Supplemental Material for:

"Developmental Trajectories of Ethnic and National Identities in Adolescents from Migrant Families: The Role of Social Identification with Family and Classmates"

Sample Attrition Analyses

A total of 364 adolescents from migrant families participated in at least one wave (out of three) of the data collection in this study. Of this total sample of adolescents from migrant families, 148 participated in all three waves, 97 participated in two waves, and 119 participated only in one wave. In this regard, the final longitudinal sample has been generated by considering the participants who participated in at least two waves of data collection.[1] Along this line, participants in the final longitudinal sample (n = 244) were compared with the adolescents excluded from the final longitudinal sample (n = 120) in terms of the crucial study variables.

As far as main demographic variables are concerned, initial follow-up analyses (i.e., chi-square tests and univariate analysis of variance) indicated that excluded participants and participants in the final longitudinal sample did not significantly differ from each other in terms of school type, age, adolescents' country of birth, family structures as well as parents' nationalities, immigration reasons, and educational levels ($p_s > .05$), with an exception for participants gender ($\chi^2(1) = 9.829$, $p < .01$, Cramer's $V = .165$). However, further examinations with the standardized residuals did not support the significant differences between males and females since the values were calculated as lower than |2|. Thus, it might be claimed that adolescents were more likely to be allocated to similar groups across demographic variables.

As far as the additional variables (i.e., adolescents' self-definitions, sense of feeling "at home") are concerned, the participants in the final longitudinal sample did not significantly differ from the participants in the excluded sample in terms of their self-definitions, sense of feeling "at home" regarding the home country of their mothers ($p_s >$

[1]Apart from those participants who participated in only one wave (out of three waves), one more participant was excluded since this participant was the only student who participated in at least two waves of the study from a specific class.

.05). The only significant difference has been detected across the groups of adolescents' senses of feeling "at home" in terms of the fathers' countries (i.e., in the destination country, in the fathers' country, in both countries, and neither countries; $\chi^2(3) = 9.676$, $p < .05$, Cramer's $V = .188$), nevertheless, additional examinations with the standardized residuals did not support these significant differences.

Similar to these findings, the groups did not significantly differ ($p_s > .05$) in terms of almost all of the main study variables (i.e., ethnic and national identities as well as social identifications with family and classmates) at each time point (i.e., T1, T2, and T3, separately), except for social identification with family at T1. In detail, participants in the final longitudinal sample reported significantly higher levels of social identification with families than excluded participants ($F = 4.322$, $p < .05$, $\eta^2 = .016$, Cohen's $d = 0.28$). Overall, considering the limited number of significant differences with a relatively small effect size, it might be concluded that the final longitudinal sample of this study could represent the overall sample across time.

Longitudinal Measurement Invariance Tests

To test the main study hypothesis, hierarchical levels of the longitudinal measurement invariance (van de Schoot et al., 2012) were tested for the total model, including ethnic and national identities. In this vein, at first, a configural (i.e., baseline) model (M1) with six latent variables (for ethnic and national identities at each time point separately), using parcels as observed indicators, was tested. Thereafter, the configural model was compared to the metric model (M2), which requires the equivalence of factor loadings and indicates that respondents attribute the same meaning to the latent construct of interest across time. Finally, the metric model was compared to the scalar model (M3) that entails the invariance of both factor loadings and item intercepts, indicating that the meaning of the construct and the levels of the underlying items are equal across time. Model fit was evaluated by considering the Comparative Fit Index (CFI) and Tucker-Lewis Index (TLI), with values higher than .90 suggesting an acceptable fit, and values higher than .95 indicating excellent fit; and the Standardized Root Mean Square Residual (SRMR) and the Root Mean Square Error of Approximation (RMSEA) with values below .08 indicative of an acceptable fit and values lower than .05 representing excellent fit (Byrne, 2012). Moreover, the 90% Confidence Interval (CI) for the RMSEA was also considered, and the model fit can be considered acceptable if the upper bound of CI is lower than .10 (Chen et al., 2008). Nested models corresponding to different levels of invariance (i.e., configural, metric, and scalar) were compared by means of the results of the chi-square difference test as well as the changes in model fit indices (i.e., ΔCFI and ΔRMSEA; Cheung & Rensvold, 2002). To establish differences between models, at least two out of three criteria had to be matched: $\Delta\chi_{SB}^2$ significant at $p < .05$ (Satorra & Bentler, 2001), $\Delta CFI \geq -.010$, and $\Delta RMSEA \geq .015$ (Chen, 2007). The results of the longitudinal measurement invariance tests are reported in Table S1.

Table S1

Longitudinal Measurement Invariance Tests for the Total Model

	Model fit indices						Model comparison					
	χ_{SB}^2	*df*	CFI	TLI	SRMR	RMSEA [90% CI]	Models	$\Delta\chi_{SB}^2$	Δ*df*	*p*	ΔCFI	ΔRMSEA
M1. Configural model	304.984	120	.950	.937	.062	.079 [.068, .091]						
M2. Metric model	326.351	128	.947	.936	.066	.080 [.069, .090]	M2-M1	21.610	8	.006	–.003	.001
M3. Scalar model	351.165	140	.943	.938	.075	.079 [.068, .089]	M3-M2	24.202	12	.019	–.004	–.001

Note. χ_{SB}^2 = Satorra-Bentler scaled chi-square; *df* = degrees of freedom; CFI = Comparative Fit Index; TLI = Tucker-Lewis Index; SRMR = Standardized Root Mean Square Residual; RMSEA [90% CI] = Root Mean Square Error of Approximation and 90% Confidence Interval; Δ = Change in the parameter.

Identity Profiles based on 3-Class Solution

For the purposes of comparison, the 3-class solution has also been reported in Table S2 and Figure S1.

Table S2

Parameter Estimates for Intercept and Slope Factors of the 3-class solution in Multivariate Latent Class Growth Analyses

	Ethnic Identity		National Identity	
	Intercept *M*	Slope *M*	Intercept *M*	Slope *M*
Ethnic Oriented (26.2%)	4.167***	–.357***	2.376***	.039
National Oriented (31.2%)	2.145***	.056	3.788***	–.046
Dual Identity (42.6%)	4.037***	–.167**	3.988***	–.036

Note. $^{**}p < .01$, $^{***}p < .001$.

Multivariate Latent Class Growth Analyses. As depicted in Figure S1 (see also Table S2), adolescents from migrant families in Class 1 (26.2%) indicated low initial levels of national identity that remained stable across time and high initial rates of ethnic identity with a substantial significant decrease over time. Despite the fluctuations in the development of ethnic identities over time, considering the lower and steady pattern of national identity, we labeled Class 1 as "*ethnic-oriented identity*". On the other hand, Class 2 (31.2%) was characterized by high initial rates of national identity combined with a low initial level of ethnic identity, which remained fairly stable across time. Therefore, we labeled this class as a "*national-oriented identity*". Finally, adolescents in Class 3 (42.6%) reported high initial rates of ethnic and national identities, with a significant slight decrease in ethnic identity over time. We labeled this third class as "*dual identity*". Overall, high consistency between 3-class (i.e., ethnic-oriented identity, national-oriented identity, and dual identity) and 4-class (i.e.,

ethnic-oriented identity, national-oriented identity, dual identity, and marginalized identity) solutions confirm that maintaining a 4-class solution can be superior, especially when the theoretical meaningfulness is taken close into account. However, to provide further evidence, we aimed to reiterate the multinominal logistic regression analysis with 3-class solutions by treating the dual identity as the reference profile.

Multinomial Logistic Regression Analyses. Findings (see Table S3) showed that social identification with family at T1 decreased the likelihood of being in the national-oriented identity profile rather than the dual identity profile (OR [95% CI] = 0.534 [0.348, 0.820], $p <$ .01). In a similar vein, social identification with classmates at T1 decreased the likelihood of being classified in the ethnic-oriented identity profile rather than the dual identity profile (OR [95% CI] = 0.361 [0.217, 0.601], $p < .001$). In other words, one might conclude that social identification with both groups increased the probability of being classified into the dual identity profile. Such findings are indeed consistent with the results of the multinominal logistic regression analysis established with four identity profiles.

Figure S1

3-Class Solution of Multivariate Latent Class Growth Analyses

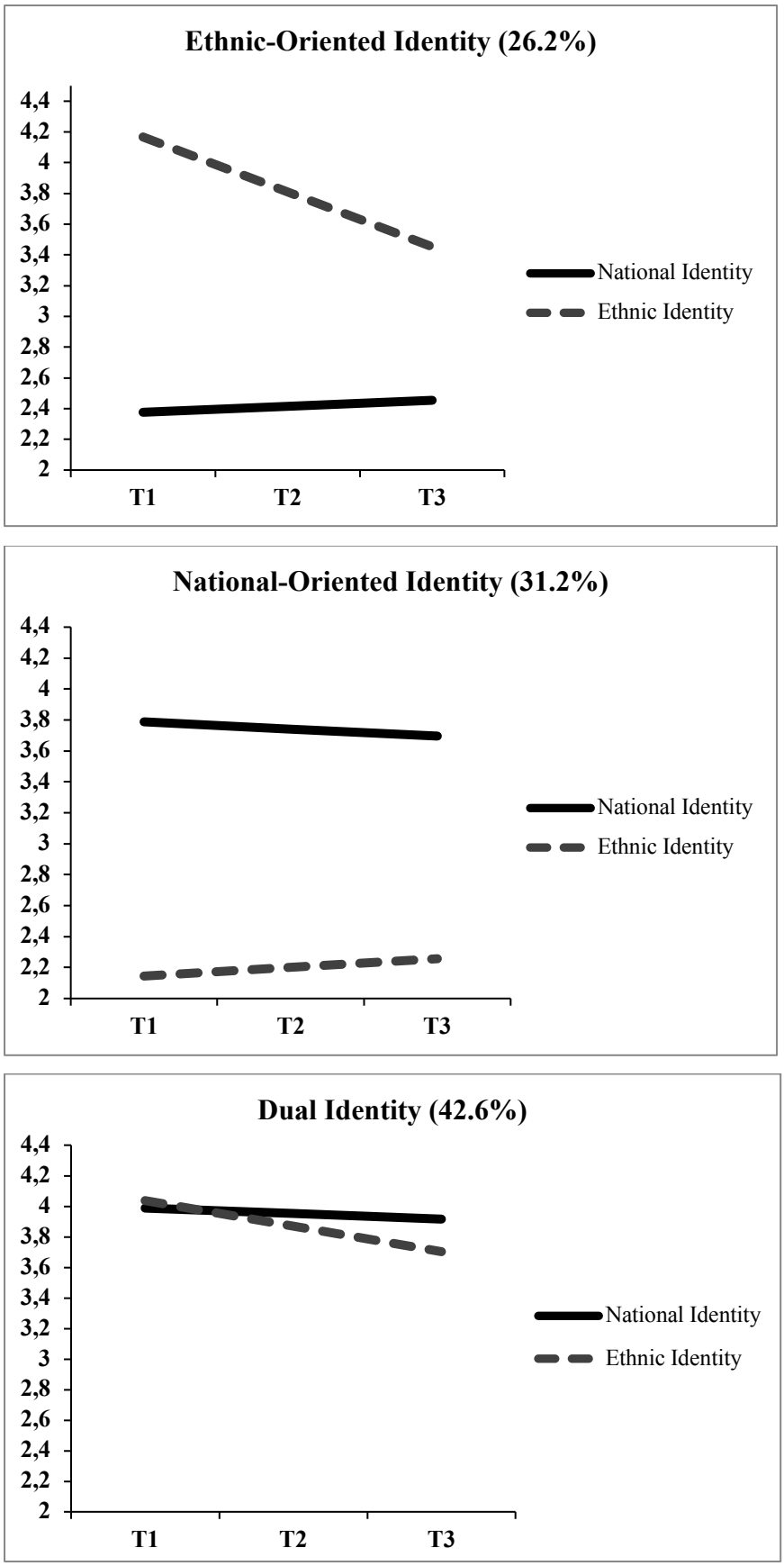

Table S3

Results of Multinomial Logistic Regression

	Ethnic-oriented identity vs. Dual identity		National-oriented identity vs. Dual identity	
	B (SE)	OR [95% CI]	*B* (SE)	OR [95% CI]
Social identification with family at T1	-0.088 (0.289)	0.916 [0.520, 1.613]	-0.627** (0.219)	0.534 [0.348, 0.820]
Social identification with classmates at T1	-1.018*** (0.259)	0.361 [0.217, 0.601]	-0.276 (0.234)	0.759 [0.480, 1.200]

Note. SE = Standard Error; OR = Odds Ratio; CI = Confidence Interval; Reference profile was defined as dual identity, and thus, all ORs are in reference to the dual identity profile. $^{**}p < .01$, $^{***}p < .001$.

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