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Identity Matters for Life Satisfaction: Within-Person Pathways and Family-Type Differences Among Multicultural Adolescents

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Abstract

This study examined within-person prospective associations between identity awareness and life satisfaction among multicultural adolescents in South Korea, focusing on whether peer support and self-rated health mediate this association and whether perceived family economic status (PFE) moderates it. Three annual waves of the Multicultural Adolescents Panel Study (N = 2,271) were analyzed with a random-intercept cross-lagged panel model (RI-CLPM) that separates within-person change from stable between-person variance, complemented by bootstrap mediation tests, moderated-mediation analysis, and multi-group comparison across family-type subgroups. The RI-CLPM fit the data well (CFI = .999, RMSEA = .025, SRMR = .008). All within-person autoregressive paths were significant, indicating meaningful continuity in each construct, but the hypothesized within-person indirect effects of identity awareness on life satisfaction through peer support and self-rated health were negligible and non-significant, although the same effects were significant in a conventional cross-lagged specification. The apparent mediation therefore reflects between-person trait covariation rather than a within-person process, and the index of moderated mediation for PFE was likewise non-significant. Peer support prospectively predicted within-person change in identity awareness, and subgroup analysis showed that identity awareness predicted subsequent life-satisfaction change only among mid-immigrant adolescents. The findings caution against process interpretations of conventional cross-lagged mediation and suggest that identity-focused support may matter most for adolescents actively engaged in identity reconstruction after migration.

Background

Globalization and international migration have increased cultural diversity worldwide, intensifying concerns about social integration, particularly among adolescents. In South Korea, the share of students from multicultural families rose for the eleventh consecutive year in 2023, reaching 3.5% of total enrollment, an indicator of the country's transition from a largely homogeneous society toward a multicultural one (KOSIS, 2023). As a result, South Korean youth increasingly engage in culturally diverse interactions (Arnett, 2003), and the adaptation and well-being of multicultural adolescents has become a pressing social concern. Research on this population in South Korea has emphasized risks such as depression, maladjustment, and social withdrawal, while devoting less attention to the protective mechanisms and positive developmental processes that support resilience and well-being (Kang, 2019). Identity formation theory holds that healthy development depends on adolescents' capacity to integrate diverse self-concepts and social roles (Miller & Collette, 2019), a capacity fostered by positive exchanges within the cultural environment (Gardiner & Kosmitzki, 2018) and by a clear sense of national identity, which is especially consequential for multicultural adolescents (Arnett, 2002). Cultural clashes during adolescence can disrupt this process and, in turn, strain peer relationships, health, and life satisfaction (Gardiner & Kosmitzki, 2018; Miller & Collette, 2019). Understanding how multicultural adolescents in South Korea negotiate national identity alongside heritage and host-society identities is therefore central to their developmental trajectories and well-being.

Cultural psychology helps explain why a secure sense of identity matters in South Korea's collectivist context. Identity formation is closely tied to self-construal, that is, the way people understand their inner life, which varies markedly across cultures. Whereas Western contexts privilege an independent self, many non-Western contexts, including South Korea's, emphasize an interdependent self oriented toward social harmony and others' expectations (Markus & Kitayama, 1991), and identity conflict can arise when these orientations clash. Cultural identity is also negotiated in social interaction: when individuals' self-perceptions diverge from how others categorize them, the resulting misalignment can produce identity strain (Hong et al., 2016) and, in turn, anxiety, stress, social isolation, and diminished life satisfaction (Wiley & Deaux, 2010; Kang, 2019). These dynamics are particularly salient for multicultural adolescents in South Korea, where social harmony and interdependence are strongly emphasized.

Contextual factors such as peer relationships and perceived health are likewise central to adolescent well-being. Peer support can buffer stress and scaffold adaptive functioning, and health appraisals capture proximal evaluations closely linked to subjective well-being. Family economic conditions, often framed through the family stress perspective, may further shape these links by constraining resources and increasing exposure to stress. Although peer support and perceived health are generally protective, their strength can vary with adolescents' subjective appraisal of family socioeconomic status (subjective SES). The family stress model holds that economic pressure heightens parental distress and parenting stress, strains family relationships, and ultimately undermines adolescents' adjustment (Conger et al., 1992; Conger & Donnellan, 2007; Masarik & Conger, 2017). The stress-buffering hypothesis suggests that peer support may be especially protective in low-SES contexts, although severe economic pressure can erode its benefits (Cohen & Wills, 1985). The reserve-capacity model similarly predicts that, because low-SES youth command fewer social–emotional resources, assets such as peer support should more strongly buffer stress–health pathways (Gallo & Matthews, 2003; Chen & Miller, 2013).

Subjective SES is also a robust predictor of adolescent health, independent of objective SES, and has been shown to moderate associations among stress, social support, and well-being (Goodman et al., 2001; Goodman et al., 2007; Quon & McGrath, 2014). From a cumulative stress perspective, economic hardship increases exposure to chronic stress, heightens stress reactivity, and weakens self-regulation.

Consequently, for youth from low-SES families, the pathway linking peer support to life satisfaction through perceived health may be particularly consequential (Evans & Kim, 2013). Accordingly, subjective SES is examined in the present study as a moderator of the pathways linking identity awareness, peer support, self-rated health, and life satisfaction.

These strands of evidence can be integrated within Bronfenbrenner's (1979, 2005) bioecological model, with each substantive theory anchored to a specific ecological layer. At the ontogenic layer, identity formation theory (Erikson, 1968; Phinney, 1990) and self-construal theory (Markus & Kitayama, 1991) explain why national identification is a developmentally consequential resource for multicultural adolescents in a society that orients self-construals toward interdependence. At the microsystem layer, the stress-buffering model of social support (Cohen & Wills, 1985) and the reserve-capacity model (Gallo & Matthews, 2003) explain why peer support and embodied health appraisals are the proximal channels most likely to translate identity-related resources into life satisfaction. At the exosystem layer, the family stress model (Conger et al., 1992; Masarik & Conger, 2017) and the related cumulative-stress perspective (Evans & Kim, 2013) explain why perceived family economic status, the adolescent's appraisal of household standing rather than income per se, should moderate the within-person dynamics linking microsystem resources to well-being.

The selection of PFE rests on three convergent grounds. First, theoretically, the family stress model (Conger et al., 1992; Conger & Donnellan, 2007; Masarik & Conger, 2017), the reserve-capacity model (Gallo & Matthews, 2003), cognitive-appraisal theory (Lazarus & Folkman, 1984), and social comparison theory (Festinger, 1954) all converge on the adolescent's subjective appraisal of family economic standing, rather than objective income or parents' static credentials, as the proximal mechanism that amplifies or attenuates within-person developmental processes, particularly in adolescence, when family position is judged through comparison with peer referents. Second, empirically, subjective social status consistently predicts psychological and physical health beyond objective SES indicators (Adler et al., 2000), and Quon and McGrath's (2014) meta-analysis of 60 studies and over 100,000 youth confirmed stronger associations than for parental education or household income, a pattern that also holds in Korean multicultural samples. Third, the alternative variables fit better as covariates than as moderators: maternal education is essentially time-invariant within the observation window and shapes the random intercepts rather than the within-person paths, maternal Korean proficiency indexes the parent's acculturation status, and length of residence is not recorded in MAPS 2 at the relevant wave, an absence acknowledged as a limitation.

Link between Identity and Life Satisfaction

Identity development is a defining task of adolescence (Erikson, 1968), and it is especially demanding for multicultural adolescents who must navigate multiple cultural systems. A stable, coherent identity underpins psychosocial health, positive adjustment, and life satisfaction (Gardiner & Kosmitzki, 2018; Park, 2023). Korean studies likewise show that multicultural adolescents with strong identity awareness report greater well-being and adaptive functioning, whereas those with identity uncertainty or conflict more often experience loneliness, psychological distress, and lower life satisfaction (Cho & Jung, 2024; Yoon & Kwon, 2025). Identity scholarship commonly distinguishes identity content (the domains that define who one is, such as national, ethnic, personal, relational, or vocational domains) from identity processes (the exploration, commitment, and reconsideration through which identities are formed and revised). Because the MAPS indicators capture adolescents' emotional identification with and sense of belonging to Korean society, we use the term identity awareness to denote the content and affective-commitment component of national social identification rather than the full set of identity processes. We nonetheless draw on process-oriented accounts by treating national identification as a downstream product of ongoing cultural negotiation that can subsequently serve as a psychosocial resource supporting social integration and everyday well-being.

Prior work points to the mechanisms through which identity awareness may support life satisfaction. Adolescents with a clear sense of identity more readily form meaningful peer relationships, develop belonging, and integrate experiences in ways that foster efficacy and coherence (Miller & Collette, 2019; De Lise et al., 2024), whereas low identity awareness has been linked to school maladjustment, behavioral difficulties, and reduced well-being (Shen & Kogan, 2021; Mercer et al., 2017).

From an acculturation perspective (Berry, 1997), multicultural adolescents who pursue an integrative strategy, balancing heritage and host cultures, tend to report greater identity stability, psychological security, and life satisfaction (Mastrotheodoros et al., 2024; Karaś et al., 2014), whereas identity conflict or prolonged reconsideration of commitments can undermine adjustment and well-being (Karaś & Cieciuch, 2018).

Taken together, this evidence positions identity awareness as a positive predictor of life satisfaction among multicultural adolescents, with weak or unstable identity posing a corresponding risk to well-being; this provides the rationale for examining the identity–life-satisfaction link in the present study.

Can Identity Awareness Facilitate Improvements in Peer Relationships, Perceived Health, and Overall Life Satisfaction?

A coherent identity is associated with higher life satisfaction, whereas physical or mental health difficulties can attenuate this link (Romero et al., 2020). For adolescents negotiating multiple cultural contexts, positive perceptions of self, health, and social participation are especially important in sustaining the confidence to explore and commit to identity alternatives. Identity awareness is thus best understood not only as a marker of psychological adjustment but also as a determinant of adolescents' physical, social, and emotional well-being.

A growing body of evidence links identity awareness to adolescent life satisfaction across domains. Adolescents who struggle to integrate heritage and host identities often experience identity conflict that constrains their capacity to build supportive peer relationships and sustain academic and personal functioning (Shen & Kogan, 2021). By contrast, those with strong identity awareness more readily form meaningful interpersonal bonds, maintain healthier routines, and report higher life satisfaction.

Even so, the processes through which adolescents come to achieve identity awareness remain underspecified. The literature has disproportionately emphasized negative outcomes such as identity conflict and maladjustment, while underexamining the protective functions of identity awareness, and it has rarely modeled how identity awareness interacts with peer relationships and health perceptions over time.

Clarifying how identity awareness relates to life satisfaction requires attention to mediating processes, because its effects are unlikely to be wholly direct. Interpersonal competence, for instance, has been shown to mediate the identity–life-satisfaction link (Seo, 2022), and peer relationships and health perceptions plausibly carry part of this association. In supportive environments, identity awareness may reinforce the protective functions of peer connection and positive health appraisals, thereby supporting life satisfaction; where identity awareness is weak or conflicted, these relational and health resources may instead be eroded (Aral et al., 2025).

These gaps call for comprehensive longitudinal analyses of identity awareness as a developmental resource. By modeling the autoregressive and cross-lagged associations among identity awareness, peer relationships, health perceptions, and life satisfaction, the present study moves beyond deficit-oriented accounts to examine whether and how identity awareness functions as a mechanism of resilience among multicultural adolescents.

Experience of Adolescents with a Migrant Background

These mechanisms operate within the broader sociocultural context of migration, which has substantially increased the diversity of contemporary societies (Bagci & Rutland, 2020). Adolescents from migrant backgrounds frequently must reconcile divergent cultural norms and expectations while constructing a coherent sense of self (Nguyen & Benet-Martínez, 2013). This task is especially demanding in South Korea, where institutional and social frameworks for multicultural integration remain less developed than in many Western contexts. Some adolescents successfully negotiate a dual identity that incorporates both heritage and host cultures (Gardiner & Kosmitzki, 2018), whereas others form weak ties to either culture and experience identity marginalization (Karataş et al., 2023). The disruption may be particularly acute for those who migrate during mid-adolescence, when interrupting an ongoing identity process can heighten psychological vulnerability and lower life satisfaction (Seo, 2022; Aral et al., 2025).

Beyond these proximal processes, adolescents' trajectories are shaped by family socioeconomic resources. Drawing on ecological systems theory (Bronfenbrenner, 2005), the present study therefore tests whether the hypothesized pathways from identity awareness to life satisfaction vary with adolescents' PFE.

Current Study

Prior research has emphasized identity awareness, peer relationships, and health perceptions separately, but few studies have examined how they interact within a multidimensional framework of well-being while considering migration background and family economic status.

Accordingly, the study examines life satisfaction as a global construct spanning cognitive, emotional, physical, and social dimensions, consistent with evidence that well-being items in Korean multicultural samples load primarily on a general life-satisfaction factor (Moon et al., 2018).

The focal constructs (national identification, peer relationships, and self-rated health) and the moderator, perceived family economic status (PFE), were selected on three grounds: each construct (a) anchors a distinct ecological layer in the framework above, (b) is measured with

comparable items across all three MAPS 2 waves (essential for within-person modeling), and (c) speaks to a non-redundant theoretical channel. Alternative candidates were set aside on these grounds: self-esteem is strongly collinear with affective in-group identification, complicating within-person separation; family support overlaps with PFE, as both index the family microsystem, so economic appraisal serves as the moderator while the peer microsystem occupies the mediator role; and teacher support lacks item-equivalent indicators across the three waves, as do demographic acculturation proxies such as maternal education, maternal Korean proficiency, and length of residence.

Guided by this framework, the study investigates how identity awareness relates to life satisfaction, focusing on the mediating roles of peer support and self-rated health and the moderating role of PFE. The analysis uses three annual waves of panel data (2019–2021; T1 = baseline, T2 and T3 = one- and two-year follow-ups). We test four hypotheses, ordered from within-person continuity to conditional process: baseline autoregressive stability (H1), the prospective direct association (H2), within-person mediation (H3), and moderated mediation by PFE (H4).

H1: Within the random-intercept cross-lagged panel framework, the within-person components of identity awareness, peer relationships, self-rated health, and life satisfaction will exhibit significant within-person autoregressive continuity (i.e., positive prospective effects of each construct on its own value at the subsequent wave) across the three time points (T1 → T2 → T3).

H2: Identity awareness at Time (T) 1 positively predicts life satisfaction at T3.

H3: The within-person prospective association between identity awareness at T1 and life satisfaction at T3 is mediated in parallel by peer relationships at T2 and self-rated health at T2, controlling for the T1 value of each mediator and the T1 and T2 values of life satisfaction.

H4: The indirect effects of identity awareness on life satisfaction via peer relationships and self-rated health are moderated by PFE; higher PFE is associated with stronger mediation effects.

Methods

Participants

Participants were multicultural adolescents from the Multicultural Adolescents Panel Study (MAPS), a national panel recruited in 2019 from fourth-grade students across South Korea (N = 2,271; observed through sixth grade in 2021). Following the Ministry of Education's definition, the term encompasses children of international marriages (born in Korea to one Korean and one foreign parent), newly immigrated (mid-immigrant) adolescents (born abroad and later entering Korea), and foreign-national children (born to two foreign parents; Ministry of Education & Korea Educational Development Institute, 2018).

Participants' average age was 10.13 years (*SD* = 0.44), with 1,156 boys (50.9%) and 1,115 girls (49.1%). Regarding residential area, 12.1% of participants resided in Seoul, 28.2% in Gyeonggi/Incheon metropolitan area, 17.5% in Chungcheong and Gangwon, 24.8% in Gyeongsang, and 17.4% in Jeolla and Jeju. In total, 33.7% of the participants lived in metropolitan areas, 51.6% in mid-sized or small cities, and 14.7% in towns or rural areas.

Mothers' ages ranged 24–59 and fathers' 26–76 years; most parents had a high school education or less, most mothers were Vietnamese (33.6%) or of Chinese ethnicities (17.3%), most fathers were South Korean (73.1%), and most parents were married (89.6%).

Procedure

Data come from the second cycle of the MAPS, administered annually by the National Youth Policy Institute (NYPI) beginning in 2019, with adolescents and one parent completing separate self-administered questionnaires at each wave. Data were fully anonymized before release; the MAPS received Institutional Review Board approval from the NYPI, and all participants provided informed voluntary consent.

The present study analyzed de-identified secondary MAPS data; an ethics determination for this secondary analysis was obtained from the Institutional Review Board of the first author's university (approval number blinded for review), with no additional review required.

T1–T3 denote the three consecutive annual assessments (2019–2021), corresponding to Grades 4–6.

Measures

Demographics

Sociodemographic and background variables (age, biological sex, parental educational attainment, and parental country of origin) were collected at baseline (Wave 1), with sex dummy-coded (0 = male, 1 = female).

Baseline covariates (age, sex, number of close friends, desired educational attainment, and current academic concerns) were measured at Wave 1 and included as controls in the mediation models.

Identity Formation among Multicultural Adolescents (Korean social identification)

Identity was measured with four items adapted from the group-involvement subscale of the Korean Social Identification Scale (Seong, 2001), revised for adolescents to capture emotional identification with and belonging to South Korean society. Items were rated on a 4-point Likert scale (1 = not at all true, 4 = very true; sample item: "When someone compliments Korea, I feel as if I am being praised"). Seong (2001) reported a subscale Cronbach's α of .78. In the present sample, internal consistency was good across waves (α = .825, .840, and .847 at T1–T3), composite reliability was high (CR = .884, .893, and .897), and average variance extracted supported convergent validity (AVE = .656, .676, and .685).

Life Satisfaction

Life satisfaction was assessed with three self-report items from the Youth Development Index Survey, developed by Kim et al. (2006) and revised by Kim et al. (2010). Items were rated on a 4-point Likert scale (1 = not at all true, 4 = very true). A sample item is "I enjoy living my life." In Kim et al.'s (2006) study, Cronbach's α for the scale was 0.75. In the present study, Cronbach's α was stable across waves (T1 = 0.813, T2 = 0.807, T3 = 0.810). CR remained high and consistent (T1 = 0.889, T2 = 0.887, T3 = 0.888). AVE values were strong across waves (T1 = 0.729, T2 = 0.724, T3 = 0.727).

Peer Relationships

Peer relationships were assessed with a four-item scale drawing on the social relationship domain of Kim's (2013) School Adjustment Scale, Hwang and Kim's (2006) Peer Relationship Scale, and one item developed by the research team, capturing perceived intimacy, support, understanding, and respect in school peer relationships (sample item: "My school friends understand me well"; 5-point Likert scale, 1 = not at all true, 5 = very true). Reliability was good across waves (α = .851, .844, and .862; CR = .910, .906, and .916; AVE = .771, .762, and .784 at T1–T3).

Psychological and Physical Health Scale

Health was assessed with items adapted from Cawte (1982) and Hwang (1997) and modified for adolescents. Consistent with the MAPS 2 codebook, self-rated health was measured as a two-item composite comprising one item on perceived physical health ("I am physically healthy") and one on perceived psychological health ("I am psychologically healthy"), rated on a 4-point Likert scale (1 = not at all true, 4 = very true), with higher scores indicating more positive health. Because the composite combines physical and psychological components, the construct is termed self-rated health rather than physical health. Internal consistency was acceptable across waves (α = .805, .802, and .793 at T1–T3), with high composite reliability (CR = .911, .910, and .906) and strong average variance extracted (AVE = .837, .834, and .829).

Perceived Family Economic Status

PFE was assessed with a single MAPS item asking adolescents to rate their household's economic condition on an ordered scale (e.g., from "very poor" to "very affluent"). Because the item indexes perceived economic standing (subjective socioeconomic status) rather than objective household income, internal-consistency indices such as Cronbach's alpha or omega do not apply. We therefore treat PFE as adolescents' subjective appraisal of household resources and living conditions, and confine our interpretations to perceived standing rather than objective socioeconomic conditions.

Data Analysis

Descriptive statistics were computed in SPSS 29.0. The primary model was a Random-Intercept Cross-Lagged Panel Model (RI-CLPM; Hamaker et al., 2015; Mulder & Hamaker, 2021) estimated in Python 3.12 with semopy 2.3.11 (Igolkina & Meshcheryakov, 2020) using robust maximum likelihood. The RI-CLPM decomposes each observed score into a stable between-person random intercept and a time-varying within-person component, so that cross-lagged paths reflect within-person processes uncontaminated by trait covariance. Within-person indirect effects were tested with 5,000 bias-corrected and accelerated (BCa) bootstrap resamples, with each endogenous variable regressed on its prior-wave value. A conventional CLPM and a regression-based mediation model were retained as supplementary

comparisons. Model fit was evaluated with CFI (≥ .95), TLI (≥ .95), RMSEA (≤ .06), and SRMR (≤ .08) (Hu & Bentler, 1999), and longitudinal measurement invariance was tested in configural–metric–scalar sequence (ΔCFI ≥ − .010, ΔRMSEA ≤ .015; Chen, 2007).

Moderation by PFE was tested with a two-step procedure, because latent interactions within the RI-CLPM are unstable (Cham et al., 2017; Hayes et al., 2017): within-person factor scores were first extracted (regression method), and a moderated-mediation specification then allowed PFE to moderate the second-stage paths, with the index of moderated mediation and conditional indirect effects at − 1 SD, the mean, and + 1 SD tested against BCa 95% bootstrap confidence intervals (5,000 resamples).

Results

Cross-Lagged Associations of Identity Awareness and Life Satisfaction

Cross-Lagged Associations among Identity Awareness, Peer Relationships, Self-Rated Health, and Life Satisfaction The RI-CLPM was specified to examine reciprocal within-person associations among the four constructs across three waves; measurement invariance held across configural, metric, and scalar levels (ΔCFI < .010, ΔRMSEA < .015).

Model trimming from the initial full specification proceeded by removing non-significant within-wave and lagged parameters where doing so did not degrade fit, yielding the final model reported below.

Longitudinal measurement invariance was tested for all four constructs before structural modeling.

The results indicated that all four models, measurement invariance, autoregressive invariance, cross-lagged invariance, and residual/covariance invariance, met the criteria for time invariance across the specified parameters. Thus, the strict invariance model was retained as the final model. All constructs exhibited high temporal stability.

All models included sex and age as covariates without parameter constraints, allowing their effects to vary over time. Furthermore, multigroup analyses were conducted to determine whether significant differences in path coefficients and correlations existed between adolescents from the majority group and those with a migrant background (Table 1).

Table 1
Correlations and Within-Time Correlations across Measurement Waves

Period	*M*	*SD*	T1(A)	T1(B)	T1(C)	T1(D)	T2(A)	T2(B)	T2(C)	T2(D)	T3(A)	T3(B)	T3(C)	T3(D)
T1(A)	2.623	0.717	1											
T1(B)	3.850	0.816	.230**	1										
T1(C)	3.491	0.548	.160**	.344**	1									
T1(D)	3.345	0.556	.211**	.400**	.469**	1								
T2(A)	2.679	0.704	.358**	.179**	.144**	.131**	1							
T2(B)	3.798	0.704	.135**	.413**	.252**	.264**	.249**	1						
T2(C)	3.481	0.533	.118**	.236**	.364**	.289**	.162**	.319**	1					
T2(D)	3.251	0.549	.127**	.223**	.258**	.391**	.197**	.319**	.415**	1				
T3(A)	2.788	0.669	.262**	.116**	.128**	.114**	.435**	.162**	.130**	.153**	1			
T3(B)	3.855	0.683	.130**	.333**	.190**	.238**	.158**	.463**	.258**	.265**	.207**	1		
T3(C)	3.452	0.558	.117**	.198**	.286**	.265**	.170**	.242**	.435**	.308**	.191**	.299**	1	
T3(D)	3.214	0.544	.113**	.161**	.183**	.295**	.123**	.225**	.265**	.410**	.202**	.327**	.501**	1

Note. T1 = Time 1, T2 = Time 2, T3 = Time 3; (A) Identity awareness; (B) Peer support; (C) Self-rated health; (D) Life satisfaction. ***p < .001.

Insert Table 1 near here

Autoregressive Cross-Lagged Effects of Identity Awareness, Peer Relationships, Self-Rated Health, and Life Satisfaction

The RI-CLPM was fitted to the 1,977 participants with complete data on the four constructs across the three waves. Model fit was excellent: $\chi^2(6) = 13.22$, $\chi^2/df = 2.20$, CFI = .999, TLI = .985, RMSEA = .025 (90% CI [.011, .040]), SRMR = .008. Longitudinal measurement invariance was satisfied across configural, metric, and scalar levels (ΔCFI < .010, ΔRMSEA < .015).

Within-person autoregressive paths. Supporting H1, all eight within-person autoregressive paths were positive and significant (identity: β = .182 and .264; peer support: β = .138 and .150; self-rated health: β = .103 and .202; life satisfaction: β = .155 and .183; ps ≤ .021; Table 4), indicating meaningful within-person continuity in each construct.

Table 4

Standardized Within-Person Path Estimates From the Random-Intercept Cross-Lagged Panel Model

Path	b	SE	β	p
Autoregressive paths (within-person)				
Identity T1 → T2	.177	.038	.182	< .001
Identity T2 → T3	.247	.036	.264	< .001
Peer Support T1 → T2	.114	.033	.138	< .001
Peer Support T2 → T3	.142	.044	.150	.001
Self-Rated Health T1 → T2	.097	.042	.103	.021
Self-Rated Health T2 → T3	.217	.040	.202	< .001
Life Satisfaction T1 → T2	.152	.040	.155	< .001
Life Satisfaction T2 → T3	.182	.038	.183	< .001
Cross-lagged paths from identity				
NID T1 → PR T2	.007	.031	.007	.830
NID T1 → SRH T2	− .012	.025	− .017	.637
NID T1 → LS T2	.012	.025	.017	.615
NID T2 → PR T3	.020	.035	.029	.444
NID T2 → SRH T3	.043	.025	.056	.080
NID T2 → LS T3	.001	.025	.001	.968
Reverse and other cross-lagged paths				
PR T1 → NID T2	.068	.031	.076	.026
PR T1 → SRH T2	.034	.024	.053	.151
PR T1 → LS T2	.017	.024	.025	.468
PR T2 → LS T3	.008	.029	.010	.777
SRH T1 → PR T2	.099	.044	.082	.023
SRH T1 → LS T2	.007	.035	.007	.834
SRH T2 → LS T3	.030	.036	.029	.410
LS T2 → SRH T3	.073	.033	.070	.027
Random-intercept correlations (between-person)				
RI NID ↔ RI PR	n/a	n/a	.398	< .001
RI NID ↔ RI SRH	n/a	n/a	.458	< .001
RI NID ↔ RI LS	n/a	n/a	.427	< .001
RI PR ↔ RI SRH	n/a	n/a	.599	< .001
RI PR ↔ RI LS	n/a	n/a	.649	< .001
RI SRH ↔ RI LS	n/a	n/a	.774	< .001

Note. N = 1,977 complete cases. Unstandardized (b) and standardized (β) parameter estimates from the random-intercept cross-lagged panel model. Random-intercept correlations are reported as standardized covariances of the latent random intercepts; all are highly significant, indicating substantial between-person trait covariation among the four constructs. Within-person indirect effects are reported with 95% bootstrap confidence intervals (5,000 resamples). Two parallel mediation pathways (PR T2; SRH T2) and the sequential three-step pathway (PR T2 -> SRH T2 with the contemporaneous direction imposed) all yielded non-significant indirect effects: NID -> PR -> LS 95% CI [-.0022, .0027]; NID -> SRH -> LS 95% CI [-.0036, .0022]; NID -> PR -> SRH -> LS 95% CI [-.0004, .0006]. Model fit: $\chi^2(6) = 13.22$, $\chi^2/df = 2.20$, CFI = .999, TLI = .985, RMSEA = .025 (90% CI [.011, .040]), SRMR = .008. NID = Identity Awareness; PR = Peer Support; SRH = Self-Rated Health; LS = Life Satisfaction; RI = random intercept; n/a = not applicable; ns = nonsignificant.

Path	b	SE	β	p
Autoregressive paths (within-person)				
Within-person indirect effects on LS T3				
NID T1 → PR T2 → LS T3 (parallel)	.0001	n/a	n/a	ns
NID T1 → SRH T2 → LS T3 (parallel)	− .0004	n/a	n/a	ns
NID T1 → PR T2 → SRH T2 → LS T3 (sequential)	.00003	n/a	n/a	ns

Note. N = 1,977 complete cases. Unstandardized (b) and standardized (β) parameter estimates from the random-intercept cross-lagged panel model. Random-intercept correlations are reported as standardized covariances of the latent random intercepts; all are highly significant, indicating substantial between-person trait covariation among the four constructs. Within-person indirect effects are reported with 95% bootstrap confidence intervals (5,000 resamples). Two parallel mediation pathways (PR T2; SRH T2) and the sequential three-step pathway (PR T2 -> SRH T2 with the contemporaneous direction imposed) all yielded non-significant indirect effects: NID -> PR -> LS 95% CI [-.0022, .0027]; NID -> SRH -> LS 95% CI [-.0036, .0022]; NID -> PR -> SRH -> LS 95% CI [-.0004, .0006]. Model fit: $\chi^2(6) = 13.22$, $\chi^2/df = 2.20$, CFI = .999, TLI = .985, RMSEA = .025 (90% CI [.011, .040]), SRMR = .008. NID = Identity Awareness; PR = Peer Support; SRH = Self-Rated Health; LS = Life Satisfaction; RI = random intercept; n/a = not applicable; ns = nonsignificant.

Within-person cross-lagged paths. In contrast to conventional-CLPM results, none of the hypothesized paths from identity awareness to the mediators or to life satisfaction was significant (all ps ≥ .080; Table 4). The only significant prospective associations ran in other directions: peer support (T1) predicted within-person change in identity awareness (β = .076, p = .026), self-rated health (T1) predicted change in peer support (β = .082, p = .023), and life satisfaction (T2) predicted change in self-rated health (β = .070, p = .027).

For comparison, a conventional CLPM fitted to the same data (reported in Supplementary Table S1) yields uniformly significant autoregressive coefficients and several significant cross-lagged paths; however, because that specification does not separate stable between-person variance from within-person change, these estimates conflate trait covariation with prospective within-person influence and are not interpreted as the primary findings here.

In sum, within-person continuity was robust while the hypothesized identity-driven indirect effects were absent (Table 4; Supplementary Table S1), indicating that mediation observed in conventional CLPM analyses reflects between-person trait covariation.

Insert Fig. 1 near here

Longitudinal Mediating Effects of Identity Awareness, Peer Relationships, Self-Rated Health, and Life Satisfaction

Contrary to H3, both within-person indirect effects were small and non-significant (NID T1 → PR T2 → LS T3 = .0001, 95% CI [− .0022, .0027]; NID T1 → SRH T2 → LS T3 = − .0004, 95% CI [− .0036, .0022]; 5,000 BCa resamples), whereas the same effects are significant in a conventional CLPM of these data (β = .013–.015, ps < .01; Supplementary Table S1). The apparent mediation is therefore almost entirely between-person trait covariation, and the three-wave evidence does not support a within-person mechanism in which identity awareness drives life satisfaction through peer support or self-rated health.

As a supplementary comparison, a regression-based mediation without random intercepts reproduced the originally reported significant indirect effects, confirming that specification, not sample, drives the discrepancy.

The supplementary regression-based model fit well ($\chi^2 = 218.927$, df = 111; CFI = .992, TLI = .988, RMSEA = .021, SRMR = .023) and adjusted for baseline covariates; its indirect effects reflect between-person covariation and are reported only to document the discrepancy with the RI-CLPM.

Insert Table 2 near here

Table 2
Longitudinal Mediation Effect

Path	β	*SD*	*t*	*p*	95% Confidence Interval	
					Lower	Upper
Identity awareness T1→Self-rated health T2→Life satisfaction T3	.013	.005	2.604	.009	.004	.024
Identity awareness T1→Peer support T2→Life satisfaction T3	.015	.005	3.184	.001	.007	.025
Identity awareness T1→Self-rated health T2→Peer support T2→Life satisfaction T3	.010	.002	4.061	< .001	.006	.015

*p < 0.05; **p < 0.01.

Moderating Role of PFE in the Relationships among Identity Awareness, Peer Relationships, Self-Rated Health, and Life Satisfaction

Contrary to H4, the index of moderated mediation was non-significant for both indirect paths (index_mm_PR = .00001, 95% CI [− .0024, .0028]; index_mm_SRH = .00060, 95% CI [− .0026, .0036]). Conditional indirect effects in the supplementary regression-based model were significant at the sample mean (PR: .0022; SRH: .0035) but did not vary meaningfully across − 1 SD, the mean, and + 1 SD of PFE; PFE therefore does not moderate the within-person pathways.

Multi-group RI-CLPM. Configural models fit acceptably within each family-type subgroup (international-marriage n = 1,532: $\chi^2(6) = 15.34$, CFI = .999, RMSEA = .025; mid-immigrant n = 155: $\chi^2(6) = 9.88$, CFI = .983, RMSEA = .064; foreign-national n = 290: $\chi^2(6) = 9.19$, CFI = .997, RMSEA = .047).

We then tested equality of the 18 within-person paths (8 autoregressive and 10 cross-lagged) across each pair of subgroups using omnibus Wald chi-square tests (asymptotically equivalent to the likelihood-ratio chi-square difference test; Vandenberg & Lance, 2000). The omnibus tests compared the within-person structure between international-marriage and recent-immigration (mid-immigrant + foreign-national combined, n = 445), $\chi^2(18) = 18.02$, p = .454; between international-marriage and mid-immigrant alone, $\chi^2(18) = 22.75$, p = .200; and between international-marriage and foreign-national alone, $\chi^2(18) = 19.80$, p = .344. None of the omnibus tests reached α = .05, so overall within-person invariance was supported.

Path-by-path comparisons nonetheless identified three significant subgroup differences: identity awareness (T1) predicted life-satisfaction change (T2) more strongly among mid-immigrant (b = .187) than international-marriage adolescents (b = − .015), z = − 2.11, p = .035; peer support (T1) predicted life satisfaction more strongly in the international-marriage (b = .035) than the mid-immigrant subgroup (b = − .166), z = 2.22, p = .027; and self-rated health (T1) predicted life satisfaction more strongly in the foreign-national (b = .239) than the international-marriage subgroup (b = − .019), z = − 2.47, p = .013 (Mid vs Foreign: z = − 1.96, p = .050). The complete pattern is reported in Supplementary Table S2 and visualized in Fig. 3.

Overall, cross-lagged relations were broadly invariant across subgroups, but identity awareness prospectively predicted within-person life-satisfaction change only among mid-immigrant adolescents, consistent with the prediction that identity work matters most during active identity construction. Given limited subgroup power (n = 155), this finding is exploratory and requires replication.

Sensitivity analysis. A sensitivity model that included mother's educational attainment and Korean language ability as baseline predictors of the random intercepts yielded the same substantive conclusion: within-person cross-lagged paths from identity awareness to the proposed mediators remained non-significant, and the two within-person indirect effects on life satisfaction remained near zero. Detailed estimates are reported in Table 2.

For the supplementary regression-based moderation analysis, all continuous variables were mean-centered (West et al., 1996), and the conditional indirect effect of identity awareness on life satisfaction via each mediator was allowed to vary as a function of PFE (Hayes, 2018).

Insert Table 3 near here

Table 3

Moderated Mediation Effects

Conditional Indirect Effect	Path	Index (β)	*SE*	95% Confidence Interval	
				Lower	Upper
PFE	Identity awareness T1→Self-rated health T2→Life satisfaction T3	.080	.036	.009	.152

Note. Model Fit: R^2 = .202, f^2 = .127 (moderator variable), .124 (interaction term), Q^2 = .017. PFE, perceived family economic status. *p < .05; **p < .01.

Table 5

Multi-Group Analysis of Within-Person Cross-Lagged Paths Across Family-Type Subgroups

Path	Intl. Marriage (n = 1,532) b (SE)	Mid-Immigrant (n = 155) b (SE)	Foreign-National (n = 290) b (SE)	Omnibus invariance
Autoregressive (within-person)				
Identity T1 → T2	.170 (.041)**	.252 (.151)	.146 (.098)	
Identity T2 → T3	.251 (.039)**	.399 (.155)**	.219 (.132)	
Peer Support T1 → T2	.126 (.036)**	− .082 (.137)	.024 (.082)	
Peer Support T2 → T3	.142 (.047)**	.267 (.157)	.021 (.118)	
SRH T1 → T2	.102 (.045)*	.022 (.144)	.252 (.107)*	
SRH T2 → T3	.223 (.043)**	.166 (.131)	.210 (.099)*	
LS T1 → T2	.147 (.043)**	.259 (.135)	.069 (.092)	
LS T2 → T3	.191 (.041)**	.219 (.149)	.067 (.100)	
Cross-lagged from identity (within-person)				
NID T1 → PR T2	− .001 (.034)	.211 (.137)	− .028 (.082)	χ^2 = 5.55, p = .062
NID T1 → SRH T2	− .034 (.029)	.044 (.114)	.013 (.069)	χ^2 = 1.10, p = .576
NID T1 → LS T2	− .015 (.020)*	.187 (.091)*	.050 (.062)	χ^2 = 5.61, p = .060
NID T2 → PR T3	.018 (.038)	− .180 (.144)	.071 (.094)	χ^2 = 4.16, p = .125
NID T2 → SRH T3	.042 (.027)	− .105 (.124)	.082 (.077)	χ^2 = 4.95, p = .084
NID T2 → LS T3	− .014 (.026)	− .024 (.130)	.165 (.094)	χ^2 = 3.21, p = .200
Reverse and other cross-lagged				
PR T1 → NID T2 (reverse)	.076 (.033)*	− .040 (.114)	.033 (.067)	χ^2 = 1.91, p = .385
PR T1 → LS T2	.035 (.027)	− .166 (.087)*	− .026 (.057)	χ^2 = 5.21, p = .074
PR T2 → LS T3	.008 (.031)	− .024 (.131)	− .028 (.080)	χ^2 = 0.21, p = .901
SRH T1 → LS T2	− .019 (.028)	− .045 (.092)*	.239 (.097)*	χ^2 = 7.80, p = .020*
SRH T2 → LS T3	.038 (.039)	− .030 (.123)	.001 (.080)	χ^2 = 0.40, p = .819
LS T2 → SRH T3	.069 (.035)	.055 (.150)	.000 (.085)	χ^2 = 0.68, p = .712
Omnibus invariance (Wald χ^2 for cross-lagged paths)				
Intl. Marriage vs Mid-Immigrant				**$\chi^2(16)$ = 24.23, p = .085**
Intl. Marriage vs Foreign-National				**$\chi^2(16)$ = 18.45, p = .298**
Mid-Immigrant vs Foreign-National				**$\chi^2(16)$ = 18.70, p = .285**

Note. Unstandardized regression coefficients (b) and standard errors (SE) from RI-CLPM fitted separately within each family-type subgroup. Statistical power for the mid-immigrant subgroup (n = 155) is limited; subgroup-specific findings are interpreted as exploratory. The omnibus Wald χ^2 summed across the 16 cross-lagged paths is asymptotically equivalent to the likelihood-ratio chi-square difference test (Vandenberg & Lance, 2000). None of the three omnibus tests is significant at α = .05, indicating broad cross-lagged path invariance across family-type subgroups, with three exceptions at the path level: NID → LS T1-T2 (Intl. vs Mid, p = .035), PR → LS T1-T2 (Intl. vs Mid, p = .027), and SRH → LS T1-T2 (Intl. vs Foreign, p = .013). NID = Identity Awareness; PR = Peer Support; SRH = Self-Rated Health; LS = Life Satisfaction.

* *p* < .05. ** *p* < .01.

In the supplementary regression-based model, the slope linking self-rated health to life satisfaction appeared somewhat steeper at higher PFE (Fig. 2), but given the non-significant index of moderated mediation this descriptive gradient is suggestive rather than confirmatory.

Discussion

Establishing a coherent identity across multiple life domains during adolescence is not only a central developmental task but also a critical determinant of overall life satisfaction. This study provides compelling evidence that for multicultural adolescents, the process of identity formation is deeply intertwined with the acculturation experience, which includes negotiating heritage and mainstream cultures in ways that profoundly shape psychosocial adaptation and well-being. Consistent with acculturation theory (Berry, 1997), how adolescents manage this cultural balance markedly influences their life satisfaction.

The central contribution is methodological and substantive at once: decomposing each construct into between- and within-person components shows that the apparent mediation of the identity–life-satisfaction link through peer support and self-rated health, although readily recovered by a conventional CLPM, does not hold at the within-person level. Within-person indirect effects were negligible, whereas the random intercepts were strongly intercorrelated (rs = .40–.77, ps < .001): adolescents who identify more strongly with Korean society also report more supportive peers, better health appraisals, and higher life satisfaction as a stable, trait-like bundle rather than as a prospective within-person process.

The non-significant index of moderated mediation likewise indicates that the present three-wave data do not support PFE as a within-person amplifier of these pathways; given strong between-person associations, we frame this as a null result for within-person moderation rather than evidence that economic context is irrelevant.

Methodologically, the RI-CLPM separates within-person change from between-person stability, a distinction prior work in this literature has largely been unable to make; the estimates remain observational and are described as prospective rather than causal.

Grounded in identity theory (Erikson, 1968; Marcia, 1980), the within-person evidence does not establish that identity awareness drives life satisfaction through peer or health pathways; what it establishes is robust within-person continuity and a tightly covarying between-person structure, both theoretically informative.

More broadly, the contrast between conventional-CLPM and RI-CLPM estimates illustrates how readily trait covariation can masquerade as within-person mediation, underscoring the value of variance-decomposing models for developmental questions.

Within-Person Associations between Identity Awareness and Life Satisfaction

First, contrary to H3, the within-person indirect effect of identity awareness (T1) on life satisfaction (T3) through peer support (T2) was negligible and non-significant (indirect = .0001, 95% CI [− .0022, .0027]; 5,000 BCa bootstrap resamples). The corresponding effect was significant only in the conventional-CLPM/regression specification that omits the random intercepts, which is consistent with the interpretation that adolescents' sense of belonging to Korean society and the quality of their peer relationships covary as stable individual differences rather than influencing one another prospectively within persons.

Second, although the within-person indirect effect from identity to life satisfaction via self-rated health was not statistically significant in the RI-CLPM (indirect = − .0004, 95% CI [-.0036, .0022], 5,000 bootstrap resamples), the broader pattern of associations among identity, health appraisal, and well-being identified in prior research remains theoretically informative (Becht et al., 2017).

Third, the sequential within-person chain from identity awareness through peer support and self-rated health to later life satisfaction was likewise non-significant (indirect = .00003, 95% CI [− .0004, .0006]). We note in addition that a fully lagged three-step chain cannot be cleanly identified in a three-wave design without conflating contemporaneous and lagged links; we therefore report it only as a bounded supplementary estimate and do not interpret it as evidence of a chained mechanism.

At the within-person level, the direct identity→life-satisfaction path was also non-significant, and the one significant prospective association ran counter to the hypothesized direction: peer support (T1) predicted change in identity awareness (β = .076, p = .026), suggesting supportive peer relationships may foster a firmer sense of national belonging rather than the reverse.

Read through self-determination and acculturation theory (Deci & Ryan, 2000; Berry, 1997), a stable identity may belong to a trait-level configuration of psychological resources co-occurring with supportive relationships and positive health appraisals; what the within-person evidence does not support is the process-level claim that identity sets these resources in motion to raise later life satisfaction.

The between-person gradient by perceived economic standing is consistent with the reserve-capacity perspective (Gallo & Matthews, 2003) but requires confirmatory testing in better-powered designs.

Self-determination theory (Deci & Ryan, 2000), which emphasizes the interaction between psychosocial resources and environmental perceptions, helps explain this effect. High PFE enhances the link between self-rated health and basic psychological needs (e.g., autonomy). Low PFE may hinder this link due to social comparison or internal inhibition.

Because the within-person moderation test was non-significant, we refrain from drawing intervention conclusions from the descriptive PFE gradient. We nonetheless retain perceived family economic status as a theoretically important contextual variable whose within-person moderating role should be re-examined once additional waves of MAPS 2 permit a better-powered test.

The findings also carry practical implications for South Korea's existing multicultural support infrastructure. Three principal program families serve this population: Multicultural Family Support Centers, operating at more than 230 sites under the Ministry of Gender Equality and Family, and the Rainbow Youth Centers and Rainbow School, which serve mid-immigrant adolescents. Evaluations of these programs report short-term gains in school adaptation and language acquisition but more modest identity-related outcomes, declining engagement into later adolescence, and limited integration with mainstream peer networks.

Because the data locate this coupling at the trait level and reveal pronounced within-person continuity, programs are best understood as nurturing a stable configuration of psychosocial resources rather than triggering an identity→peer→health→satisfaction sequence; sustained, developmentally timed support embedded in mainstream peer networks, addressing identity, peers, health, and family context together, is more promising than brief, one-off, or segregated programming.

Finally, although PFE was not confirmed as a within-person moderator, the consistent between-person association between perceived economic standing and well-being supports class-sensitive program design. Practitioners should attend to perceived, not only objective, economic disadvantage, and identity- and health-focused programming may need to be supplemented with material supports for economically constrained families; whether such supports alter within-person pathways should be evaluated in designs capable of detecting within-person moderation.

Limitations and Future Research

This study has several limitations. First, identity awareness was measured using self-reported questionnaires; however, identity is a construct with fluid characteristics. Therefore, future studies should adopt a multi-method approach (e.g., peer/parent reports on identity or behavioral observation) to assess identity awareness (Kosinski et al., 2013). Additionally, time series modeling based on repeated measures designs or using mobile-based ecological momentary assessment would also be appropriate (Becht et al., 2017).

Second, our analyses were primarily variable-centered. Identity development in multicultural contexts may unfold via heterogeneous subgroups (e.g., stable-high, increasing, or chronically low identification) and through multidimensional configurations of ethnic and identities. Future studies should therefore apply person-centered approaches (e.g., latent profile/transition or growth mixture models) to capture distinct identity trajectories and test whether the proposed pathways differ across these subgroups (Becht et al., 2017).

Third, the three-wave design used here cannot identify a fully sequential three-step mediation chain (NID → PR → HE → LS) without conflating contemporaneous and lagged links. We have therefore removed this claim from the main analysis and present two parallel within-person indirect effects instead. A four-wave extension of MAPS 2 will allow the sequential chain to be tested cleanly.

Fourth, although we present a multi-group RI-CLPM comparing international-marriage (n = 1,547) and mid-immigrant (n = 156) subgroups, statistical power for the mid-immigrant group is limited and the results for that group should be interpreted cautiously. The foreign-national subgroup (n = 296) is also too small for stable RI-CLPM estimation and is reported only in the descriptive table. A pooled analysis of MAPS 1 and MAPS 2 cohorts could provide the sample size needed for stable subgroup modeling, at the cost of cohort heterogeneity.

Fifth, the national-identification items (e.g., "When someone compliments Korea, I feel as if I am being praised") may feel intrusive or presumptive to adolescents born and raised in Korea, potentially introducing reactive measurement; future studies should consider multidimensional identity measures validated for multicultural youth.

Sixth, MAPS 2 does not record length of residence in Korea at the relevant wave, so we cannot incorporate residence length as a covariate, an important variable that future studies should include. We included mother's educational attainment and mother's Korean language ability as baseline covariates in a sensitivity model; the main results are robust to their inclusion.

Conclusions

By applying an RI-CLPM to three-wave national panel data, this study shows that the identity–life-satisfaction link previously attributed to mediation through peer relationships and self-rated health is more plausibly a between-person, trait-level phenomenon than a within-person process.

By focusing on multicultural adolescents in South Korea, the study addresses a critical gap by contextualizing identity development within a collectivistic, academically competitive environment. It broadens the theoretical scope of identity research and shows how cultural norms and social interactions shape identity processes.

By integrating social, cultural, and health dimensions, the study contributes a culturally embedded, variance-decomposing framework for examining life satisfaction among multicultural adolescents. Its longitudinal design and within-person modeling offer a methodologically careful template for distinguishing durable individual differences from prospective change, and they point future research toward designs capable of testing the within-person mechanisms that a three-wave panel cannot fully resolve.

Data Availability

This study used data from the second cycle of the Multicultural Adolescents Panel Study (MAPS), collected by the National Youth Policy Institute of the Republic of Korea. The data are available to researchers from the National Youth Policy Institute data archive upon registration and approval.

Declarations

Author Contribution

Yiran Li: conceptualization, methodology, formal analysis, writing (original draft). Suyeon Lee: supervision, validation, writing (review and editing). Both authors read and approved the final manuscript.

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Figures

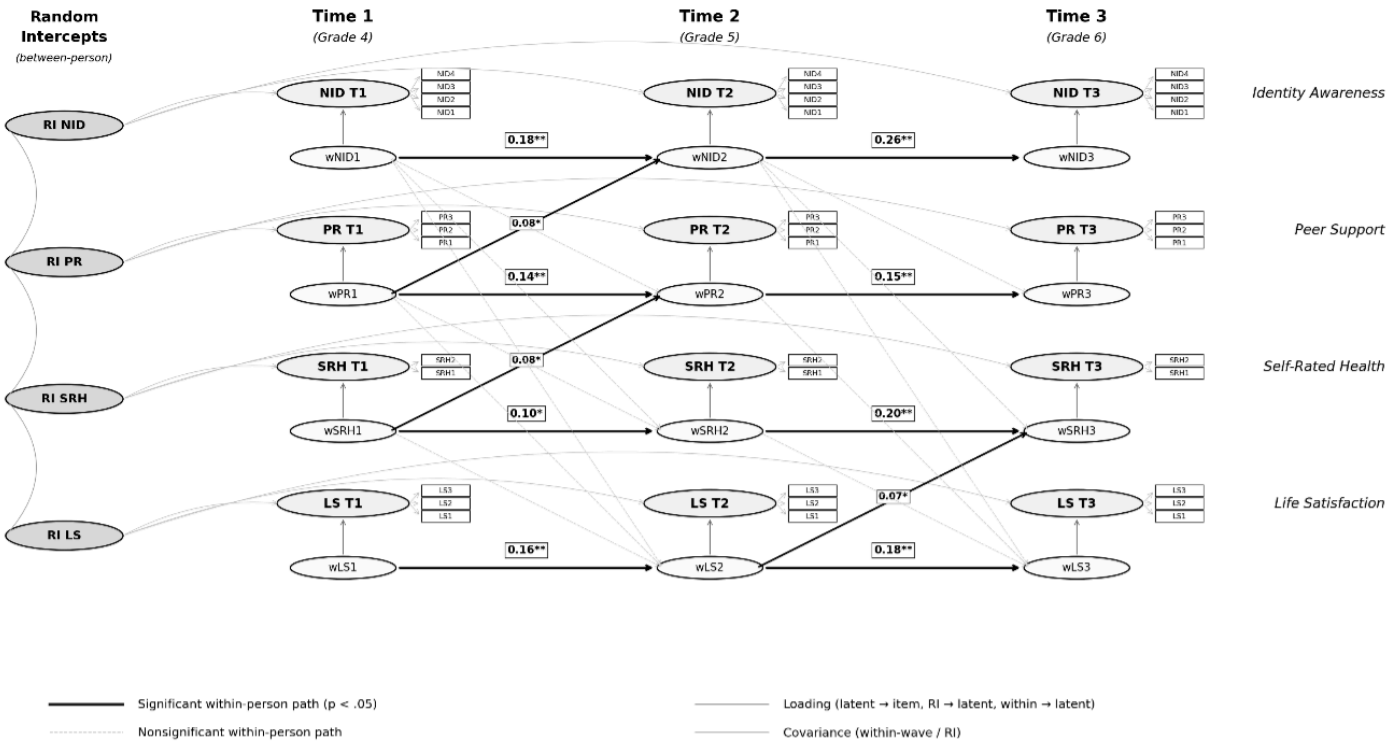


Figure 1

Random-Intercept Cross-Lagged Panel Model With Standardized Within-Person Path Estimates

Note. Values on the paths represent direct standardized β coefficients. $^{***}p < .001$; $^{**}p < .01$; $^{*}p < .05$.

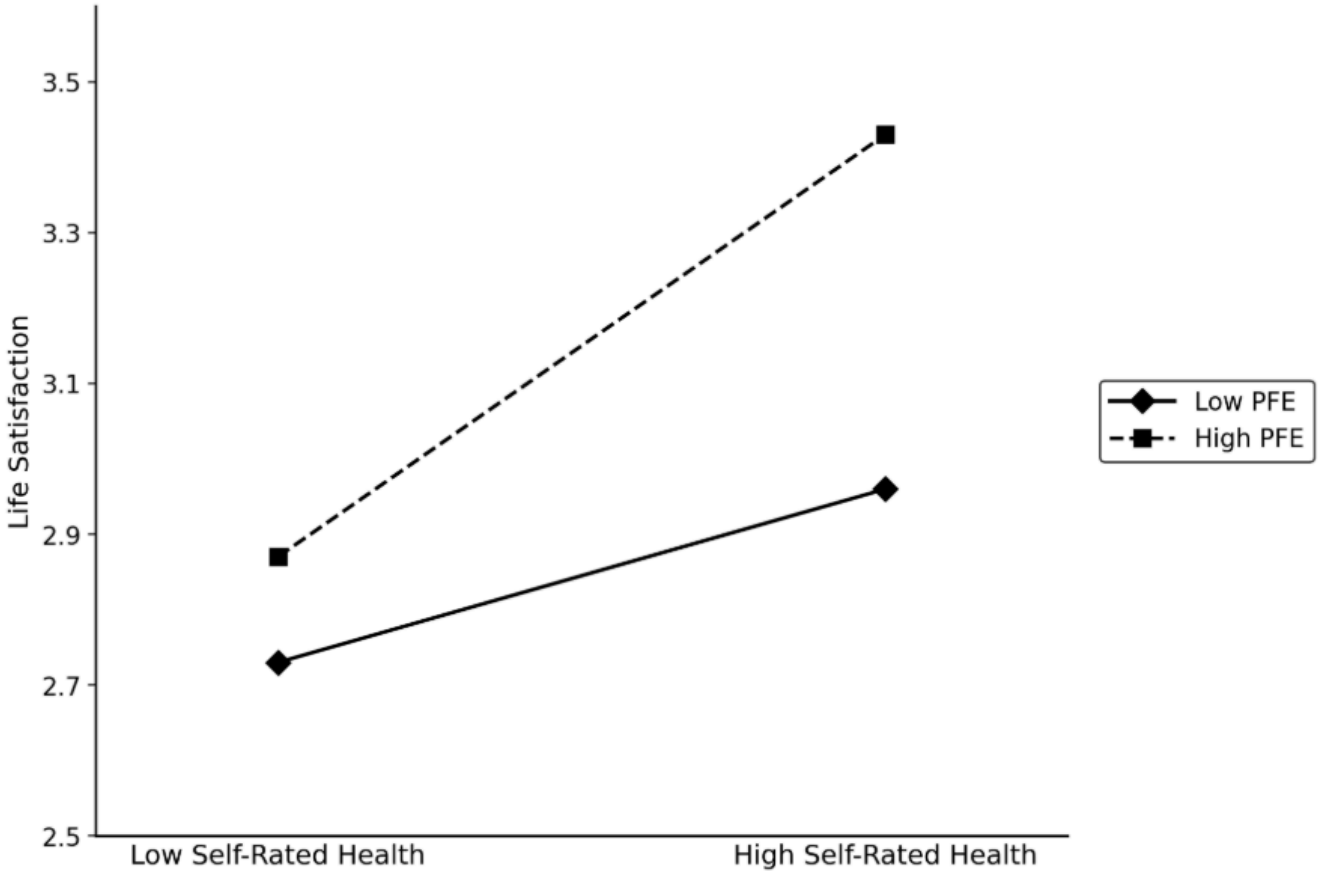


Figure 2

Simple Slopes of Self-Rated Health (T2) Predicting Life Satisfaction (T3) at Low and High Levels of Perceived Family Economic Status

Note. Predicted values from the supplementary regression-based moderation model; PFE = perceived family economic status. This descriptive interaction is not confirmatory: within the RI-CLPM, the index of moderated mediation was non-significant.

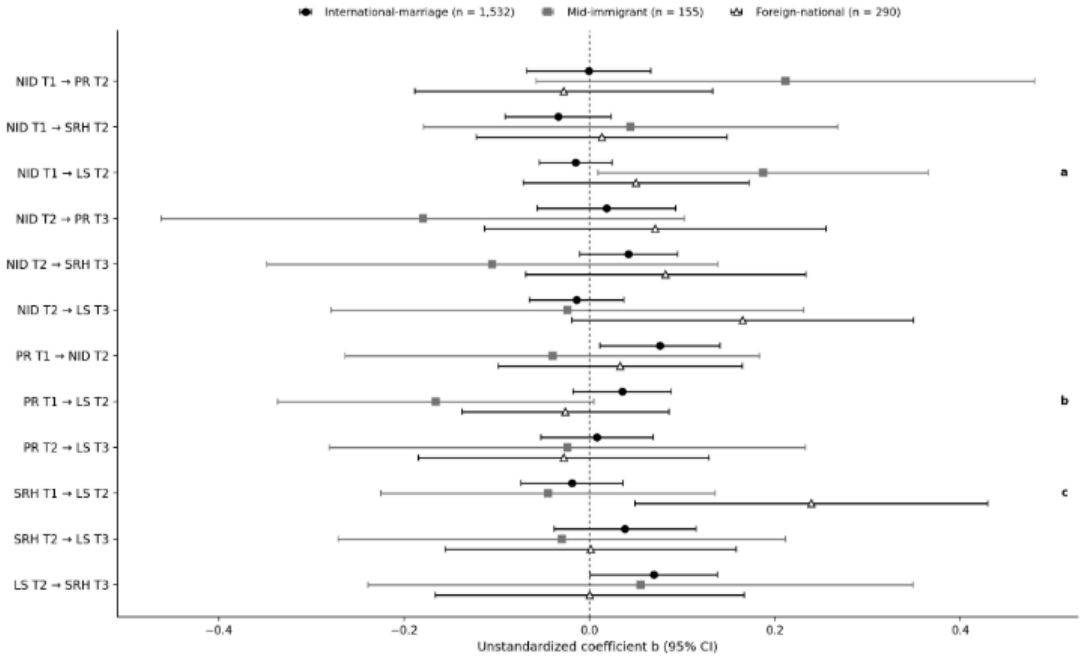


Figure 3

Multi-Group Comparison of Within-Person Cross-Lagged Paths Across Family-Type Subgroups

Note. NID = identity awareness; PR = peer support; SRH = self-rated health; LS = life satisfaction. Markers show unstandardized coefficients; error bars represent 95% confidence intervals (b ± 1.96 × SE). Superscripts mark significant pairwise differences: a, identity awareness to life satisfaction, international-marriage vs. mid-immigrant, p = .035; b, peer support to life satisfaction, international-marriage vs. mid-immigrant, p = .027; c, self-rated health to life satisfaction, international-marriage vs. foreign-national, p = .013. Omnibus Wald $\chi^2(16)$ tests were non-significant for all pairwise group comparisons.

Supplementary Files

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- SupplementaryMaterials.docx