t428030	.430***	-.207***	1			
t428040	.477***	-.236***	.500***	1		
t428020	.593***	-.245***	.290***	.369***	1	
t428050	.552***	-.249***	.523***	.431***	.489***	1

SC6 W8	t428000	t428010	t428030	t428040	t428020	t428050
t428000	1					
t428010	-.243***	1				
t428030	.441***	-.170***	1			
t428040	.463***	-.259***	.493***	1		
t428020	.589***	-.214***	.356***	.388***	1	
t428050	.533***	-.266***	.489***	.441***	.459***	1

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table A3: Ethnic Identity, Intercorrelation

SC3 W3	t428120	t428130	t428140	t428150	t428300
t428120	1				
t428130	0.305***	1			
t428140	0.527***	0.341***	1		
t428150	0.556***	0.361***	0.582***	1	
t428300	0.574***	0.316***	0.541***	0.551***	1

SC3 W4	t428120	t428130	t428140	t428150	t428300
t428120	1				
t428130	-.357***	1			
t428140	.744***	-.365***	1		
t428150	.702***	-.391***	.738***	1	
t428300	.703***	-.345***	.651***	.632***	1

SC3 W9	t428120	t428130	t428140	t428150	t428300
t428120	1				
t428130	.236***	1			
t428140	.715***	.273***	1		
t428150	.654***	.341***	.675***	1	
t428300	.792***	.299***	.705***	.639***	1

SC3 W10	t428120	t428130	t428140	t428150	t428300
t428120	1				
t428130	-.368***	1			
t428140	.692***	-.354***	1		
t428150	.569***	-.386***	.590***	1	
t428300	.748***	-.360***	.700***	.586***	1

SC4 W7	t428120	t428130	t428140	t428150	t428300
t428120	1				
t428130	-.317***	1			
t428140	.664***	-.327***	1		
t428150	.594***	-.366***	.589***	1	
t428300	.681***	-.309***	.653***	.563***	1

SC4 W9	t428120	t428130	t428140	t428150	t428300
t428120	1				
t428130	-.289***	1			
t428140	.677***	-.311***	1		
t428150	.550***	-.385***	.541***	1	
t428300	.734***	-.293***	.675***	.547***	1

SC5 W2	t428120	t428130	t428140	t428150	t428300
t428120	1				
t428130	-.185***	1			
t428140	.785***	-.175***	1		
t428150	.684***	-.220***	.656***	1	
t428300	.828***	-.196***	.802***	.675***	1

SC5 W6	t428120	t428130	t428140	t428150	t428300
t428120	1				
t428130	-.117***	1			
t428140	.795***	-.123***	1		
t428150	.660***	-.164***	.624***	1	
t428300	.840***	-.111***	.814***	.641***	1

SC5 W11	t428120	t428130	t428140	t428150	t428300
t428120	1				
t428130	-.252***	1			
t428140	.720***	-.240***	1		
t428150	.616***	-.283***	.561***	1	
t428300	.812***	-.227***	.770***	.594***	1

SC6 W4	t428120	t428130	t428140	t428150	t428300
t428120	1				
t428130	-.210***	1			
t428140	.708***	-.191***	1		
t428150	.638***	-.224***	.639***	1	
t428300	.699***	-.196***	.718***	.632***	1

SC6 W8	t428120	t428130	t428140	t428150	t428300
t428120	1				
t428130	-.185***	1			
t428140	.714***	-.150***	1		
t428150	.603***	-.196***	.571***	1	
t428300	.717***	-.142***	.685***	.598***	1

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table A4: Acculturation, Intercorrelation

SC3 W4	t428170	t428180	t428190	t428210
t428170	1			
t428180	.519***	1		
t428190	.462***	.480***	1	
t428210	.577***	.430***	.450***	1
SC3 W9	t428170	t428180	t428190	t428210
t428170	1			
t428180	.501***	1		
t428190	.496***	.598***	1	
t428210	.530***	.508***	.600***	1
SC3 W10	t428170	t428180	t428190	t428210
t428170	1			
t428180	.489***	1		
t428190	.393***	.546***	1	
t428210	.527***	.546***	.504***	1
SC4 W7	t428170	t428180	t428190	t428210
t428170	1			
t428180	.420***	1		
t428190	.386***	.551***	1	
t428210	.536***	.454***	.500***	1
SC4 W9	t428170	t428180	t428190	t428210
t428170	1			
t428180	.427***	1		
t428190	.397***	.605***	1	
t428210	.514***	.490***	.522***	1
SC5 W2	t428170	t428180	t428190	t428210
t428170	1			
t428180	.564***	1		
t428190	.528***	.705***	1	
t428210	.680***	.617***	.651***	1
SC5 W6	t428170	t428180	t428190	t428210
t428170	1			
t428180	.549***	1		
t428190	.505***	.712***	1	
t428210	.651***	.620***	.643***	1

SC5 W11	t428170	t428180	t428190	t428210
t428170	1			
t428180	.470***	1		
t428190	.440***	.675***	1	
t428210	.602***	.548***	.599***	1

SC6 W4	t428170	t428180	t428190	t428210
t428170	1			
t428180	.543***	1		
t428190	.492***	.714***	1	
t428210	.663***	.587***	.592***	1

SC6 W8	t428170	t428180	t428190	t428210
t428170	1			
t428180	.474***	1		
t428190	.405***	.671***	1	
t428210	.573***	.488***	.491***	1

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table A5: Item-Test-Correlation

	Variable	SC3 W3	SC3 W4	SC3 W9	SC3 W10	SC4 W7	SC4 W9	SC5 W2	SC5 W6	SC5 W11	SC6 W4	SC6 W8
National Identity												
I feel closely connected to the people in Germany.	t428000	.83	.74	.83	.80	.75	.78	.80	.81	.83	.78	.77
I feel uncomfortable belonging to the people in Germany.	t428010	.67	.62	.63	.53	.61	.58	.63	.63	.68	.52	.51
It is important to me to be associated with the people in Germany.	t428030	.80	.76	.73	.65	.71	.70	.75	.74	.76	.70	.70
I feel very comfortable when I am with people from Germany.	t428040	.81	.77	.78	.70	.72	.69	.77	.75	.78	.71	.72
I feel that I am part of German society.	t428060		.80	.77	.70	.72	.72				.70	.71
And to what extent do you identify yourself with people in Germany overall?	t428050	.82	.80	.81	.76	.75	.75	.81	.81	.85	.77	.75
Ethnic Identity												
I feel closely connected to the people from [country of origin].	t428120	.78	.86	.86	.85	.83	.83	.88	.88	.87	.84	.85
I feel uncomfortable belonging to the people from [...].	t428130	.61	.60	.54	.62	.59	.58	.45	.39	.51	.47	.44
It is important to me to be associated with the people from [...].	t428140	.79	.86	.85	.84	.83	.82	.87	.87	.84	.84	.83
I feel very comfortable when I am with people from [...].	t428150	.81	.85	.84	.79	.80	.78	.82	.80	.78	.81	.78
And to what extent do you identify yourself with people from [...] overall?	t428300	.79	.82	.87	.85	.82	.83	.89	.88	.87	.84	.83
Acculturation												
I like doing things with people from [...].	t428170		.81	.78	.77	.75	.74	.81	.80	.76	.80	.76
I often act in a way that is typical for people from [...].	t428180		.77	.81	.73	.77	.80	.85	.85	.82	.85	.82
It is important to me to live according to the traditions of [...].	t428190		.76	.83	.76	.78	.80	.85	.84	.83	.83	.80
It is important to me to have friends from [...].	t428210		.78	.82	.73	.79	.80	.86	.86	.84	.84	.79