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Determinants of ethnic identity development in adulthood: A longitudinal study

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Ethnic identity is defined in terms of the interaction between exploration of and commitment to a given cultural background. The present study investigated the effect of individual background, role transitions, and the social environment on the development of ethnic identity in a sample of German adults aged 21–73 years ($N = 2,940$). Additionally, identity transitions and the moderating effect of disequilibrating life events on identity over time were examined ($N = 827$). Overall, results are consistent with findings for other identity domains: Respondents could be assigned to one of four identity stages, ranging from unexamined to achieved identity. Particularly, the individual background and the extent of community involvement affected ethnic identity formation in adulthood. Longitudinal analyses revealed that only one-third of respondents had remained in the same identity stage; most individuals had transitioned forward or backward. Changes in ethnic identity were not moderated by disequilibrating life events.

Statement of contribution

Identity development has been acknowledged as a central task of adolescence (Erikson, 1968; Marcia, 1994). Most research work on identity development has focussed on this phase of life. However, identity formation is not necessarily complete by the end of adolescence; rather, it can occur throughout the life span (Cramer, 2004; Fadjukoff & Kroger, 2016; Kroger, 2007). The few studies to date that have examined identity development across adulthood, focussed on the domains occupational career, intimate relationships, religious beliefs, ideology, or lifestyle. Even fewer have investigated identity development patterns longitudinally. In this regard, the present author was unable to identify any research to date on the domain of ethnic identity development, as measured by the components exploration and commitment (Erikson, 1994; Marcia, 1994; Phinney, 2003). Exploration has been described, for example, as gathering information about roles and values of one's cultural background, integrating new information, or re-evaluating existing commitment. Commitment refers to positive affirmation of roles and values of and a sense of belonging to one's culture or ethnic group (Phinney, 2003). Based on the interaction of these two factors, individuals have

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been assigned to different identity stages: unexamined, moratorium and achieved (Marcia, 1994; Phinney, 2003). The present study used cross-sectional and longitudinal data to explore predictors of ethnic identity development, ethnic identity stages, and moderators of ethnic identity change using a large sample of German adults.

What is already known on this subject?

From research on identity development in different domains (e.g., occupation, ideology) it is known that:

- Identity development continues across adulthood.
- There are various identity stages (from unexamined to achieved) along the dimensions exploration and commitment.

What does this study add?

Focussing on the adult population, the present study:

- investigated the development of *ethnic* identity – a domain so far under-researched in adult samples;
- examined predictors of ethnic identity development: gender, age, role transitions, and contextual factors;
- examined the moderating impact of disequilibrating life events on identity change/transitions over time.

Background

Identity development has been acknowledged as a central task of adolescence (Erikson, 1968; Marcia, 1994), and most research on identity development has focussed on this phase of life. However, identity formation is not complete by the end of adolescence. Studies have shown that identity continues to evolve throughout adulthood and that its development course may depend on individuals' backgrounds and on their interactions with the social environment (Cramer, 2004; Fadjukoff, Pulkkinen, & Kokko, 2016; Kroger, 2007; Umaña-Taylor, 2011). Moreover, identity development may be related to role transitions, which are particularly likely to be experienced during emerging and early adulthood (Buchmann & Kriesi, 2011). Furthermore, over the life span, disequilibrating life events, such as job loss, (forced) migration, or health impairment, may induce further identity changes (Fadjukoff, Feldt, Kokko, & Pulkkinen, 2019). The present study focuses on the domain of *ethnic* identity and explores (1) the extent to which ethnic identity development is related to individual background, role transitions, and contextual factors; (2) ethnic identity stages; (3) the stability of ethnic identity; and (4) the extent to which disequilibrating life events affect adults' identity over time.

Defining identity: a psychosocial approach

The concept of *ethnic identity* used here is based on Phinney's (2003) definition of ethnic identity as 'a dynamic, multidimensional construct that refers to one's identity of self as a member of an ethnic group' (p. 63). Phinney's approach considers young people's perception of their ethnic group or cultural background, and the role that they assign to it in their lives, regardless of their actual individual ethnic involvement. Furthermore, based on Erikson's (1994) and Marcia's (1994) theories and assessment of identity formation (the identity status paradigm), it focuses on two components: *exploration*, which refers to efforts to learn more about one's own ethnic group and to one's participation in ethnic cultural practices; and *commitment*, that is, the positive affirmation of and a strong sense of belonging to one's ethnic group (Phinney, 2003). Based on the degree of individuals' exploration and commitment, three ethnic identity development stages are distinguished:

1. *Unexamined ethnic identity*: This stage is characterized by a lack of exploration of one’s own ethnicity/culture. This could be due to a lack of interest in one’s cultural background and, as a consequence, to a low level of commitment. This combination of low exploration and low commitment is referred to as *ethnic identity diffusion* (Phinney & Ong, 2007, p. 275). Alternatively, individuals low in exploration may make a commitment to their ethnic group and unquestioningly adopt its values and characteristics. This is referred to as *identity foreclosure* or ‘commitment without exploration’ (Phinney & Ong, 2007, p. 275).
2. *Ethnic identity search (moratorium)*: This stage is characterized by a thorough exploration of one’s own cultural background without having yet made a commitment. Adolescents assigned to this stage in Phinney’s (1989) study reported, for instance, a strong interest in their ethnicity and an active involvement in learning more about it from family and friends or from literature on the subject.
3. *Achieved ethnic identity*: A period of intensive exploration culminates in a self-confident and clear commitment to one’s ethnic identity with flexible and objective views on one’s own ethnic group membership. Achieved ethnic identity is considered to be the most mature ethnic identity stage.

Marcia’s identity status paradigm was initially validated in adolescents (Marcia, 1966) and later extended to adulthood (Kroger & Marcia, 2011); it has been applied to various identity domains (e.g., occupational, political). Phinney’s ethnic identity approach is derived from Marcia’s model. Phinney focussed on the ethnic identity of minority group adolescents in the United States (Phinney, 1989; Phinney & Ong, 2007). However, her approach has also been applied to minority youth’s identification with the majority culture and to the ethnic identity of majority youth (Phinney, Cantu, & Kurtz, 1997;

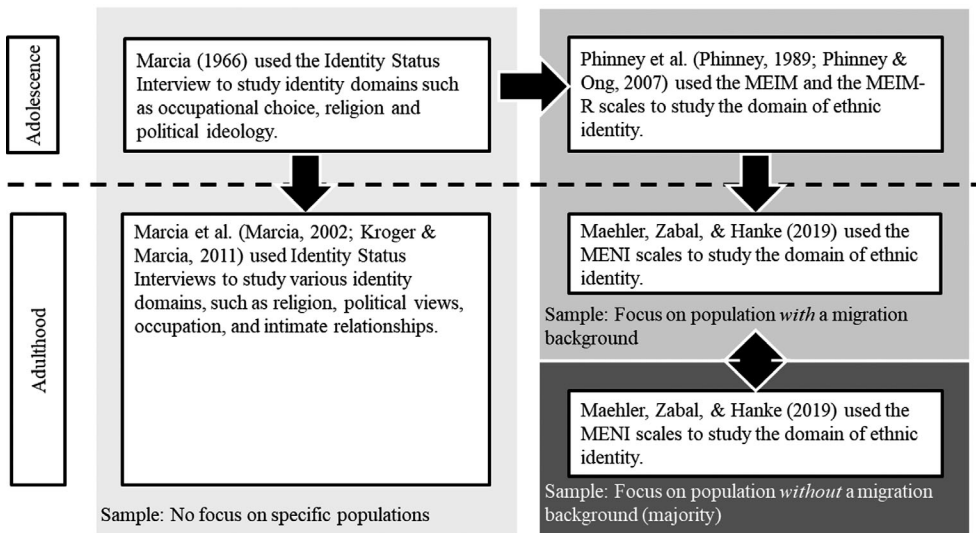


Figure 1. Identity development: Domains assessed across age groups and samples.

Note. MEIM: Multigroup Ethnic Identity Measure; MEIM-R: Multigroup Ethnic Identity Measure – Revised; MENI: Multigroup Ethnic and National Identity Measure. There are several model extensions of Marcia’s and Phinney’s approaches that focus on young age groups; they are not included in the figure above (for an overview of these approaches, see Schwartz, Luyckx, & Vignoles, 2011).

Schwartz et al., 2012). Maehler, Zabal, and Hanke (2019) extended Phinney's approach to the assessment of ethnic identity in adulthood and focussed on adults *with* and *without* a migration background (see Figure 1). The focus of the present contribution is on the ethnic identity of the latter group.

Stability and changes in identity stages

Studies of identity across adulthood have clearly shown that identity development is not, as previously assumed, limited to adolescence and that initial identity commitments are re-examined. For example, a meta-analysis conducted by Kroger, Martinussen, and Marcia (2010) concluded that only 50% of samples studied had reached identity achievement by early adulthood (up to age 36). A longitudinal Finnish study ($N = 172$) by Fadjukoff et al. (2016) on adult identity development across four measurement points (ages 27, 36, 42, and 50) in five identity domains (religious beliefs, political identity, occupational career, intimate relationships, lifestyle) supported this finding and further showed (1) high variability in identity stages across domains in each age group and (2) low stability of identity stages across the measurement points.

Determinants of identity development in adulthood

In a qualitative study, Kroger and Green (1996) examined factors associated with identity development in adulthood. Determinants of identity change identified by the participants (aged 40–63 years) included individual background, role transitions, influence of significant others, critical life events, contextual factors, history-graded events, and internal emotional and cognitive factors. Subsequent quantitative studies and reviews have supported these qualitative findings (Bosma & Kunnen, 2001; Crocetti, Scrignaro, Sica, & Magrin, 2011; Fadjukoff et al., 2016, 2019; Maehler et al., 2020). Four of these determinants of identity development in adulthood that have been emphasized in research literature on various domains of identity development and may be also associated with the domain of ethnic identity – namely, individual background, role transitions, disequilibrating events, and contextual factors (community involvement and globalization experiences) are focussed on in the literature reviewed in what follows and in the present study.

Gender- and age-related differences in identity development

In a systematic review using Marcia's (1966) identity status paradigm, Kroger (1997) examined the role of gender in the identity formation process, analysing studies ($N = 45$) based on high school, college student, and young adult samples. Results from the review revealed a general lack of gender differences in overall identity stages, and no outstanding gender effects in the developmental process of identity-stage-transition pathways. In the aforementioned longitudinal Finnish study (Fadjukoff et al., 2016), which focussed on patterns of identity formation in early and middle adulthood, gender differences across five identity domains were identified; overall, female participants reached identity achievement earlier than males. By contrast, a longitudinal study conducted in Japan (Shirai, Nakamura, & Katsuma, 2016; $N = 232$), which was based on a more comprehensive concept of identity, did not detect any gender differences in identity development among individuals in emerging and early adulthood. Fadjukoff et al. (2016) stressed that identity development varies by domain. Thus, results reported on the effects of gender and age on identity formation may also be domain-dependent.

Although identity development is a key task of adolescence, and identity achievement is theoretically expected to be reached before transition to adulthood (Erikson, 1994; Phinney, 1989), research shows that identity development continues during adulthood, and that a large proportion of individuals do not reach the most mature stage of identity formation until a later age – if at all (Cramer, 2017; Fadjukoff et al., 2019). Generally, both progressive and regressive changes can occur throughout the life span (Cramer, 2004). For example, in their longitudinal study, Shirai et al. (2016) reported a decrease in identity exploration but no differences in commitment between early and middle adulthood. Fadjukoff et al. (2019) reported a general decrease in identity diffusion and moratorium, and an increase in identity achievement across age in adulthood (see also Marcia, 2002). Although no longitudinal studies are available on ethnic identity development in adulthood, results from related ideological domains, such as political identity, show both regressive and progressive trajectories (Fadjukoff et al., 2016).

Role transitions: impulses for identity development

Ethnic identity development can be anticipated by context change and experiences (Phinney, 2006). Role transition experiences may be one of the factors that induce identity change and development (Fadjukoff et al., 2016; Kroger & Green, 1996). *Transition* has been characterized in terms of change and adaptation across diverse life domains (Buchmann & Kriesi, 2011; Crafter, Maunder, & Soulsby, 2019). This change is dynamic, and occurs in the person, in their (cultural) environment, and in their interactions with it. The following external markers of transition to adulthood have been emphasized in the literature: completion of schooling, labour market entry, leaving the parental household, marriage or cohabitation, and becoming a parent (Buchmann & Kriesi, 2011; Rankin & Kenyon, 2008). Developmental psychology has viewed transitions as being predominantly age- and stage-related and as following a broadly normative pattern (Crafter et al., 2019). The assumption is that transition to and engagement in corresponding (social) roles trigger psychological changes that are related to psychosocial maturation and thus lead to a modification of thinking, being, or feeling (Crafter et al., 2019; Piotrowski, Brzezińska, & Luyckx, 2018; Rankin & Kenyon, 2008).

Previous research suggests that the experience of role transitions can influence identity development and re-examination (e.g., in terms of thinking about religion, or feeling a connection to cultural groups) in diverse domains (Fadjukoff, Kokko, & Pulkkinen, 2007; Kroger & Green, 1996; Luyckx, Schwartz, Goossens, & Pollock, 2008; Piotrowski et al., 2018; Syed, Azmitia, & Phinney, 2007). Kroger and Green (1996), for instance, showed that events pertaining to role transitions correlated with identity development and stage changes in various identity domains, also in ideological domains such as politics. In addition, the aforementioned longitudinal Finnish study (Fadjukoff et al., 2007) indicated that prolonged or postponed role transitions (e.g., entering marriage, having children) were related to lower identity achievement in various social identity domains in adulthood (e.g., political ideology or religion). As the aforementioned role transitions are experienced particularly in emerging and early adulthood, they are unlikely to play a role in the identity development of older age cohorts.

Identity-disequilibrating circumstances

Identity reformulation in adulthood may be triggered by identity-disequilibrating circumstances (Fadjukoff et al., 2019; Marcia, 2002). In contrast to normative and

expectable role transitions, disequilibrating life events are predominantly unexpected and have the potential to alter the trajectory of life (Crafter et al., 2019). These critical biographical circumstances may be experiences such as divorce, job loss, or health impairment (Crafter et al., 2019; Marcia, 2002). Whether or not a certain circumstance triggers stress and has a disequilibrating effect on identity must be evaluated from the individual's perspective. Individual differences in the effects of such potentially disequilibrating events on identity change and stability across the life span are due, *inter alia*, to their timing, to the availability of resources for dealing with them, and to the cultural and historical context in which they occur.

As Marcia (2002, 2010) argued, disequilibrating circumstances evoke a reformulation of identity. During periods of reformulation, individuals with an achieved identity may regress to a diffuse identity because the current structure of their identity is being disequilibrated and they feel confused. The impact of disequilibrating circumstances may also depend on the individual's identity stage at the time. For example, potentially identity-disequilibrating events may not have a disequilibrating impact on the identity of individuals in a less mature stage, such as diffusion, because they already had an unstable identity structure in the first place (Kroger, 2007).

Empirical findings on the hitherto hardly explored relationship between disequilibrating circumstances and identity suggest that these two variables are correlated. Based on a longitudinal study covering eight identity domains (e.g., religion, values, occupation) in a female sample, Anthis (2002) reported that financial losses were negatively related to identity exploration, whereas health issues were negatively and family-related stressors were positively related to identity commitment. Research from the field of *social identity* has argued that disequilibrating events (e.g., unemployment) are associated with negative consequences in several life domains and may lead to feelings of uncertainty about one's self and identity (Hogg, 2014; Voorpostel, Kuhn, & Monsch, 2020). People may be motivated to reduce this uncertainty by identifying with, or committing to, social (e.g., ethnic) groups with distinct boundaries that help them to describe who they are and that prescribe how they should behave (Hogg, 2014).

Identity and community involvement

As Tajfel (1981) postulated, the building of a collective identity is based on social interaction between the group members. Crucial for the extent of interpersonal relationships, however, is a spatial-temporal situation in which individuals can come into contact with each other (Orton, 2012). Activities (e.g., courses, programmes) at local community level can provide situations and opportunities in which interpersonal contacts can occur (Orton, 2012). As studies focussing on emerging and young adulthood have suggested, community involvement is related to identity and identity development, and individuals integrate community involvement experiences into their identities (Hardy, Pratt, Pancer, Olsen, & Lawford, 2011; Hasford, Abbott, Alisat, Pancer, & Pratt, 2017; Kitchen, Williams, & Gallina, 2015). For example, a longitudinal study conducted in Canada (Hardy et al., 2011) showed that during adolescence and emerging adulthood, individuals who were more involved in local communities or religious organizations tended to achieve greater identity maturity than those who were less involved in these contexts. Besides the aforementioned social-relatedness explanation, the literature also suggests that community involvement and engaging in activities with important social consequences may evoke a sense of agency and self-efficacy that fosters identity development (Hardy et al., 2011).

Identity and globalization experiences

Besides the local embeddedness discussed above, globalization experiences have also been identified as a significant predictor of (ethnic) identity formation (Kitchen et al., 2015; Kroger & Green, 1996; Phinney, 2003). Such experiences can be gathered through first-hand contact and exposure to other cultural contexts, and also through information sources such as virtual media and social networks (Jensen, Arnett, & McKenzie, 2011; Kroger & Green, 1996). This phenomenon has been focussed on mainly in acculturation research, where ethnic identity formation in immigrants living in and adapting to a new cultural context has been examined (Berry, 1997; Maehler, Daikeler, Ramos, Husson, & Nguyen, 2020; Phinney, 2003). However, it also affects the identity formation of members of majority groups in immigrant-receiving societies who come into contact with new cultures (Berry, 1997; Kitchen et al., 2015).

The present study

Although studies on identity development in adulthood have been conducted in diverse identity domains (Fadjukoff et al., 2016), hardly any studies to date have investigated the development of ethnic identity and its determinants. To contribute to closing this research gap, the present study uses primary longitudinal data to investigate ethnic identity development in a sample of German adults. The following questions are investigated (see research design in Figure 2):

1. How and to what extent is ethnic identity development in adulthood related to
 - the background indicators *gender* and *age*?

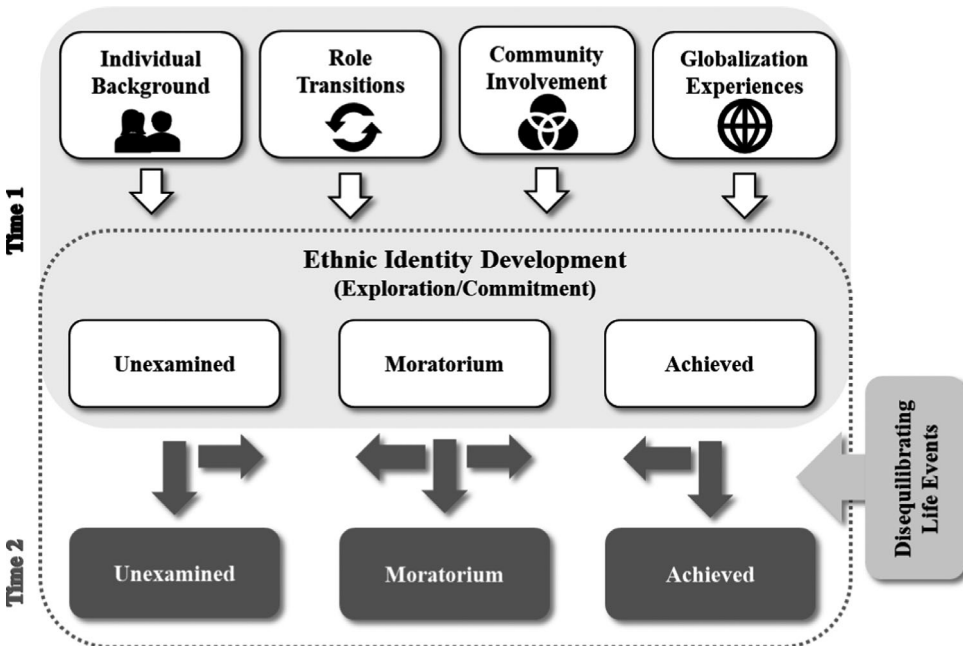


Figure 2. Research design of the study on ethnic identity development in adulthood.

- *role transitions*, such as completion of schooling, labour market entry, leaving the parental household, marriage/cohabitation, or becoming a parent?
 - *the contextual factors community involvement and globalization experiences?*
2. What ethnic identity stages can be distinguished in adults, and how can these stages be characterized? Are there qualitatively distinct subgroups of adults who demonstrate particular stages of ethnic identity?
 3. To what extent do individuals remain in the same or transition to another ethnic identity stage over time?
 4. Are identity changes moderated by disequilibrating life events?

Based on the review of the literature above, the following hypotheses are examined:

Hypothesis 1. Identity development in the ethnicity domain will be associated with gender, age, role transitions, and the context factors community involvement and globalization experiences.

Hypothesis 2. The elementary development stages postulated by the identity status paradigm (Marcia, 1994; Phinney, 2003) will be meaningfully distinguishable for the ethnic identity domain.

Hypothesis 3. Ethnic identity development will continue throughout adulthood, and progressive and regressive stage transitions will occur.

Hypothesis 4. Ethnic identity stage transitions will be moderated by disequilibrating life events.

Method

Data

The data for the present study were collected by the GESIS Panel, a probability-based *omnibus* access panel for the social sciences that collects data from a representative sample of the adult population in Germany (GESIS Panel, 2016). Panellists were recruited from a random sample drawn from municipal population registers (Bosnjak et al., 2018). Under the omnibus approach, researchers can submit study proposals, which undergo external peer review. The collected data are prepared and documented by GESIS and made available as open access data sets to the entire research community. The proposal for the present longitudinal study was accepted in 2015. The study was designed by the author to assess ethnic identity development at three measurement points over a period of five years. However, the exact survey schedule had to be adapted to the overall omnibus schedule.

The first wave in which data for the present study were collected (GESIS Panel Wave *cf*) was conducted between December 2015 and February 2016 (GESIS, 2016; GESIS Panel, 2016; Tanner, Schaurer, Enderle, & Weyandt, 2016); the second wave (GESIS Panel Wave *fa*) took place between February and April 2018 (GESIS, 2018; GESIS Panel, 2018; Schmidt, Bretsch, & Minderop, 2018). The completion rate was 89% and 87%, respectively (Schmidt et al., 2018; Tanner et al., 2016). The survey was conducted in both an online mode (Web-based questionnaire) and an offline self-administered mode

(paper-and-pencil questionnaire sent by postal mail). Most participants were online panellists (68% and 64%, respectively). Attrition analyses for the present sample showed that the probability of dropping out of the second wave did not correlate with the respondents' background or participation mode.

Sample

The baseline sample used in the first wave (*Wave cf*, 2016) comprised 2,940 native Germans (i.e., respondent and both parents were born and socialized in Germany). The follow-up sample used in the second wave (*Wave fa*, 2018) comprised 827 of these respondents. The respondents in the baseline sample were aged between 21 and 73 years ($M = 50.28$ years, $SD = 13.97$); 50.9% were female. Based on the International Standard Classification of Education (ISCED) 2011, 6.1% of respondents had a low level of education (ISCED Level 2 or below); 60.8% had a medium level of education (ISCED Levels 3 or 4); and 32.5% had a high level of education (ISCED Level 5 or higher). For a more detailed description of the sample, see Table S1.

Measurement instruments

Ethnic identity was assessed with the Multigroup Ethnic & National Identity Measure (MENI; Maehler, Zabal, et al., 2019). Like the MEIM-R scale (Phinney & Ong, 2007), MENI distinguishes the two factors exploration and commitment. In order to investigate criterion validity for the identity stages, three indicators were used: (1) affirmation of identity, measured with a scale that assesses the effect ascribed to the identity in question and measures the degree to which individuals feel positive or negative about their ethnicity (Umaña-Taylor, Yazedjian, & Bámaca-Gómez, 2004); (2) the salience attributed to the identity domain, which was assessed because ethnic identity salience is related to the strength of ethnic identity (Phinney & Ong, 2007; Waterman, 2015); and (3) political interest, which has been identified in the literature as being substantially related to ethnic identity (Huddy & Khatib, 2007; Mader et al., 2018). Role transitions were assessed using five vocational, occupational, and family-related transition markers (education, employment, relationship, leaving parents' household, parenthood) coded as two-dimensional indexes (0 = not reached, 1 = reached). The extent of community involvement was assessed by asking respondents how often (0 = never/rarely; 1 = sometimes/often) they participated in a sport or recreational organization; a church or religious organization; an artistic, musical, or educational organization; a humanitarian or charitable organization; or a parent or school association. The extent of globalization experiences was operationalized by three indicators: whether respondents had ever lived abroad (i.e., migration experience); social network usage (e.g., Facebook); and – because globalization is more manifest in urban than in rural areas – the distance between the respondent's place of residence and the nearest city (Jensen et al., 2011; United Nations, 2019). The impact of disequilibrating life events was assessed based on respondents' perceptions of changes in four life domains: family, work, personal finance, and health (0 = life not changed; 1 = life changed; see also Anthis, 2002). A full description of the scales and indicators used is provided in Table S2.

Statistical analysis

To investigate how and to what extent ethnic identity formation throughout adulthood is related to background variables, role transitions, and contextual variables, multiple regression analyses were processed using SPSS.

To estimate ethnic identity stages and identify the optimal number of distinctive subgroups, latent profile analyses (LPAs) were conducted using the exploration and commitment variables as continuous values. As LPA is a model-testing process, multiple models are fit with varying levels of profiles (Ferguson, Moore, & Hull, 2019; Marsh et al., 2009; Tein et al., 2013). LPAs were conducted using *Mplus* 8 (Muthén & Muthén, 2017) with maximum likelihood estimation. Afterwards, multinomial logistic regressions were processed in order to check differences between the latent groups regarding criterion indicators. Using data from the respondents who participated in both waves, latent profile transition analysis (LPTA) – a longitudinal extension of LPA – was performed to investigate whether respondents had changed latent class membership (i.e., identity stages) over time (Sorgente, Lanz, Serido, Tagliabue, & Shim, 2019). A detailed description of the LPAs and LPTAs can be found in Table S3.

To examine whether the experience of disequilibrating events moderated identity change over time, a simple moderator analysis (linear regressions) was performed on the longitudinal data. The Mediation and Moderation for Repeated Measures (*MEMORE*) macro for SPSS (Montoya, 2019) was used to probe moderation in two-instance repeated measures designs. An equation suggested by Montoya (2019, eq. 4) was used (see detailed description in Table S4).

Results

Determinants of ethnic identity

Regression analyses were processed to investigate the extent to which ethnic identity in adulthood was related to background indicators, role transitions, and contextual indicators (Hypothesis 1). As can be seen from Table 1, the background variables age, $t(1.929) = 3.935, p < .001$; $t(1.929) = 2.624, p < .001$, and gender, $t(1.929) = 3.935, p < .001$; $t(1.929) = 3.322, p < .001$, were significantly related to ethnic identity exploration and commitment, indicating that older and male respondents identify more strongly with their own culture. Contrary to findings in the literature for other identity domains in adulthood, the results of the multiple regression analyses revealed that experiencing common role transitions, such as a relationship (marriage or cohabitation) or becoming a parent, did not correlate at all with ethnic identity exploration, $t(1.929) = -0.09$ to -1.54 , ns, or commitment, $t(1.929) = 0.47$ to -1.69 , ns. The only exception was a minor correlation between the employment marker and ethnic identity exploration $t(1.929) = -2.19, p < .05$. By contrast, the extent of community involvement was clearly related to identity exploration and commitment: the higher the level of community involvement, the stronger the identity exploration and commitment. Particularly, involvement in an artistic, musical, or educational organization, $t(1.929) = 5.26, p < .001$; $t(1.929) = 3.03, p < .001$, and in a church or religious organization, $t(1.929) = 2.14, p < .05$; $t(1.929) = 3.46, p < .001$, predicted ethnic identity exploration and commitment. In addition, ethnic identity exploration was predicted by involvement in a humanitarian or charitable organization, $t(1.929) = 3.02, p < .001$, and a parent or school association, $t(1.929) = 2.10, p < .05$.

Table 1. Determinants of ethnic identity

Predictor	Exploration			Commitment		
	B	SE B	β	B	SE B	β
Constant	2.45	0.14		3.12	0.13	
Age (mean)	0.01	0.00	.13**	0.00	0.00	.10**
Gender (Ref.: female)	0.21	0.04	.11**	0.12	0.04	.08**
Education marker (Ref.: not reached)	-0.03	0.11	-.01	0.05	0.10	.01
Employment marker (Ref.: not reached)	-0.12	0.05	-.06*	-0.08	0.05	-.04
Relationship marker (Ref.: not reached)	-0.12	0.07	-.04	-0.12	0.07	-.04
Leaving parents' household marker (Ref.: not reached)	0.05	0.11	.01	0.10	0.10	.03
Parenthood marker (Ref.: not reached)	-0.00	0.06	-.00	0.07	0.05	.04
Community involvement: sport or recreational organization (Ref.: no)	0.00	0.04	.00	0.04	0.04	.02
Community involvement: church or religious organization (Ref.: no)	0.12	0.06	.05*	0.18	0.05	.08**
Community involvement: artistic, musical or educational organization (Ref.: no)	0.31	0.06	.12**	0.17	0.05	.07**
Community involvement: humanitarian or charitable organization (Ref.: no)	0.20	0.07	.07**	-0.06	0.06	-.02
Community involvement: parents or school association (Ref.: no)	0.13	0.06	.05*	0.09	0.06	.04
Globalization experiences: social network usage (Ref.: no)	0.06	0.05	.03	-0.05	0.04	-.03
Globalization experiences: distance to nearest city (Ref.: Mean)	0.12	0.01	.02	0.02	0.01	.03

Note. Results of the descriptive analyses are available in Tables S5 and S6. Missing value analysis was conducted using Little's missing completely at random (MCAR) test. Missing data were not systematically missing for the ethnic identity measurement (dependent variable). Listwise deletion with randomly missing data was used. The data were screened and adjusted for outliers. The third indicator used to assess globalization experiences, 'lived abroad', could not be taken into account in the above analyses because values were collected for only a quarter of the sample. However, the control analyses that included the variable did not show a significant effect of the indicator on either exploration, $t(540) = -0.52$, ns, or commitment, $t(540) = 0.06$, ns. R^2 exploration = .07; R^2 commitment = .05. * $p < .05$; ** $p < .01$.

Finally, globalization experiences did not correlate with ethnic identity exploration and commitment, $t(1.929) = 1.02 - 1.25$, ns; $t(1.929) = -1.15$ to 1.51 , ns, respectively.

Estimation of ethnic identity stages

The present analyses started with a model with one profile and ended with a model estimating five profiles – one more than expected in the literature. In order to decide how many classes should be retained, the model fit statistics in Table 2 were used (Hypothesis 2). The log likelihood, the Akaike information criteria (AIC), the Bayesian information criteria (BIC), and the sample-adjusted BIC (SABIC) values decreased successively from Model 1 to Model 5. However, the entropy value indicated accuracy (>0.80) only for Models 4 and 5, with the accuracy of Model 5 not surpassing that of Model 4. To be confident that the profile represents a distinct grouping that can be generalized

Table 2. LPA model fit summary for ethnic identity classes (stages) in adulthood, wave 1

Model	Log likelihood	AIC	BIC	SABIC	Entropy	Smallest class %	LMRT p value	LMRT meaning	BLRT p value	BLRT meaning
1-Class	-7,343.06	14,694.12	14,717.95	14,705.24						
2-Class	-6,850.43	13,714.87	13,756.56	13,734.32	0.63	44	<.001	2 > 1	<.001	2 > 1
3-Class	-6,668.83	13,357.65	13,417.21	13,385.43	0.72	16	<.001	3 > 2	<.001	3 > 2
4-Class	-6,477.15	12,980.30	13,057.73	13,016.43	0.89	10	<.001	4 > 3	<.001	4 > 3
5-Class	-6,431.03	12,894.06	12,989.36	12,938.52	0.88	5	<.001	5 > 4	<.001	5 > 4

Note. $N = 2,853$. The LMRT and the BLRT compare the current model with a model with $k - 1$ profiles.

AIC = Akaike's information criterion; BIC = Bayesian information criterion; BLRT = bootstrap likelihood ratio test; LMRT = bootstrap likelihood ratio test; LMRT = Lo-Mendell-Ruben likelihood ratio test; LPA = latent profile analysis; SABIC = sample-adjusted BIC.

across other studies or samples, the literature (Ferguson et al., 2019; Nylund-Gibson & Choi, 2018) has suggested that the smallest class should contain no less than 5% of the sample. Thus, Model 5 may be affected by low reliability. Nevertheless, because of the large sample size, the smallest profile in Model 5 contained $n = 148$ participants. The Lo–Mendell–Rubin likelihood ratio (LMR) test and the bootstrap likelihood ratio test (BLRT) were significant for all compared models, supporting the assumption that each successive model fit was better than the preceding, more parsimonious one. In the literature, it is acknowledged that the collection of fit information, such as the LMR and the BLRT, does not converge on one single model and that it is common that the fit indices support one or two models (Ferguson et al., 2019). In this case, further strategies can be applied to find the best model. For example, a plot of the log likelihood values is suggested, as well as the number of classes defined by the ‘elbow’, which allows to compare model improvement in relation to the estimated additional parameters. The result of this procedure supported Model 4 (see Figure S1).

The interpretability of the models was substantial. The identity status paradigm proposes – and empirical research on identity development in diverse domains supports – the existence of four identity stages. The present study aimed to test whether this was true also for the ethnic identity domain. The evaluation of the t values (Figure 3) and descriptive statistics suggests that two *unexamined* identity stages, one *quasi-moratorium* stage, and one *achieved* stage resulted in Model 4:

1. Those respondents ($n = 284$; 10%) who showed low exploration ($M = 2.13$, $SD = 0.56$) and low commitment ($M = 2.10$, $SD = 0.27$) to German culture were initially assigned broadly to an unexamined stage. Waterman (2015) argued that an appropriate label for this profile would be *untroubled diffusion*. The use of that label in the present study was deemed all the more suitable because of the low importance that respondents in this stage assigned to identification with a culture (see ‘salience of identity domain’ below).
2. Respondents with moderately low exploration ($M = 2.65$, $SD = 0.76$) and a medium level of commitment ($M = 3.01$, $SD = 0.25$) to German culture were also initially assigned broadly to an unexamined stage. However, because of scores near the mean, this stage does not match the foreclosure stage (low exploration and high commitment) proposed in the identity status paradigm. In his meta-analysis, Waterman (2015) identified in some of the included studies a profile that was similar

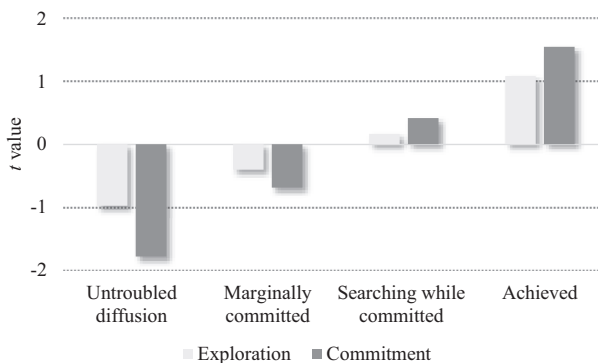


Figure 3. Ethnic identity stages in adulthood (Wave I).

to the one identified here. He proposed that *marginally committed* would be an appropriate label for it. Almost one-third of the respondents ($n = 931; 32\%$) were assigned to this so-labelled stage.

3. Respondents who reported a medium level of ethnic identity exploration ($M = 3.17, SD = 0.76$) and high commitment ($M = 3.94, SD = 0.22$) were initially assigned broadly to the moratorium stage. Although this combination of medium exploration and high commitment is not consistent with the identity status paradigm, Waterman (2015, p. 334) reported that the phenomenon had been observed in about half of the identity studies included in his meta-analysis, where it had been labelled 'searching moratorium'. Rejecting this label as redundant ('all moratoriums are searching for commitment') and misleading, he proposed that a more descriptive label would be *searching while committed*. In times of globalization and high (forced) migration rates, the probability of re-examining one's own cultural belonging is high. Unsurprisingly, therefore, over two-fifths of the respondents ($n = 1,195; 42\%$) were assigned to this so-labelled stage.
4. Respondents ($n = 443; 15\%$) with very high levels of exploration ($M = 4.01, SD = 0.83$) and commitment ($M = 4.88, SD = 0.17$) were assigned to the *achieved* ethnic identity stage.

The criterion validity test showed that individuals in the different ethnic identity stages differed significantly from each other with regard to the following (see descriptive statistics in Table S7):

1. Identity affirmation, $\chi^2(3, N = 2,846) = 595.40, p < .004$; reference category: achieved identity; accuracy of classes by identity affirmation: 49%. Lower levels of negative feelings towards German culture increased significantly the probability of belonging to stages with higher levels of exploration and commitment (achieved identity compared with: searching while committed, OR = 4.42; marginally committed, OR = 13.00; untroubled diffusion, OR = 20.90).
2. Salience of identity domain, $\chi^2(3, N = 2,830) = 1,045.26, p < .001$; reference category: achieved identity; accuracy of classes by salience of identity domain: 55%. Higher levels of importance attributed to identification with a culture increased significantly the probability of belonging to stages with higher levels of exploration and commitment (achieved identity compared with: searching while committed, OR = 0.34; marginally committed, OR = 0.12; untroubled diffusion, OR = 0.06).
3. Political interest, $\chi^2(3, N = 2,732) = 162.40, p < .001$; reference category: achieved identity; accuracy of classes by political interest: 44%. Higher levels of political interest increased significantly the probability of belonging to stages with higher levels of exploration and commitment (achieved identity compared with: searching while committed, OR = 0.81; marginally committed, OR = 0.69; untroubled diffusion, OR = 0.62).

Characterizing ethnic identity stages

In this section, the ethnic identity stages are described in relation to the respondents' individual backgrounds, role transitions, and contextual factors (chi-square test results on the proportional distributions can be found in Table 3).

The four profiles that emerged can be characterized as follows: individuals in the achieved ethnic identity stage were more often in late adulthood and male. They were also

more often involved in the community, particularly in religious organizations or artistic, musical, or educational organizations. Individuals in the searching while committed stage rarely belonged to the emerging adulthood cohort and had more often left their parents' household. Respondents in the emerging and early adulthood age cohorts were more likely to be assigned to one of the two unexamined identity stages – untroubled diffusion or marginally committed. Females were more often assigned to the marginally committed stage. Related to the fact that younger age cohorts were generally assigned to the unexamined stages (untroubled diffusion or marginally committed), individuals in these stages also experienced fewer role transitions and were more often in education (applies only to untroubled diffusion), were not cohabiting (applies only to marginally committed), had not left their parents' household, and had not experienced parenthood. Finally, those in the untroubled diffusion or marginally committed stage were less often involved in community activities. In addition, individuals in the untroubled diffusion stage more often used social networks.

Ethnic identity development over time

Preliminary analyses based on a *t* test for paired samples showed that changes occurred in ethnic identity over a period of two years: *t*1: $M = 3.33$, $SE = 0.03$; *t*2: $M = 3.23$, $SE = 0.03$; $t(757) = 2.73$, $p < .05$. More specifically, the overall results indicated no changes in identity exploration, *t*1: $M = 3.04$, $SE = 0.03$; *t*2: $M = 3.00$, $SE = 0.03$; $t(757) = 0.73$, ns, but a decrease in identity commitment, *t*1: $M = 3.62$, $SE = 0.03$; *t*2: $M = 3.47$, $SE = 0.03$; $t(757) = 3.66$, $p < .001$.

Stability and changes in ethnic identity stages over time

The analysis of the extent to which individuals remained in or changed ethnic identity stages over time (Hypothesis 3) was performed in two steps. First, the same analysis procedure used in Wave 1 was replicated (using LPA) with data from Wave 2 to identify the most plausible measurement model at T2. The fit indices of the five models are compared in Table 4. The AIC, BIC, and SABIC values showed improvement for each additional class. The LMR and BLRT indicated that higher numbers of classes are better. The entropy indices pointed to the 4- and 5-class models as the most plausible models. Model 5 fit as well as Model 4, but log likelihood did not drop substantially. Furthermore, the 5-class model did not add further substantive meaning. Therefore, the 4-class model, which substantively covered the same classes identified by the analyses of Wave 1 data, held.

In the second step, latent profile transition analysis was performed. Results show the latent class membership probabilities for individuals who participated in Waves 1 and 2 (Table 5). Again, most respondents were assigned to the searching while committed or the marginally committed stage, and only minor changes in class level distribution occurred over the studied period.

The transition probabilities matrix (Table 6) revealed the movement (or lack of movement) of respondents across time. During the two-year period under study, some individuals remained in same ethnic identity stage (30%), others moved forward to a more mature stage (33%) or backward to a less mature stage (36%). Around one-third of respondents in the intermediate stages (marginally committed and searching while committed) and one-tenth of respondents in the initial or final stage (untroubled diffusion and achieved identity, respectively) remained in the same stage. The overall structure

Table 4. LPA model fit summary for ethnic identity classes in adulthood, wave 2

Model	Log likelihood	AIC	BIC	SABIC	Entropy	Smallest class %	LMRT ρ value	LMRT meaning	BLRT ρ value	BLRT meaning
1-class	-1,915.18	3,838.36	3,856.89	3,844.18						
2-class	-1,784.10	3,582.21	3,614.63	3,592.40	0.65	40	<.001	2 > 1	<.001	2 > 1
3-class	-1,741.23	3,502.47	3,548.78	3,517.03	0.71	10	<.001	3 > 2	<.001	3 > 2
4-class	-1,694.45	3,414.90	3,475.09	3,433.82	0.87	11	<.001	4 > 3	<.001	4 > 3
5-class	-1,678.51	3,389.02	3,463.11	3,412.30	0.88	7	<.001	5 < 4	<.001	5 > 4

Note. N = 758. The LMRT and the BLRT compare the current model with a model with k - 1 profiles.

AIC = Akaike's information criterion; BIC = Bayesian information criterion; BLRT = bootstrap likelihood ratio test; LMRT = Lo-Mendell-Rubén likelihood ratio test; LPA = latent profile analysis; SABIC = sample-adjusted BIC.

Table 5. Latent status membership probabilities

Time	Exploration (M/ SD)	Commitment (M/ SD)	Class	n	Latent class prevalence
1	2.13 (0.59)	2.13 (0.26)	Untroubled diffusion	72	.095
	2.71 (0.74)	3.03 (0.26)	Marginally committed	242	.319
	3.16 (0.76)	3.95 (0.23)	Searching while committed	343	.452
2	4.00 (0.76)	4.89 (0.18)	Achieved	101	.133
	2.06 (0.61)	2.06 (0.28)	Untroubled diffusion	103	.136
	2.75 (0.72)	3.02 (0.26)	Marginally committed	264	.348
	3.26 (0.67)	3.94 (0.23)	Searching while committed	306	.404
	3.98 (0.77)	4.91 (0.15)	Achieved	85	.112

Table 6. Transition probabilities for the Latent Profile Transition Analysis (LPTA) model

Time 1	Time 2			
	Untroubled diffusion	Marginally committed	Searching while committed	Achieved
Untroubled diffusion	.07	.34	.48	.10
Marginally committed	.17	.32	.41	.10
Searching while committed	.14	.36	.37	.13
Achieved	.09	.29	.51	.11

Note. White cells indicate stability; dark gray cells indicate forward transitions; and light gray cells indicate backward transitions.

showed that if individuals did not remain in the same identity stage, they moved to a neighbouring stage. For example, of the respondents in the untroubled diffusion stage who did not remain in that stage, the overwhelming majority (82%) moved to the marginally committed or searching while committed stage; 10% even succeeded in moving to the achieved stage. It was also observed that, although most individuals in the two unexamined identity stages (untroubled diffusion and marginally committed) moved forward to one of the next stages, individuals in the searching while committed and achieved stages also moved backward. A negative outcome was observed particularly in some individuals who regressed from the achieved to the marginally committed stage (29%), or from the searching while committed to the untroubled diffusion stage (14%).

Stability and changes in ethnic identity stages by age cohort

When transition probabilities were considered by age cohort (see Table S8), it became apparent that during the two-year period, older ages (middle and late adulthood) more often remained in same ethnic identity stage compared with younger ages. This was observed, for example, for the more mature stages, searching while committed (40%; 42%, respectively) and achieved (10%; 24%, respectively), in individuals up to age 41. However,

Table 7. Moderator effects of disequilibrating events on ethnic identity over time

Domains/identity	Family	Work	Finance	Health
Exploration				
Overall	B = -0.08, 95% CI [-0.21, 0.04], p = .20	B = 0.02, 95% CL [-0.12, 0.15], p = .80	B = -0.04, 95% CI [-0.18, 0.09], p = .52	B = 0.01, 95% CI [-0.12, 0.14], p = .84
Untroubled diffusion	B = -0.06, 95% CI [-0.35, 0.23], p = .68	B = -0.21, 95% CI [-0.52, 0.09], p = .17	B = -0.030, 95% CI [-0.33, 0.26], p = .81	B = 0.21, 95% CI [-0.08, 0.51], p = .16
Marginally committed	B = -0.05, 95% CI [-0.25, 0.14], p = .58	B = -0.07, 95% CI [-0.28, 0.15], p = .54	B = -0.14, 95% CI [-0.33, 0.05], p = .15	B = -0.09, 95% CI [-0.28, 0.10], p = .34
Searching while committed	B = 0.01, 95% CI [-0.16, 0.17], p = .92	B = 0.05, 95% CI [-0.12, 0.23], p = .58	B = -0.01, 95% CI [-0.18, 0.14], p = .86	B = -0.03, 95% CI [-0.19, 0.13], p = .68
Achieved	B = 0.06, 95% CI [-0.38, 0.24], p = .67	B = 0.18, 95% CI [-0.15, 0.51], p = .28	B = 0.14, 95% CI [-0.16, 0.44], p = .34	B = -0.03, 95% CI [-0.34, 0.26], p = .80
Commitment				
Overall	B = -0.11, 95% CI [-0.22, 0.01], p = .07	B = 0.04, 95% CL [-0.08, 0.17], p = .48	B = -0.01, 95% CI [-0.39, 0.10], p = .84	B = 0.07, 95% CI [-0.04, 0.19], p = .22
Untroubled diffusion	B = -0.01, 95% CI [-0.14, 0.11], p = .86	B = -0.06, 95% CI [-0.41, 0.20], p = .41	B = -0.10, 95% CI [-0.22, 0.02], p = .09	B = 0.02, 95% CI [-0.10, 0.15], p = .73
Marginally committed	B = -0.05, 95% CI [-0.12, 0.01], p = .10	B = -0.01, 95% CI [-0.06, 0.08], p = .84	B = -0.04, 95% CI [-0.10, 0.03], p = .26	B = -0.01, 95% CI [-0.05, 0.08], p = .73
Searching while committed	B = 0.01, 95% CI [-0.04, 0.06], p = .77	B = 0.03, 95% CI [-0.02, 0.09], p = .22	B = 0.03, 95% CI [-0.02, 0.08], p = .23	B = 0.00, 95% CI [-0.05, 0.05], p = .91
Achieved	B = -0.05, 95% CI [-0.08, 0.07], p = .88	B = -0.00, 95% CI [-0.08, 0.08], p = .92	B = 0.04, 95% CI [-0.03, 0.11], p = .29	B = -0.03, 95% CI [-0.10, 0.03], p = .30

due the low number of respondents in emerging adulthood, this finding must be interpreted with caution. Across age cohorts, stronger movements occurred in the intermediate stages – marginally committed and searching while committed – with a stronger shift from marginally committed to searching while committed stages being observed in younger (23%–51%; 28%–50%, respectively) than in older (38%–34%; 29%–38%, respectively) cohorts. At the same time, in all cohorts, individuals in the searching while committed stage more often regressed to the marginally committed stage than progressed to the achieved stage.

Effect of disequilibrating events on identity change

A simple moderator analysis was performed in order to investigate effects of disequilibrating events (life not changed/life changed) on identity change (Hypothesis 4). Results (Table 7) show that, across all stages, the interaction between ethnic identity exploration and commitment at T1 and the experience of a disequilibrating life event was not significant.

Based on the stage-transition probabilities, respondents were further grouped into *stayers* and *movers* (further divided into *forward movers*, who transitioned to a more mature identity stage, and *backward movers*, who transitioned to a less mature identity stage). Results showed that the transition probability was not related to the experienced disequilibrating events, either. *Stayers* and *movers* did not differ in this regard in the domains of family, $\chi^2(2, N = 739) = 0.75$, ns; work, $\chi^2(2, N = 629) = 0.38$, ns; finance, $\chi^2(2, N = 750) = 1.44$, ns; and health, $\chi^2(2, N = 746) = 1.56$, ns.

Discussion

The present study investigated ethnic identity formation throughout adulthood and identified the following ethnic identity stages: two unexamined stages (untroubled diffusion, characterized by low exploration and commitment; and marginally committed, characterized by low exploration and medium commitment); a searching while committed stage, characterized by medium exploration and high commitment; and an achieved identity stage, characterized by very high levels of exploration and commitment. Higher levels of exploration and commitment were associated with stronger identity affirmation, higher identity salience, and higher political interest. However, as only a small proportion of the present sample were assigned to the achieved stage, most respondents had either not explored or were still exploring their ethnic identity. The identification of four distinguishable ethnic identity stages in adulthood is a pivotal contribution of this study to the research literature on identity (development). However, as the stages identified do not fully overlap with those proposed by the identity status paradigm, Hypothesis 2 was only partially supported.

Consistent with findings for other identity domains, it can be highlighted that (1) ethnic identity development continued across adulthood, (2) an achieved identity was more often observed in older age cohorts, and (3) younger age cohorts were more often in an unexamined identity stage. Previous findings regarding gender have not been uniform and have been based mainly on younger adulthood samples. The present study indicates that males have a higher probability of being in the achieved ethnic identity stage and that females are more likely to be in the marginally committed stage. When specific cohorts were considered in relation to the identity development stages, an impact of role

transitions became apparent. In line with previous findings, respondents in the two unexamined identity stages had experienced fewer role transitions (e.g., left their parents' household, parenthood). As assumed in the literature, this might be related to individuals' level of psychological maturity, which depends on their respective experiences.

The present study contributes empirical findings based on a wide age range for the relationship between *ethnic* identity formation and social environment. Individuals in the achieved identity stage were more often involved in community activities. They engaged more strongly with their ethnic identity, as they were involved in situations and had opportunities (e.g., in religious or musical organizations) for interpersonal contacts. This in turn evoked identity exploration and, consequently, commitment. Although it was assumed that globalization experiences might also influence ethnic identity formation, no preeminent effects could be found for the present sample – with one exception, namely, that individuals in the untroubled diffusion stage more often reported social network usage. Because identification with a culture is less important for those in the untroubled diffusion stage, they may be more globalization-oriented than anchored in a specific culture. Own migration experience or living in a region where the globalization index is higher did not affect the ethnic identity formation of the participants. In this regard, it can be assumed that a more accurate assessment of the globalization index in the respondent's residential area (e.g., by adding external regional information to the data) or the time that has elapsed since the respondent returned after living abroad might uncover possible effects. In summary, the present findings suggest that identity development in the ethnicity domain is clearly associated with age, gender, and community involvement, but only marginally associated with role transitions and not associated at all with globalization experiences. Thus, Hypothesis 1 was partially supported.

Following respondents over a period of two years revealed that only about one-third – mainly individuals in the marginally committed and searching while committed stages – remained in the same stage over time. A further one-third transitioned to a more mature stage, and over one-third regressed to a less mature stage. This high fluctuation rate is in line with previous longitudinal findings for other identity domains. Hypothesis 3 was thus supported. For example, Fadjukoff et al. (2016) found that adult identity rarely remains stable in the same identity stage – including the achievement stage – across the life span. Consistent with theoretical expectations, the present results suggest higher stage stability in older age cohorts; this was observed, for instance, in individuals in middle and late adulthood in the searching while committed and the achieved identity stages. Overall, most identity stage transitions occurred in the two intermediate stages – marginally committed and searching while committed – and the number of transitions in these stages was especially high in the two youngest cohorts. However, these ethnic identity transitions were not moderated by disequilibrating events. Hence, Hypothesis 4 was not supported. Following Kroger (2007), the identity of some individuals might not have been affected by disequilibrating events, because they were already in an unstable identity stage in the first place. That might have been the case for respondents assigned to an unexamined identity stage (untroubled diffusion or marginally committed) or to the searching while committed stage, which together account for the majority of the present sample. Furthermore, as Anthis (2002) has pointed out that effects of disequilibrating events on identity development can hardly be captured retrospectively, a study design that assesses these events in a timely fashion would be needed. Finally, a further explanation for the absence of a relationship between disequilibrating events and ethnic identity transitions might be that none of the event domains were directly related to culture.

To understand the findings presented above, the role of political interest for the ethnic identity domain, and the emergence of two different patterns of unexamined identity can be emphasized. These findings fit well into the German context and might be related to German history (World War II) and its treatment in public discourses and school curricula (Bilewicz, Witkowska, Stubig, Beneda, & Imhoff, 2017; Korostelina, 2008; Maehler, Weinmann, & Hanke, 2019). Via many paths, German society has been sensitized to the politics of national identity formation and its negative consequences in the past. The intensive treatment of this issue may result in diverse patterns of ethnic identity development – from disinterest to intensive searching for the meaning of one’s own ethnic identity. The high percentage of respondents in the two unexamined identity stages and in the searching while committed stage might also be related to this fact. In contrast to other identity domains, such as intimate relationships or occupation, ethnic identity appears to be associated less with personal experiences (e.g., disequilibrating events) than with societal processes (e.g., political discourse stimulated by events such as elections or attacks by radicalized people).

This also offers a plausible explanation for the longitudinal findings. The high percentage of transitions between the identity stages during the period under study (2016–2018) might be related to the German federal election, which took place in 2017. There was lively political debate on social media (Roßteutscher, Schmitt-Beck, Schoen, Weßels, & Wolf, 2019), and, for the first time, a right-wing extremist party was elected to parliament. Previous identity research has classified such effects as history-graded effects (Fadjukoff et al., 2016; Kroger & Green, 1996). Hence, the ethnic identity domain is subject to high variability over time and must be embedded in societal discourse in a specific time frame, which prompts adults to grapple with their own ethnic identity.

Limitations and outlook

The design of the present study did not allow the time point at which role transitions occurred or the duration of engagement in these roles to be captured. More comprehensive and repeated measurements will be necessary for a deeper understanding of their impact on identity formation (see also Anthis, 2002). This applies also to the assessment of the impact of disequilibrating events, which was carried out retrospectively (see above). In addition, because the assessment of the impact of globalization experiences was not included in the original study design, measures available in the open access data set had to be used. Therefore, possible correlations with migration experiences or globalization indexes (e.g., residential heterogeneity) may not have been adequately captured. Furthermore, using a mixed-methods survey in future research could prevent limitations of research findings due to a lack of ecological validity. For example, the way in which community involvement shapes individuals’ ethnic identity should be examined more closely by using supplementary qualitative approaches (e.g., exploration of social networks), and also by adding external regional information to the data set.

Finally, looking forward, the impact of an actual history-graded event—the COVID-19 pandemic—on ethnic identity formation will be covered in the third wave of the present study.

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Not applicable.

Conflicts of interest

All authors declare no conflict of interest.

Author contributions

Débora B. Maehler (Conceptualization; Formal analysis; Investigation; Methodology; Project administration; Software; Supervision; Validation; Visualization; Writing – original draft; Writing – review & editing)

Data availability statement

The data that support the findings of this study are openly available in the Data Archive for the Social Sciences (DAS), GESIS – Leibniz Institute for the Social Sciences, at <http://doi.org/10.4232/1.12469>, reference number [ZA5664] for Wave 1, and at <http://doi.org/10.4232/1.13158>, reference number [ZA5665] for Wave 2.

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Supporting Information

The following supporting information may be found in the online edition of the article:

Table S1. Sample characteristics by adulthood cohort.

Table S2. GESIS panel measurement instruments used.

Table S3. Description of statistical analyses running LPA and LPTA.

Table S4. Moderation equation using MEMORE (Montoya, 2019).

Table S5. Means and standard deviations of ethnic identity scales.

Table S6. Descriptive statistics of predictors.

Table S7. Means, standard deviations of criterion validity indicators.

Table S8. Transition probabilities for the Latent Profile Transition Analysis (LPTA) model by age cohort.

Figure S1. Log likelihood values of five latent class models.