

Everybody needs somebody: Specificity and commonality in perceived social support trajectories of immigrant and non-immigrant youth

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Abstract

Perceived social support can help immigrant youth to deal with developmental acculturation: the simultaneous resolution of developmental and acculturative tasks. This person-oriented three-wave comparative study investigated perceived social support trajectories in two immigrant and one non-immigrant group. We investigated whether similar social support trajectory classes can be found across groups, whether developmental and/or acculturation-related processes predict class membership, and whether social support trajectory classes associate with changes in self-efficacy. The sample comprised 1326 ethnic German immigrant and 830 non-immigrant adolescents in Germany, and 1593 Russian Jewish adolescents in Israel ($N = 3749$; $M_{age} = 15.45$; $SD = 2.01$; 50% female). Results revealed two social support trajectory classes across all and within each group: a stable *well-supported class* and a low but *increasingly-supported class*. Respective to the increasingly-supported class, membership in the well-supported class was associated with commonality in developmental predictors (female gender, high involvement with family and peers) in all groups and specificity in acculturation-related

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predictors (higher heritage and host culture orientation) in immigrant groups. Patterns of self-efficacy over time matched social support trajectories of both classes in all groups. Findings indicate that stakeholders looking to support immigrant adolescents should be aware of the nuanced coaction of development and migration.

KEYWORDS

adolescence, cross-group comparative research, developmental acculturation, longitudinal person-oriented approach, social support

Researchers interested in the impact of migration on developmental outcomes are tasked with addressing the coaction of general developmental and migration-specific processes and with examining commonality and specificity of findings from different populations (Benbow & Rutland, 2017; Titzmann & Fuligni, 2015; Titzmann & Lee, 2018). This coaction of development and acculturation is based on migrant children's experience of a double transition from childhood to adulthood and across cultures. Social support helps adolescents to master this double transition: it is beneficial for adaptive general development (e.g., Chu, Saucier, & Hafner, 2010) and acculturation (e.g., Crockett et al., 2007; Cuadrado et al., 2017). It is also consistently linked to a multitude of positive mental and physical health outcomes (e.g., Thoits, 2011). Meta-analytic findings point to the conclusion that these positive effects are based on the individual's subjective appraisal that their social network will be helpful and effective when needed—that is their perceived social support or the quality of social support (Chu et al., 2010).

Despite the apparent importance of social support for adolescent adaptation, there has been surprisingly little longitudinal work that considers how perceived social support develops over time. This also holds true for longitudinal research on social support among immigrant adolescents and (correlational or longitudinal) multi-group studies, which can clarify whether immigrant adolescents follow similar social support trajectories for the same reasons and with similar outcomes as adolescents with no recent personal or familial migration history (non-immigrant adolescents). Moreover, extant work has been variable centered and therefore unable to identify different groups of individuals with different trajectories and developmental mechanisms (Bergman & El-Khoury, 2003). Addressing these research gaps, our study pursued three aims. First, we wanted to uncover classes of social support trajectories based on longitudinal assessments of perceived social support and compare their number and paths in immigrant and non-immigrant ethnic groups. Second, and in line with the rationale of combining acculturation and developmental science, we considered general and migration-specific predictors of social support trajectory class membership (the statistical assignment to a trajectory class) and compared their effects in each ethnic group. Third, we investigated whether social support trajectory class membership was associated with similar changes in self-efficacy—as a psychological adaptation outcome—in each ethnic group.

Empirical multi-group comparisons can help to disentangle unique, group and/or context specific, and universal developmental processes in the transition to adulthood and the acculturation process (Bornstein, 2017; Lerner, 2018; Titzmann & Fuligni, 2015). Their conclusions are particularly compelling if they (a) compare youth without personal or recent familial migration experiences facing developmental changes to youth with an

immigrant background coping with both developmental and personal acculturative changes; (b) include within and between country variations to address generalizability across (national) contexts; and (c) employ longitudinal data to track the trajectories of change across time (Benbow & Aumann, 2020). Our research fulfilled these requirements: We studied ethnic German diaspora adolescents who migrated from the former Soviet Union (FSU) to Germany and compared their results with those of two relevant comparison groups. The first, a non-immigrant German group (with German citizenship and no migration history in their own and their parents' generation), captured the experience of adolescents facing developmental but not personal or familial acculturative changes. The second, Russian Jews from the FSU, represented the experiences of migrating to Israel facing similar acculturative changes in a different (national) context. Like ethnic German immigrants, Russian Jewish adolescents are diaspora immigrants, who share a similar cultural background (having lived and been socialized in the FSU), similar migration characteristics (voluntary, motivated by the search for a better quality of life), and similar social benefits in the country of reception ("repatriate" status, immediate citizenship). Context differences between the groups lie in the dispersion of regional settlement of the immigrants (widely spread in Germany, regionally concentrated in Israel) and in the overall diversity of the countries (very diverse in Israel, rather homogenous in Germany).

1 | SOCIAL SUPPORT TRAJECTORIES IN ADOLESCENCE

In order to make predictions about social support trajectories in these three groups, it is important to consider the critical importance of changing and increasing social relationships to general development in adolescence and young adulthood (Collins & Steinberg, 2008). At this time in life, establishing behavioral and emotional autonomy from parents, often by forming social ties with friends and romantic partners outside the core family, is a major developmental task (Wrzus, Hänel, Wagner, & Neyer, 2013). Additionally, social relationships formed in this period are essential to learning about building and maintaining satisfying, long-lasting relationships—a further developmental milestone (Connolly, Furman, & Konarski, 2000). Adolescents and young adults may also be particularly motivated to acquire new information from their social relationships, predisposing them to more interactions with novel social partners (Carstensen, 1995). However, in the light of the manifold biopsychosocial changes happening in adolescence, perhaps the key function of social relationships in this life phase is the provision of emotional, instrumental, and informational social support (Cohen, Gottlieb, & Underwood, 2000).

Social support has been measured in several ways, including measures of social network size and density, measures of the frequency of received social support (enacted support), and perceived social support. However, the former two measurements have not been consistently linked to positive adaptation outcomes, because network size or density does not equate quality of social support and enacted support may not always be welcomed, may not always meet the needs of individuals, and may reduce self-esteem and self-efficacy (e.g., Chu et al., 2010). Among adolescents in particular, support from adults who think that they are being supportive may be seen as intrusive and counter to their need for autonomy (Rowell, Ciarrochi, Deane, & Heaven, 2016). Perceived social support, on the other hand, is a generalized subjective appraisal that a social network has the capacity to help, incorporating the effectiveness and appropriateness (e.g., the quality) of the social support available (Thoits, 2011). For these reasons, our study focused on perceived social support.

Although the development of new social relationships and the acquisition of new sources of social support can be assumed to be universal developmental tasks in adolescence, it is unlikely that all adolescents follow the same trajectories of change in

perceived social support. Longitudinal studies investigating developmental trajectories of perceived social support are, however, scarce. We found only one study, by Holden, Dobson, Ware, Hockey, and Lee (2015), which considered longitudinal patterns of perceived social support and their associations to mental health in a sample of young female adults (over a 12 year period from age 22–27 to age 34–39). Their research identified four trajectory classes of social support following the so-called “cattle-grid” pattern (one stable high group, one stable low group, one increasing group, and one decreasing group). It also showed that over time patterns of mental health were consistent with patterns of social support. However, because of the marked age difference (from young adulthood to middle age rather than across adolescence), it remains unclear how much insight into the development of social support in adolescence can be derived from these results—highlighting the need for research in this area. It could be that a similar cattle-grid pattern is apparent across adolescence. However, given the nature of social relationships in adolescence, decreasing or low trajectories may be less likely than in (young) adulthood: In adolescence, parents remain important providers of support, but additional sources (e.g., peers met in school and during leisure time facing the same developmental task of creating new relationships) emerge, a situation that provides increasing opportunities. Additionally, providing support to children and adolescents is a main objective of the family, school, and leisure environments in which adolescents spend most of their time. In this situation, decreasing and low support trajectories appear less likely than in adulthood, when individuals start living independently, start working, and found new families, whereby sources and perceptions of social support may change, decreasing in availability and quality (e.g., Wrzus et al., 2013). Thus, we might expect to find two rather than four trajectory classes. Because personal networks and friendship networks are also disrupted and decline in size through migration (Wrzus et al., 2013), increasing social support trajectories might be more likely, and thus represent larger classes, for immigrant adolescents in Israel and Germany than for non-immigrant German adolescents.

2 | GENERAL AND MIGRATION-SPECIFIC PREDICTORS OF SOCIAL SUPPORT TRAJECTORIES

Recent years have seen the evolution of developmental acculturation models that explicitly regard the coaction of acculturative and developmental change (e.g., Juang & Syed, 2019; Titzmann & Lee, 2018). They are rooted in well-known approaches to acculturation research, such as the two-dimensional model of Berry (2003), but consider acculturation to be a multi-dimensional and dynamic process, situated within specific ecological contexts, that is inextricably linked to the normative developmental biological, psychological, and social changes that occur during the childhood and adolescent years (e.g., Bornstein, 2017; Juang & Syed, 2019; Titzmann & Lee, 2018). This integration of developmental and acculturation science helps to better understand how the coaction of development and acculturation relates to immigrant adolescents' adaptive functioning (Suárez-Orozco, Motti-Stefanidi, Marks, & Katsiaficas, 2018).

Thus, following the rationale of these models of developmental acculturation, and to thereby address the coaction of general development and migration and generalize across populations regarding social support trajectory classes, we utilized a comparative design that included both developmental and migration-specific predictors (Titzmann & Lee, 2018). The combination of both types of predictors can clarify whether the same general factors predict perceived social support trajectories in immigrant and non-immigrant samples, or whether acculturation-related variables explain unique variance in social support trajectory class membership after accounting for general developmental factors.

Disentangling development from migration processes in this way may also help to pinpoint which actors or processes are particularly relevant for psychosocial adaptation. At the same time, such an approach has the potential to raise new research questions regarding the impact of migration on development and provide insights for stakeholders supporting young people.

General predictors can be derived from theorizing on structural network support (e.g., Thoits, 2011), which outlines that social support can stem from all parts of a person's network, but parents, teachers, and peers are amongst the most likely sources for children's and adolescents' support generally (Chu et al., 2010). Research has rarely considered the relative importance of different sources for perceived social support. When it has, there has been some inconsistency: Variable-centered approaches usually showed positive associations between measures of relationship quality from different sources (e.g., Furman, Simon, Shaffer, & Bouchev, 2002), suggesting that adolescents feel either well-supported or not well-supported across sources of support. However, evidence from an emerging person-centered approach shows that, while some adolescent's relationships show convergence (consistent relationship quality across sources), nonconvergence (mixed relationship quality across sources) is also quite typical (Jager, 2011). Nevertheless, this cross-sectional research showed that relationships with parents were particularly important for positive adjustment during adolescence. In the only longitudinal person-oriented investigation of several sources of social support we could find, Ciarrochi, Morin, Sahdra, Litalien, and Parker (2017) considered profiles of perceptions of social support from parents, teachers, and peers across two measurement time points in secondary school. They identified several fairly stable profiles made up of various combinations of social support sources. However, only 7% of the sample had high social support from at least two sources and 25% of the sample scored below average on perceived support from all three sources. Importantly, the authors found that minority status (being part of an indigenous or ethnic minority group vs. "Anglo Caucasian" [*sic*]) did not predict profile membership.

From an acculturation perspective, the same structural factors (family, peers, school) seem relevant for immigrant adolescents. The family network in particular has a predominant role in providing social support in the acculturation process (e.g., Telzer, 2011). It is a known source of information about ethnic culture and heritage, fosters ethnic and racial identity development, and provides a sense of belonging, security, and stability (e.g., Hughes et al., 2006). Social support from peers may stem from same-ethnic and cross-ethnic friends. Same-ethnic friends may provide particular support to immigrant adolescents in dealing with the shared realities of being ethnic minorities (e.g., Vietze, Juang, & Schachner, 2019), whereas cross-ethnic friendships support learning about the host culture (Graham, Munniksma, & Juvonen, 2014) and foster social cohesion by reducing intergroup prejudice (Pettigrew, 1998). Furthermore, the school context plays a major role in providing social support to immigrant youth. Teachers are more likely to come from mainstream backgrounds (Thijs & Verkuyten, 2012), and school climate is likely to reflect the culture, policies, and attitudes of the wider society (Schachner, Van de Vijver, & Noack, 2018). Hence, feeling connected and accepted in a school environment can bring support to immigrant adolescents through a sense of belonging, positive emotions, and positive appraisals of the host culture (Schachner et al., 2018). In sum, general developmental factors related to family, peer, and school involvement seem to be associated with social support trajectory classes for immigrant and non-immigrant youth.

For immigrant youth, research needs to consider additional acculturation-specific processes related to experiences and challenges that may affect their perceptions of social support. Research on the role of social support in the acculturation process has therefore considered its relation to migration-specific experiences such as discrimination and acculturation orientations. Perceiving discrimination may change perceptions of social

support, even when the number of persons in a social support system or social network remains unchanged (e.g., Oppedal, 2011). Host and heritage acculturation orientations have also been identified as important predictors of perceived social support in migrants, because the greater cultural interactions and competences that come with these orientations increase a sense of belonging to these cultures and perceptions of social support from representatives of these cultures (e.g., Oppedal, Røysamb, & Sam, 2004). However, the direction of relationships between these variables is still unclear due to the predominance of cross-sectional, variable-centered designs in current research on social support and immigrant adolescents.

3 | SOCIAL SUPPORT TRAJECTORIES AND PSYCHOLOGICAL ADAPTATION

A lack of person-oriented research on social support trajectories also leaves unanswered how different social support trajectories relate to adaptive outcomes in adolescence, though Holden et al. (2015) found matching patterns between social support and mental health indicators in their adult sample. The consistent link between perceived social support and adaptive outcomes delineated in variable-centered research (e.g., Thoits, 2011, see above) also points toward the conclusion that trajectories of social support may be reflected in similar patterns of psychological adaptation. Ciarrochi et al. (2017) were able to show that most combinations of support sources represented in the different profiles they uncovered were related to some well-being and health benefits, except the “isolated” profile that was low on all social support sources.

This indicates that children and adolescents are likely to draw comfort and security from the perception that social support would be available during times of stress (Chu et al., 2010). Furthermore, perceptions of support may also increase a sense of mattering to others, self-esteem, and mastery (Thoits, 2011), preparing adolescents for future challenges they may face. Thus, social support can also be expected to increase self-efficacy, a well-known indicator of psychosocial adaptation and correlate of well-being (Luszczynska, Gutiérrez-Doña, & Schwarzer, 2005). A mechanism explaining this link between social support and self-efficacy can be found in Bandura's self-efficacy theory (1997). According to this theory, children and adolescents gain a sense of self-efficacy not only by solving difficult problems, but also by receiving feedback and support from important others while facing challenges. Parents and peers, as important sources of social support in childhood and adolescence, serve as role models, provide encouragement and coping strategies. Hence, children learn to respond to stressful situations with adaptive self-regulatory strategies and consequently develop a higher level of self-efficacy (Bandura, 1997). This simultaneous growth in perceived social support and self-efficacy stands as a universal developmental process in adolescence. For this reason, and because developmental predictors have been found to be strong predictors of self-efficacy in minority youth (Titzmann & Jugert, 2017), we would assume that the connection between social support development and self-efficacy development in adolescence should be present both in immigrant and non-immigrant populations regardless of (national) context.

4 | THE CURRENT STUDY: AIMS AND HYPOTHESES

As stated above, our main goal was to examine the number of social support trajectory classes, as well as the predictors and psychosocial consequences of class membership. Due to a lack of research, it is somewhat speculative to hypothesize the number of social support trajectories. Based on previous research and considerations about changes

in the social world of adolescents we expected to find between two and four trajectory classes (Holden et al., 2015; Wrzus et al., 2013). At least two classes should be found: a stable high class and an increasing class. There may, however, be two additional classes (a stable low and a decreasing class). We hypothesized that we would find the same number of social support trajectory classes across all ethnic groups (H1), because adolescence generally is a time of ecological transitions with substantial dis/continuity in social relationships, of which migration is only one example. An increasing social support trajectory class was expected to be somewhat larger in our immigrant groups than in our non-immigrant group.

To predict perceived social support trajectories we applied an acculturation development framework, studying general developmental and acculturation-related predictors in combination (Bornstein, 2017; Juang & Syed, 2019; Titzmann & Lee, 2018). With regard to predictors of trajectory class membership we expected commonality (characteristics/predictors that are common to any two or more groups) across groups in general developmental predictors derived from structural network support theories (i.e., commonality in the predictive effects of involvement in family, school, and peer networks; H2a—tested in all three groups) and specificity (characteristics/predictors that are unique for some groups) in immigration-related predictors (i.e., specificity in the predictive effects of perceived discrimination, heritage and host cultural orientations; H2b—tested only in the two immigrant groups).

We also considered how trajectory class membership would relate to the psychological adaptation of adolescents. More specifically, we assessed self-efficacy as a well-known indicator of psychosocial adaptation and correlate of well-being (Luszczynska et al., 2005). The broad evidence for the effectiveness of perceiving social support for psychosocial adjustment (Chu et al., 2010) led us to expect similar associations between trajectory classes and intercepts and slopes of self-efficacy across ethnic groups (H3). More specifically, we expected that trajectory classes are associated with self-efficacy development: Classes with higher or lower initial values in social support should report higher or lower starting values in self-efficacy, respectively. Furthermore, observed change rates in social support classes should be reflected in similar self-efficacy change rates.

5 | METHOD

5.1 | Participants and procedure

The data presented here are part of a larger longitudinal study on the situation of adolescent immigrants from several countries to Germany and Israel considering the interplay between acculturative and developmental processes (see also Titzmann & Silbereisen, 2012). Sampling took place in cities with a population between 100,000 and 200,000 with differing proportions of immigrant inhabitants. Adolescent participants were selected according to length of residence, school type, and age. Informed consent was obtained from all adolescent participants in this study and their parents. They were informed about the process and purpose of the research and their right to refuse participation without consequences at any time before, during, and after data collection.

The sample comprised 1326 ethnic German diaspora migrants, 830 non-immigrant German, and 1593 Russian Jewish adolescents ($N = 3749$; $M_{\text{age}} = 15.45$; $SD = 2.01$; 50% female) assessed longitudinally across three annual waves (2002–2005). Adolescents first took part in data collection at school (Time 1). Later, adolescents were contacted by post, after having consented to their data being used in that way (Time 2–3). We included data if the participant had taken part in at least one wave of data collection (33% took part in only one

wave, 21% in two waves, and 46% in all three waves). Full information maximum likelihood (FIML) estimation was applied to handle missing data, as is recommended for structural equation modeling (e.g., Schafer & Graham, 2002).

5.2 | Measures

All measures were based on established scales, pilot tested, translated, and back translated. Measurement equivalence across groups was confirmed using Tucker's phi (van de Vijver & Poortinga, 2002). For all measures, factors were equivalent across groups, $\phi_s \geq .95$. Unless otherwise indicated, we created composite measures by averaging across the corresponding scale items, with higher scores indicating higher levels on the relevant dimension. Questionnaires included additional items, which are not relevant for this report and therefore not discussed further.

5.2.1 | Demographic information

Adolescent participants reported their age, gender, and ethnic group membership.

5.2.2 | Social support

The adolescents rated their level of agreement to five statements regarding their perceived social support at each time point (e.g., "When I'm sad there are people who cheer me up.", "There are some people I can always rely on.") on six point Likert-type scales (1 *do not agree* to 6 *do agree*; Schulz & Schwarzer, 2003; α s T1–T3: .87, .90, .92).

5.2.3 | Structural network support

To assess *family involvement*, the adolescents rated the personal applicability of three statements regarding their levels of family cohesion at Time 1 ("My family does a lot of things together.", "I can talk to my parents about almost everything.", "I get along well with my parents.") on six point Likert-type scales (1 *does not apply* to 6 *applies*; based on Schneewind, 1988; $\alpha = .71$). Using the same scale format, adolescents assessed the personal relevance of three statements regarding their level of *school involvement* as operationalized by their behavioral engagement with school at Time 1 ("I do well even in difficult subjects.", "I aim for a high grade point average.", "I do my homework carefully."); based on Schneewind, 1988; $\alpha = .69$). We chose behavioral engagement, as this is the component of academic engagement that specifically reflects students' participation and efforts to perform academic tasks and it is also highly correlated with other measures of student involvement (Fredricks, Blumenfeld, & Paris, 2004). To approximate the adolescents' *involvement with peers* we created a count variable from dichotomous (yes/no) items asking the adolescents whether they had a stable best friend, a relationship, and whether they were part of a clique. This resulted in the creation of one variable with a range of zero (indicating no peer involvement) to three (indicating high involvement with peers).

5.2.4 | Migration-specific processes

Immigrant adolescents reported the extent of their *host culture and heritage culture adaptation* at Time 1 (e.g., "I enjoy social activities together with natives." (host culture) and "I enjoy social activities together with Aussiedler/immigrants from FSU." (heritage culture);

Ryder, Alden, & Paulhus, 2000; three statements each scored from 1 *does not apply* to 6 *applies*; α host culture = .84, α heritage culture = .78). Immigrant adolescents also reported the frequency of their experiences of discrimination in their daily lives (e.g., “in shops,” “in the neighborhood”) at Time 1 (Strobl & Kühnel, 2000; four statements scored from 1 *never happened* to 6 *more than 10 times*; $\alpha = .74$).

5.2.5 | Self-efficacy

Adolescents reported their *self-efficacy* (e.g., “It is easy for me to stick to my goals and accomplish them.”; Schwarzer & Jerusalem, 1995; four statements scored from 1 *does not apply* to 6 *applies*; α s T1–T3: .78, .80, .81).

5.3 | Data analysis

To address our first hypothesis, we applied the same strategy for the entire sample and for each ethnic group separately. First, we applied growth mixture modeling (Muthén & Shedden, 1999) in *Mplus* Version 8 to identify classes of individuals who were similar in their reported social support trajectories across time using the longitudinal measures (T1–T3) of social support to build a growth curve model that delivered estimations of intercepts and slopes, describing adolescents’ initial level and rate of change in perceived social support over time. We used unconditional growth curve modeling to freely estimate the shape of changes thereby allowing for nonlinear types of changes. To do so, we fixed factor loadings of Time 1 manifest variables on latent slope variables to 0, and those of Time 2 manifest variables on latent slopes to 1. As a consequence, slope estimates referred to change between the first and the second wave. Factor loadings for Time 3 were freely estimated. We used the estimator MLR (maximum likelihood estimation with robust standard errors) as it is known to deliver robust estimations, standard errors, and fit statistics in small- and medium-size samples, even in the case of deviations from the normality assumption (Muthén & Asparouhov, 2002).

In growth mixture models, classes differ by class-specific intercepts and slopes. Within classes, individuals may vary around this class-specific trajectory defined by intercept (i.e., starting point) and slope (i.e., change rate). The variance–covariance structure of intercepts and slopes as well as the residual variances of our measures were held equal across classes. To identify classes of perceived social support change, we started with an initial growth mixture model including only one class of individuals (thus representing the sample-average model). Using a stepwise procedure, we consecutively added one additional class, k , to the model. Then we compared whether the more parsimonious model described the data as well as the more complex model assuming one more class. To decide about the number of classes that are sufficient for describing the heterogeneity in our subsamples in an adequate and, at the same time, parsimonious way, we used several indices and took into consideration the theoretical meaning, as well as the sample size of each group, following suggestions made by Jung and Wickrama (2008). The Bayesian information criterion (BIC; Schwartz, 1978) and the Lo–Mendell–Rubin likelihood ratio test (LMR; Lo, Mendell, & Rubin, 2001) have been shown to yield reliable results in growth mixture modeling (Nylund, Asparouhov, & Muthén, 2007). To operationalize the classification quality of a given model, we used an entropy value. Taken together, a well-fitting and parsimonious model is indicated by a lower BIC value than the $k - 1$ class model, a significant LMR result, as well as by a high classification quality. In addition, new classes should cover at least 5% of the sample and provide theoretically meaningful and distinct new groups.

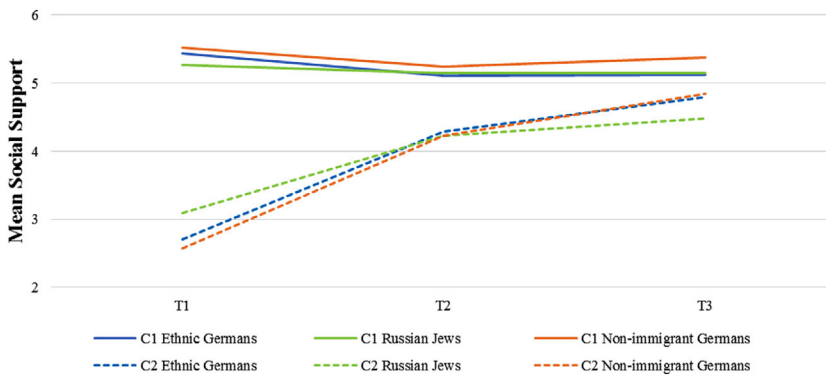


FIGURE 1 Social support trajectories by ethnic group

To address our second hypothesis, we investigated indicators of class inclusion from general and migration-specific characteristics of the adolescents by applying binary logistic regression in SPSS 25. In the third step of our analyses, addressing hypothesis 3, we considered the adaptive consequences of adolescent class membership by testing whether classes of adolescents differ with respect to self-efficacy as a marker of psychological adaptation. For this purpose, we first built an overall growth curve model combining all groups (Model 1), followed by two multi-group growth curve models in *Mplus* referring to adolescents' (T1–T3) self-efficacy: one including all groups (Model 2) and one including only immigrant groups (Model 3). We introduced membership in the social support classes as an independent variable to these models. The growth curve models delivered estimates for self-efficacy intercepts and slopes (i.e., initial level and rate of change) for the group as a whole (Model 1) and each ethnic group (Models 2 and 3), as well as estimates for the regressive paths linking social support classes with the self-efficacy intercept and slope. Next, we compared freely estimated models to constrained models in which paths between classes and self-efficacy intercepts and slopes were constrained to be equal for all groups (Model 2) or for the immigrant adolescent groups (Model 3).

6 | RESULTS

6.1 | Trajectory classes of perceived social support

Descriptive statistics of study variables and mean group differences are reported in Table 1. Table 2 provides information about the models we compared to identify classes of perceived social support change overall and for each group separately. In all ethnic groups, indicators point to a two-class solution in our data: it showed better fit than the one-class solution (as indicated by a lower BIC and the significant LMR value), whereas adding a third class did not comprise a substantial number of participants or further improve the theoretical interpretation of the model or the model fit (no improvement with regard to entropy, non-significant LMR value in three of the four cases). The two-class models assigned between 83% and 87% of adolescents in each ethnic group (and 85% overall) to Class 1 and between 17% and 13% of adolescents in each ethnic group (15% overall) to Class 2. In each model, means of levels and slopes for perceived social support were estimated (see Table 3), which can be used to describe the prototypical change trajectories within each class (Figure 1).

TABLE 1 Means and standard deviations of study variables by ethnic group

	Overall			Ethnic Germans			Russian Jews			Non-immigrant Germans		
	<i>n</i>	<i>M</i>	<i>SD</i>	<i>n</i>	<i>M</i>	<i>SD</i>	<i>n</i>	<i>M</i>	<i>SD</i>	<i>n</i>	<i>M</i>	<i>SD</i>
Age	3639	15.45	2.01	1287	15.60	2.07	1535	15.66	1.76	817	14.82	2.21
Gender	3700	1.50	0.50	1310	1.53	0.50	1564	1.46	0.50	826	1.52	0.50
T1social support	3551	4.99	1.13	1309	4.98 _a	1.21	1418	4.92 _a	1.00	824	5.12 _b	1.19
T2 social support	2293	5.03	1.15	695	4.98 _a	1.32	1105	5.02 _{a,b}	0.95	493	5.12 _b	1.27
T3 social support	2115	5.13	1.11	663	5.08 _a	1.24	941	5.06 _a	0.98	511	5.32 _b	1.07
Family Cohesion	3543	4.36	1.21	1300	4.38 _{ab}	1.21	1419	4.28 _a	1.22	824	4.46 _b	1.18
Peer involvement	3559	2.23	0.81	1314	2.15 _a	0.83	1419	2.44 _b	0.74	826	2.02 _c	0.81
School cohesion	3542	3.92	1.16	1301	3.98 _a	1.14	1417	3.82 _b	1.16	824	4.01 _a	1.19
Heritage culture orientation	2698	5.14	1.17	1280	5.11 _a	1.23	1418	5.17 _a	1.12			
Host culture orientation	2695	3.73	1.56	1278	4.17 _a	1.53	1417	3.35 _b	1.49			
Perceived discrimination	2674	1.65	0.85	1258	1.54 _a	0.82	1416	1.74 _b	0.87			
T1 self-efficacy	3510	4.15	1.12	1277	4.16 _a	1.16	1419	4.23 _a	1.07	814	4.01 _b	1.12
T2 self-efficacy	2284	4.27	1.03	690	4.25 _a	1.00	1102	4.33 _{ab}	1.05	492	4.18 _{ac}	1.01
T3 self-efficacy	2116	4.45	0.97	665	4.47 _a	0.93	941	4.48 _a	0.98	510	4.38 _a	0.97

Note. Means with different subscripts differ at a minimum of $p < .05$.

TABLE 2 Comparison fit indices for the chosen model with two classes and alternative models overall and by ethnic group

Group	Model	BIC	LMR	Entropy	n1 (% sample)	n2 (% sample)	n3 (% sample)
Overall	1 Class	24032	—	—	3749	—	—
	2 Classes	22907	<.00001	.87	3194 (85%)	555 (15%)	—
	3 Classes	22351	.054	.81	3041 (81%)	504 (13%)	204 (5%)
Ethnic Germans	1 Class	8697	—	—	1326	—	—
	2 Classes	8251	<.00001	.91	1134 (86%)	192 (14%)	—
	3 Classes	7920	.0006	.81	1046 (78%)	186 (14%)	94 (7%)
Russian Jews	1 Class	9405	—	—	1539	—	—
	2 Classes	9095	<.00001	.82	1317 (83%)	276 (17%)	—
	3 Classes	9042	.21	.76	1262 (79%)	250 (15%)	81 (5%)
Non-immigrant Germans	1 Class	5747	—	—	830	—	—
	2 Classes	5326	<.00001	.95	726 (87%)	104 (13%)	—
	3 Classes	5099	.08	.89	673 (81%)	85 (10%)	72 (9%)

TABLE 3 Model estimates of mean level intercepts and slopes for perceived social support in each class

	Well-supported class		Increasingly-supported class	
	M	95% CI	M	95% CI
Overall	Intercept	5.37*** [5.34; 5.73]	2.86*** [2.72; 3.00]	
	Slope	-0.17*** [-0.22; -0.13]	1.47*** [1.26; 1.69]	
Ethnic Germans	Intercept	5.39*** [5.21; 5.45]	2.62*** [2.38; 2.85]	
	Slope	-0.27*** [-0.35; -0.19]	1.84*** [1.48; 2.20]	
Russian Jews	Intercept	5.29*** [5.24; 5.35]	3.26*** [3.11; 3.41]	
	Slope	-0.09* [-0.17; -0.02]	0.98*** [0.70; 1.26]	
Non-immigrant Germans	Intercept	5.50*** [5.44; 5.56]	2.53*** [2.28; 2.79]	
	Slope	-0.14*** [-0.24; -0.04]	1.72*** [1.20; 2.24]	

**p* < .05.

****p* < .001.

Across ethnic groups, adolescents in Class 1 showed a high initial rate of social support with a small significant decline over time, thus we named this class the “well-supported” class. In comparison, adolescents in Class 2 showed an initially low and significantly increasing perception of social support (named the “increasingly-supported” class). Post hoc comparison of the confidence intervals (CIs) showed significantly higher mean levels of perceived social support in the well-supported than in the increasingly-supported class and significantly higher levels of perceived social support change in the increasingly-supported than in the well-supported class. A chi-square test of independence showed no relation between ethnic group membership and trajectory class membership in the overall sample, $\chi^2(2, N = 3749) = 3.72, p = .156$.

6.2 | Predictors of perceived social support trajectory class inclusion

To investigate the influence of developmental predictors on trajectory class membership (with the increasingly-supported class as the reference group) we regressed our classes of perceived social support change onto age, gender, family, peer, and school involvement separately in each group. In a second analysis, we additionally considered the migration-specific processes of host and heritage orientation and perceived discrimination in our migrant adolescent groups only. The overall models were significant χ^2 s (5) $\geq 133.82, ps < .001$, Cox and Snell R^2 s $\geq .11$, Nagelkerke's R^2 s $\geq .19$, for the models with general predictors, and for the models including migration-specific predictors in a third step, χ^2 s (8) $\geq 239.86, ps < .001$, Cox and Snell R^2 s $\geq .17$, Nagelkerke's R^2 s $\geq .29$. The results (Table 4) showed that female gender, and higher family and peer involvement predicted membership in the well-supported class in all groups. Higher school involvement predicted membership in the well-supported class only among non-immigrant German and Russian Jewish groups. Further, membership in the well-supported class was predicted by higher heritage and higher host cultural orientation in both immigrant groups and lower perceived discrimination only among Russian Jewish adolescents in Israel.

6.3 | Relationships between trajectory class membership and self-efficacy development

Latent-covariate-growth-curve-modeling indicated that adolescents in the well-supported class had higher self-efficacy and a less marked increase in self-efficacy over time than adolescents in the increasingly-supported class ($\beta_{\text{class on self-efficacy intercept}} = .34, p < .001$; $\beta_{\text{class on self-efficacy slope}} = -.35, p = .005$). The model showed excellent fit to the data, $\chi^2(2) = 4.04, p = .13$, RMSEA = .02, 90% CI: [.00, .04], CFI = .998. We used multi-group latent-covariate-growth-curve-modeling to examine the similarities or differences of ethnic groups regarding the associations between trajectory classes and self-efficacy. To this end we compared a model where all associations were freely estimated to a model in which paths between classes and self-efficacy intercepts and slopes were constrained to be equal for all ethnic groups (Model 2). We followed the same procedure to compare only the immigrant adolescent groups with each other (Model 3). In each ethnic group we found that adolescents in our well-supported class had higher self-efficacy and a trend toward a less marked increase over time than adolescents in the increasingly-supported class (see Figure 2; $\beta_{\text{class on self-efficacy intercept}} \geq .326, ps < .001$; $\beta_{\text{class on self-efficacy slope}} \geq -.278, ps \leq .094$ for the constrained model). Multi-group comparison analysis showed that while these effects had a similar direction in all groups they differed significantly between

TABLE 4 Binary logistic regression models predicting trajectory class membership from general and migration-specific variables

	Ethnic Germans			Russian Jews			Non-immigrant Germans								
	<i>b</i> (SE)	Wald	OR	<i>b</i> (SE)	Wald	OR	<i>b</i> (SE)	Wald	OR						
Age	-.17 (.04)	15.41***	.84	-.11 (.05)	5.83***	.89	-.08 (.05)	2.76	.93	.01 (.05)	0.08	1.01	-.21 (.06)	14.59***	.81
Gender	-.79 (.18)	19.95***	.45	-.68 (.19)	13.13***	.50	-.69 (.17)	17.50***	.50	-.44 (.18)	6.14*	.64	-.1.16 (.24)	22.99***	.31
Peer involvement	-.44 (.10)	19.23***	.64	-.43 (.11)	16.46***	.65	-.44 (.10)	19.93***	.65	-.44 (.11)	17.41***	.64	-.53 (.14)	14.51***	.59
Family involvement	-.65 (.08)	69.97***	.52	-.53 (.08)	38.88***	.59	-.58 (.07)	78.30***	.55	-.45 (.07)	41.70***	.63	-.73 (.10)	53.38***	.48
School involvement	-.06 (.08)	0.52	.94	.01 (.09)	.003	1.00	-.26 (.07)	13.30***	.77	-.26 (.08)	11.91**	.77	-.32 (.11)	8.77***	.72
Perceived discrimination				.11 (.10)	1.06	1.11				.25 (.09)	7.88**	1.29			
Heritage culture orientation				-.49 (.07)	51.06***	.62				-.59 (.07)	74.68***	.55			
Host culture orientation				-.29 (.06)	22.50***	.75				-.22 (.06)	11.98**	.80			
Chi-squared (df)			116.87 (3)***			88.10 (3)***			145.94 (3)***			99.68 (3)***			104.91 (3)***
Nagelkerke's R ²			.20			.31			.19			.29			.28

Note. Analyses used the increasingly-supported class as reference group.

**p* < .05.

***p* < .01.

****p* < .001.

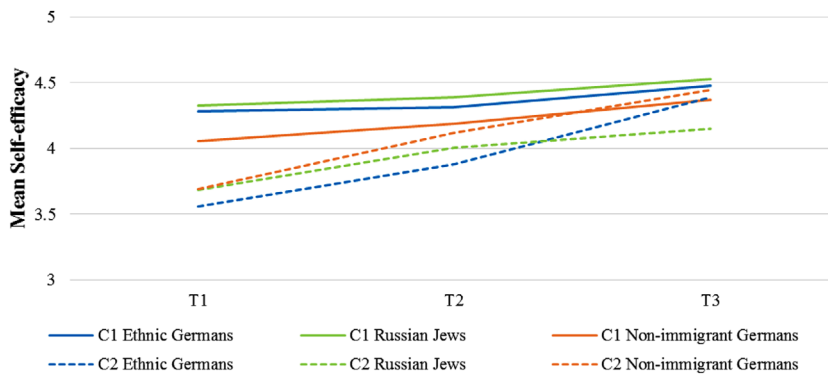


FIGURE 2 Self-efficacy trajectories by social support trajectory class and ethnic group

non-immigrant Germans and the two immigrant groups, fit indices for the constrained model: $\chi^2(10) = 21.34$, $p = .019$, RMSEA = .03, 90% CI: [.01, .05], CFI = .987, for the comparison $\Delta\chi^2(4) = 14.69$, $p = .005$. Further model comparisons, which compared the freely estimated model and constrained model to a model where the intercepts were freely estimated, but the slopes were fixed, showed no difference between the freely estimated model and the model in which only slopes were constrained, $\Delta\chi^2(2) = 4.06$, $p = .13$, but a significant difference between the model in which both intercept and slope were constrained and the model in which only slopes were constrained, $\Delta\chi^2(2) = 10.64$, $p = .005$. This indicates that the difference between immigrant groups and non-immigrant Germans was due to the differences in the intercepts of self-efficacy not in the slopes of self-efficacy (see also Table 1). There were no differences between our immigrant groups, fit indices for the constrained model: $\chi^2(6) = 10.36$, $p = .11$, RMSEA = .02, 90% CI: [.00, .05], CFI = .994, for the comparison $\Delta\chi^2(2) = 4.08$, $p = .13$.

7 | DISCUSSION

This study underscored the utility of person-oriented comparative research in advancing developmental migration research. Supporting our first hypothesis and in line with previous research by Holden et al. (2015), we showed that, regardless of immigration status, social support trajectories can be summarized into meaningful classes with distinct predictors and psychological consequences. We were able to differentiate adolescents whose perceptions of social support remained fairly high across adolescence (the “well-supported” class) from those whose perceptions started at a lower level, but increased (the “increasingly-supported” class). These classes were very similar across ethnic groups and also provided the best solution to the data in the sample as a whole. The well-supported class, which was our largest class in the sample as a whole, and in each ethnic group separately, described adolescents who were more likely to be female, to feel highly involved with family, peers and, for non-immigrant Germans and Russian Jews only, school. Immigrant adolescents in this class reported high heritage culture and host culture orientations; Russian Jews in this class perceived less discrimination. In addition, adolescents in this class had higher initial levels of self-esteem, which increased slightly over time. Concurrently, adolescents in our increasingly-supported class were more likely to be male, with lower involvement with family, peers, and, for non-immigrant Germans and Russian Jews only, school. Immigrant adolescents in this class reported lower heritage culture and host culture orientations; Russian Jews in this class perceived more discrimination. However,

adolescents in this class steadily increased in their perceptions in social support and this pattern was matched in terms of their self-efficacy, which started lower but showed a marked increase over time.

Taken together these findings are very encouraging. For one thing, the vast majority of adolescents in our sample (approximately 85%) felt well-supported across adolescence, benefitted both from positive general developmental and migration-specific processes, and had positive adaptation outcomes over time. In addition, even those adolescents—in our increasingly-supported class—who experienced “starting difficulties” in terms of their perceived social support were able to improve in terms of social support perception and self-efficacy over time, despite the presence of general developmental and migration-specific stressors. Thus, and in line with theorizing on positive youth psychology (e.g., Lerner, Almerigi, Theokas, & Lerner, 2005), they seemed able to draw from their biopsychosocial system to perceive increasing social support with concurrent increasing adjustment outcomes. The fact that adolescents benefitted from involvement with family and peers (and, in two of three groups, with school), supports this contention and our second hypothesis regarding commonality in sources of support from structural networks. The results also show that the different sources of support explain unique shares of variance in perceived social support. Hence, the different sources exert additive rather than interchangeable effects on perceived social support. These results complement past findings (e.g., Crockett et al., 2007) that indicate that family is the most important source of social support with consistently larger effects of family than peers across groups. It also may explain why we found no evidence of trajectory groups that were low in perceived social support across time, or decreased across time unlike Holden et al. (2015). Contrary to adulthood, adolescence is marked by growth across several spheres of social life, thus providing support from multiple sources.

In accordance with the second part of our second hypothesis (H2b), migration-specific processes were found in the effects of host and heritage orientation on perceived social support trajectory class membership across both immigrant groups. Importantly, we were also able to provide evidence for the distinct effect of both cultural orientations independent of the national context in which acculturation took place and after accounting for structural network sources of social support in our regression models. Hence, adolescents high in both orientations were more likely in the well-supported trajectory class, which may explain the common finding that bicultural individuals are better psychologically adjusted (e.g., Nguyen & Benet-Martínez, 2013).

In line with our third hypothesis, relationships between our classes and self-efficacy were remarkably similar across all groups and statistically identical for our immigrant adolescents. That is, the patterns of perceived social support trajectories and self-efficacy aligned, as expected and in line with the findings of Holden et al. (2015). Thus, focusing on ways to improve the perceptions of social support has the potential to increase the psychological adaptation of immigrant and non-immigrant adolescents. Together, our findings align with past research (e.g., Chu et al., 2010), but—importantly—extend our knowledge to provide person-oriented and longitudinal evidence across immigrant and non-immigrant samples.

To summarize, our study contributes to the debate on the coaction of general developmental and migration-specific processes as well as the generalizability across samples. We found evidence for common developmental processes in perceived social support in ethnic group similarities in trajectory classes, their consequences (regarding self-efficacy as an adaptation outcome) and their developmental antecedents (e.g., family and peer involvement). We also found acculturation-specific processes in the effects of host and heritage cultural orientations. Some of these effects were generalizable across all groups (i.e., general developmental processes predicting perceived social support trajectory class membership), some were migration-specific (e.g., cultural orientations predicting social support)

and some effects were group- or context-specific (e.g., effects of perceived discrimination and school involvement on trajectory class membership).

Though we did not have a priori expectations regarding context- (or group-) specific findings, unpacking these findings should be of interest for future research. We found that higher school involvement predicted membership in the “well-supported” class among non-immigrant German and Russian Jewish groups, but not among ethnic German immigrants in Germany. We also found that higher perceived discrimination was predictive of membership in the “increasingly-supported” class for Russian Jewish adolescents in Israel, but not for ethnic German adolescents in Germany. Such unexpected differences should always be interpreted with caution, as they are data driven and may simply reflect sample characteristics. Given this uncertainty, these results should be replicated in planned comparisons before they can be interpreted further.

There are some potential factors that could give direction to such planned comparative hypotheses of difference. For instance, although the immigrant groups we considered in this research were well matched in many respects, there were some national differences in the regional placement of ethnic German diaspora in Germany and Russian Jews in Israel. The latter were more likely to live in segregated areas, which may have included more segregated schools in which they were a numerical majority. In contrast, ethnic German immigrant adolescents in Germany were spread throughout various communities and experienced a context in which they were a numerical and ethnic minority. Research on ethnic minority students shows that school belonging increases when the ethnic composition at the school level (Benner & Graham, 2007) and at the classroom level (Mok, Martiny, Gleibs, Keller, & Froehlich, 2016) has larger proportions of ethnic in-group members. This could explain the differences we found and would suggest that explicitly considering ethnic school or classroom composition alongside ethnic minority status might help to further delineate expected intergroup differences in planned comparison hypotheses of context in adolescents.

7.1 | Limitations, implications, and future directions

Despite our promising findings, there were, of course, several limitations to our research, not least due to the fact that we relied on single-informant self-report data to operationalize our study variables. Thus, while we were able to make statements about the course, the predictors, and outcomes of social support trajectories, we have little additional information regarding the nature of networks that succeed to provide these perceptions. Thus, we cannot say why adolescents are more or less involved in these networks, or whether there are aspects of reciprocity that might explain differential trajectories. Future research that incorporates multi-informant perspectives is therefore desirable, ideally this would be based on research that speaks to the processes that foster involvement in different areas of adolescent lives. In a related point, it is important to note that we only considered Time 1 predictors of our social support trajectories due to study constraints. This means that we cannot say how changes in network involvement or migration-specific processes affected changes in social support perceptions. More research is needed to better understand the dynamics at play here. Such research could also include a wider definition of the networks adolescents are embedded in to include extended family ties (within and across borders), siblings, leisure contacts, or neighborhoods to name just a few that were beyond the scope of our study. Another limitation is that our data were gathered some time ago, raising the question of whether our findings would still hold today. Although we would suggest future replications to answer this question, we believe the processes we describe would remain the same, because they reflect general developmental processes

that should hold even in globalized, digitalized, superdiverse societies (Meissner, 2019). To some extent, our study even provides evidence for this expected generalizability, because results were rather similar across the three groups, despite differences in their migration history and context of settlement. In a final point, it would be desirable to track adolescents further into young adulthood in future research to substantiate our claims about the nature of the trajectories we found. If our claims are correct at least some young adults should experience a decline in perceived social support once they leave home, start work, or found a family.

Nonetheless, this study is—to our knowledge—the first longitudinal and person-oriented investigation of the way in which aspects of the acculturation process may affect individual perceptions of social support over time and what the consequences of different social support trajectories for migrant adolescents might be. Thus, it provides an important addition to our understanding of the impact of migration on adolescent development and the literature on the role of perceived social support for immigrant adolescents and adolescents more generally. Taken together, our results indicated that immigrant and non-immigrant youth are more similar than one might expect, but that the coaction of development and acculturation is nuanced and sometimes dependent on specific contextual factors. Stakeholders looking to support immigrant adolescents' psychological adaptation should be aware of this nuanced coaction and its implications. For researchers, our findings highlight the importance of considering both old and new findings in developmental acculturation research through the lens of dynamic individual change. It is increasingly apparent that cultural adaptation and change are an integral and inseparable part of immigrant adolescents' individual development, but that the ways in which this change affects individuals is not yet well researched or understood in traditional variable-centered approaches. We need to find ways, based on theories that conceptualize the dynamics of change, to implement and use the array of methodological advances now available to us if we truly want to understand the impact of migration on individual development (cf., Titzmann & Lee, 2018). For practitioners, our results should be interesting, because they caution us to remember that immigrant adolescents are first and foremost adolescents who benefit from functioning social support networks in the same way that *all* adolescents do. Thus, adverse outcomes can be addressed by working with families, peers, and schools to improve adolescents' perceptions of social support. Additionally, the importance of fostering both heritage and host culture orientations needs to be emphasized: schools and educators, social workers, and other professionals can help families and adolescents to learn about culture, foster cultural competence, and convey acceptance of the unique cultural experiences individuals bring to any given situation. As yet, such a diverse mind-set often takes the back seat to ensuring competences in the host culture, and while this remains important, our results would suggest that the heritage culture is equally important in creating perceptions of social support and, consequently, psychological adaptation.

8 | CONCLUSIONS

Our comparative longitudinal study makes a unique empirical contribution to the research on immigrant youth adaptation by integrating developmental and acculturation science in research on perceived social support trajectories during the adolescent years. Results show that immigrant and non-immigrant adolescents can be assigned to a similar number of social support trajectory classes with similar changes over time. In addition, both the well-supported and the increasingly-supported class were associated with common developmental (high involvement with family and peers) as well as acculturation-specific (host and heritage culture orientations) processes and were linked to self-efficacy trajectories. While

further multi-group comparisons will be necessary to corroborate our findings, our study provides evidence that the integration of development and acculturation is fruitful for a more holistic understanding of immigrant and non-immigrant youth. Furthermore, studying trajectory classes (such as our social support trajectory classes) may be an important step for future research: Empirically derived classes can overcome implied ethnic divisions, because these classes are more permeable and may avoid the development of stereotypes based on comparisons of essentialized ethnic group membership.

DATA AVAILABILITY STATEMENT

The datasets generated and/or analyzed during the current study are not publicly available but are available from the corresponding author on reasonable request.

CONFLICT OF INTEREST

The authors declare no conflict of interest.

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