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Life Satisfaction Trajectories during Adolescence and the Transition to Young Adulthood: Findings from a Longitudinal Study of Mexican-origin Youth

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Abstract

Despite the importance of life satisfaction for health and well-being, there is a paucity of longitudinal studies tracking changes in life satisfaction in ethnic minority youth. Using a sample of 674 Mexican-origin youth, the present research examined life satisfaction trajectories from middle (age 14) to late adolescence (age 17) and from late adolescence to young adulthood (age 21). On average, life satisfaction did not change significantly from age 14 to 17, and then decreased from age 17 to 21 (d = .30), perhaps reflecting difficulties transitioning into adult roles. Drawing on ecological systems theory, we examined both proximal (i.e., family) and distal (i.e., social-contextual) environmental factors (measured via self- and parent-reports) that may account for between-person variation in life satisfaction trajectories. Youth with more positive family environments in middle adolescence (age 14) had higher mean life satisfaction from middle adolescence to young adulthood (age 21). In contrast, youth with more negative family environments and who experienced greater economic hardship and more ethnic discrimination in middle adolescence (age 14) had lower life satisfaction during this period. Many of these factors also predicted *change* in life satisfaction from middle (age 14) to late adolescence (age 17), but not from late adolescence to young adulthood (age 21). This research extends the current understanding of life satisfaction during a critical developmental period in an understudied population.

Keywords

life satisfaction; trajectories; Mexican-origin; adolescence; young adulthood

Adolescence and the transition into young adulthood are rife with change. Youth experience increasing independence from their parents during adolescence, and often live on their own, attend college, or seek full-time employment for the first time in young adulthood. Given

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these many life changes, it follows that youth's *satisfaction* with their lives may change as well. Life satisfaction is an important indicator of youths' overall happiness and a key predictor of important life outcomes. For example, low life satisfaction is associated with increased psychopathology (Greenspoon & Saklofske, 2001), school disengagement (Lewis, Huebner, Malone, & Valois, 2010), substance abuse (Zullig, Valois, Huebner, Oeltmann, & Drane, 2001), and other risky behaviors (Newcomb, Bentler, & Collins, 1986; Raphael, Rukholm, Brown, Hill-Bailey, & Donato, 1996; Valois, Zullig, Huebner, & Drane, 2001). Many of these negative outcomes first occur in adolescence (e.g., Cicchetti & Rogosch, 2002), and their presence in young adulthood can have profound long-term consequences. Despite the importance of understanding life satisfaction in adolescence and young adulthood, there is mixed evidence for whether (and how) life satisfaction changes across these periods. Moreover, there are considerable individual differences in youth' life satisfaction levels (Gilman & Huebner, 2003) and trajectories (e.g., Ranta, Chow, Salmela-Aro, 2013), underscoring the need to identify predictors of individual differences in life satisfaction change during the critical adolescent and young adult periods.

The present study examined the average trajectory of life satisfaction from middle adolescence (age 14) to young adulthood (age 21), as well as predictors of individual differences in life satisfaction trajectories, in a sample of 674 Mexican-origin youth living in the United States. Latinos are the largest ethnic minority population in the United States, and two-thirds are of Mexican-origin (U.S. Census Bureau, 2016). Previous research has shown that some predictors of life satisfaction are culture specific (Oishi, Diener, Lucas, & Suh, 2009), yet research on life satisfaction in ethnic minority youth is scant. The current size, expected growth, and relative paucity of research on life satisfaction in this population highlight the need to examine life satisfaction trajectories and predictors of life satisfaction in Mexican-origin youth. We first review prior research on life satisfaction in adolescence and young adulthood in predominantly European and Asian background samples, and then turn to the small literature on life satisfaction in Mexican-origin youth.

Life Satisfaction Trajectories during Adolescence and Young Adulthood

Previous research has produced mixed results regarding the normative trajectory of life satisfaction during adolescence and young adulthood. Of the handful of longitudinal studies tracking life satisfaction during these periods, two studies of Europeans found little or no change in life satisfaction (e.g., Ranta et al., 2013; Salmela-Aro, Tynkkynen, 2010), whereas one study of Koreans found increases over time (e.g., Yoo, Kahng, & Kim, 2016) and another study of Chinese adolescents living in Hong Kong found decreases over time (e.g., Shek & Li, 2016). Cross-sectional studies have produced similarly mixed results. One study of German youth found a negative effect of age on life satisfaction from age 11 to 16 (Goldbeck, Schmitz, Besier, Herschbach, & Henrich, 2007). A second cross-sectional study of European-American and African-American youth found no effect of age on life satisfaction from age 14 to 17 in the total sample, a slight tendency for European Americans to have higher life satisfaction than African Americans, but no race by age interaction effect (Huebner, Suldo, Valois, Drane, & Zullig, 2004). Taken together, average changes in life satisfaction during adolescence and young adulthood appear to be modest and may be sensitive to the racial/ethnic composition of the sample and the age period examined.

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In addition to understanding the normative trajectory of life satisfaction in adolescence and young adulthood, it is important to identify predictors of individual variability around this normative trend. Ecological systems theory posits that youth development is impacted by multiple environmental systems at varying levels of proximity to the individual, including the familial, social, community, and cultural levels (Bronfenbrenner, 1979). Applied to life satisfaction, ecological systems theory suggests that environmental factors at varying levels of proximity to youth may influence the development of life satisfaction. Thus, we consider both proximal (i.e., family variables) and distal (i.e., socio-contextual variables) environmental factors that may predict individual differences in life satisfaction trajectories during adolescence and young adulthood.

Family environment has emerged as a particularly strong predictor of adolescents' life satisfaction. For example, positive family events are more strongly associated with adolescents' life satisfaction than positive peer events (Dew & Huebner, 1994). Moreover, family composition (e.g., parents' marital status) (Levin, Dallago, & Currie, 2011), parental support (Maton, 1990; Young, Miller, Norton, & Hill, 1995), and parenting style (Petito & Cummins, 2000) have all been associated with life satisfaction in adolescence. These findings are consistent with a family-systems perspective, which argues that families are the most powerful system to which individuals belong (Broderick, 1993). The family system plays a particularly strong role in adolescence, when youth are still living at home and have less independence from their families. Family factors may become less important during the transition to young adulthood when youth begin establishing independence from their families.

At the more distal environmental level, previous research has considered the influence of socio-contextual variables such as socioeconomic status (SES) and economic hardship on youth's life satisfaction. The majority of these studies have found no association or a small positive association between SES and life satisfaction in adolescence (Gilman & Huebner, 2003). However, the impact of SES may be stronger at low ends of the spectrum where many individuals do not have their basic needs met. For example, one study found that youth who were homeless had lower life satisfaction than youth who were not homeless (Bearsley & Cummins, 1999). Moreover, economic hardship has been linked to greater symptoms of psychological distress in adolescence (Conger & Donnellan, 2007; Kavanaugh, Neppl, & Melby, 2018).

In sum, changes in life satisfaction during adolescence and young adulthood appear to be modest. However, there may be substantial individual differences in the degree of change in life satisfaction during adolescence and the transition to young adulthood. A myriad of factors influences life satisfaction during this period, with family factors playing a particularly important role. However, previous research has largely focused on predicting individual differences in life satisfaction *levels* and not life satisfaction *change.* Moreover, there is a paucity of research on life satisfaction levels and change in ethnic minority youth in the United States.

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Life Satisfaction in Mexican-Origin Youth

Previous research has found that the predictors of life satisfaction differ for different ethnic groups (Bradley & Corwyn, 2004), sometimes in accordance with cultural needs and values (Oishi et al., 2009). Consistent with these findings, Garcia-Coll's integrative model of ethnic minority development (Garcia-Coll et al., 1996) highlights the influence of factors that are shared with the mainstream population as well as factors that are unique to ethnic minority youth development. Yet, the majority of research on life satisfaction during adolescence and young adulthood has been conducted in European or Asian countries, or with predominantly European American samples. Consequently, we know little about the predictors of life satisfaction in Mexican-origin youth.

According to Garcia-Coll et al.'s (1996) integrative model, attributes such as ethnicity do not directly impact developmental processes such as the development of well-being. Instead, ethnicity influences developmental processes via social stratification mechanisms such as discrimination and oppression, which in turn influence environmental and cultural variables, and most proximally, child and family characteristics. Based on this integrative model and consistent with ecological systems theory, we focus on both proximal (i.e., family characteristics) and distal (i.e., SES and discrimination) influences on life satisfaction in Mexican-origin youth. At both levels, we consider factors that are shared with the mainstream population (e.g., family support, SES) as well as factors that are not shared with the mainstream population (e.g., traditional Mexican family values, ethnic discrimination).

At the proximal level, family factors may be especially strong predictors of life satisfaction among Mexican-origin youth, given the importance of the cultural value of familism. Familism is a key cultural attribute for Latino families that involves several dimensions, including family support and cohesion (relying on family for support when problems arise and valuing warm relationships), family obligations, (responsibility to nuclear and extended family to provide material and emotional support), and family as a referent (understanding that one's behavior reflects upon the family; Knight et al., 2010; Sabogal, Marín, Otero-Sabogal, Marín, & Perez-Stable, 1987; Stein et al., 2014). Previous research has shown that 'family' was the strongest theme in a qualitative analysis of influences on life satisfaction in Mexican-origin youth, and family support, familism, and other traditional Mexican values were key predictors of Mexican-origin youths' life satisfaction (Edwards & Lopez, 2006). These findings, along with evidence that family factors are especially strong contributors to life satisfaction in adolescence generally, suggest that family factors may be important predictors of life satisfaction during adolescence and the transition to young adulthood among Mexican-origin youth.

Turning to more distal influences on the development of life satisfaction in Mexican-origin youth, we consider social stratification mechanisms such as SES and discrimination. On average, Latino individuals are less satisfied with their lives than European-background individuals and this difference can be partly accounted for by SES (Barger, Donoho, & Wayment, 2008). However, factors that predict between-group variability do not necessarily predict within-group variability (Garcia-Coll et al., 1996), leaving an open question whether SES is associated with individual differences in life satisfaction among Mexican-origin

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youth. Previous research has also shown that perceived ethnic discrimination is a risk factor for increased psychopathology, depression, poor school performance, and increased risky behaviors among Mexican-origin youth (Delgado, Updegradd, Roosa, & Umaña-Taylor, 2009; Flores, Tschann, Dimas, Pasch, & de Groat, 2010; Stein et al., in press; Stone & Han, 2005). Given associations between low life satisfaction and these negative outcomes, (e.g., Greenspoon & Saklofske, 2001; Lewis, Huebner, Malone, & Valois, 2010; Newcomb, Bentler, & Collins, 1986), perceived ethnic discrimination may be associated with lower life satisfaction and greater decreases in life satisfaction trajectories among Mexican-origin youth. Identifying factors within the family and in the broader social environment that influence life satisfaction among Mexican-origin youth will inform our understanding of the development of well-being in adolescence and young adulthood.

Generalizability Across Gender and Nativity Status

It is important to investigate the generalizability of life satisfaction development across girls and boys and youth born in Mexico and the U.S (i.e., nativity). The majority of research on gender differences in adolescent life satisfaction has found that adolescent girls have lower life satisfaction than adolescent boys (Goldbeck et al., 2007; Woynarowska, Tabak, & Mazur, 2002); However, some studies have found no such gender differences (e.g., Huebner et al., 2004; Ranta et al., 2013). Additional replication work is needed to better understand these mixed findings, including among Mexican-origin youth. Given that adolescent girls and boys experience different developmental challenges and sometimes possess different social roles (Goldbeck et al., 2007), gender may also moderate the effects of family and socio-contextual factors on life satisfaction. However, little is known about whether and how gender may moderate these associations.

Similarly to gender, there is mixed evidence for the role of nativity status on life satisfaction. Two studies examined associations between nativity status and life satisfaction among older Hispanic Americans: One study found Hispanic immigrants had higher life satisfaction compared to Hispanic adults who were born in the United States and non-Hispanic White adults (Calvo, Carr, Matz-Costa, 2017), whereas the other study found no life satisfaction differences based on nativity status (Cuellar, Bastida, & Braccio, 2004). Calvo and colleagues (2017) also found that nativity status moderated associations between other variables and life satisfaction. Specifically, education was more strongly negatively correlated with life satisfaction for Hispanic adults born in the United States compared to Hispanic immigrants. Given that both studies were conducted in older adults, it is unknown how nativity status is associated with life satisfaction and whether it moderates the effects of other variables on life satisfaction among Mexican-origin adolescents.

The Present Study

The present study addressed three aims using data from a longitudinal study of 674 Mexican-origin youth, assessed annually from mid-adolescence to young adulthood (7 waves of data). First, we examined life satisfaction trajectories from age 14 to 21. Given inconsistencies in past research, and the dearth of research on Mexican-origin youth, we did not have specific predictions regarding the average trajectory of life satisfaction. Second, we

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examined whether family factors (i.e., traditional family values, family support, parent-child relationship quality, three aspects of parenting, and family experiences) and broader socio-contextual variables (i.e., SES, economic hardship, and discrimination) assessed in mid-adolescence (ages 14 and 16) predicted individual differences in life satisfaction levels and change from age 14 to 21. In our primary analyses, we used predictors assessed at age 14 to predict life satisfaction from age 14 to 21. In secondary analyses, we used predictors assessed at age 16 to predict life satisfaction from age 17 to age 21. We hypothesized that greater traditional family values, greater family support, higher parent-child relationship quality, greater parental monitoring and warmth, more positive family experiences, and higher socioeconomic status would predict more positive life satisfaction trajectories (i.e., higher life satisfaction levels and greater increases in life satisfaction over time). In contrast, we predicted that more negative family experiences, greater parental hostility, greater economic hardship, and greater discrimination would predict worse life satisfaction trajectories (i.e., lower life satisfaction levels and greater decreases in life satisfaction over time). Third, we tested the generalizability of findings with regards to gender and nativity status.

Method

Participants and Procedures

We used data from the California Families Project, an ongoing longitudinal study of 674 Mexican-origin youth and their parents. A full list of publications from the California Families Project can be found here: https://www.californiafamiliesproject.org/publications.html. The present research is the first to study life satisfaction in this dataset. Of the 674 youth that participated in the California Families Project, 645 had data on life satisfaction for at least one timepoint and were included in the present study. Children were drawn at random from rosters of students from the Sacramento and Woodland, CA school districts. The focal child had to be in the 5th grade, of Mexican origin, and living with his or her biological mother, in order to participate in the study. Approximately 72.6% of the eligible families agreed to participate in the study, which was granted approval by the University of California, Davis Institutional Review Board (Protocol #217484–21; Protocol Title: Mexican Family Culture and Substance Use Risk and Resilience). The children (50% female, 72% born in the U.S.) have been assessed annually for 11 years. In the present study, we used data from Waves 5 (M_{age} at Wave 5 = 14.75, SD = .49) to 11 (M_{age} at Wave 11 = 21.74, SD = 0.73) (7 assessments total), when the key study variables were assessed. Data collection occurred from 2010 to 2018 for the waves used in the present study. Of the original 674 youth, 90%, 88%, 89%, 89%, 87%, 87%, and 80% were retained at Waves 5 through 11, respectively. Youth were compensated between $30 and $120 per wave and each participating parent was compensated between $20 and $100 per wave. The compensation amount depended on the year and the length of the assessment.

Participants were interviewed in their homes in Spanish or English, depending on their preference. Eighteen percent of youth preferred for the interview to be administered in Spanish at one or more timepoints; only five youth preferred for the interview to be administered in Spanish at every timepoint.[1] Interviewers were all bilingual and most were

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of Mexican heritage. Sixty-three percent of mothers and 65% of fathers had less than a high school education (median = 9th grade for both mothers and fathers); median total household income was between $30,000 and $35,000 at Wave 1 (overall range of income = < $5,000 to > $95,000). With regard to generational status, 83.6% of mothers and 89.4% of fathers were 1st generation, and 16.4% of mothers and 10.6% of fathers were either 2nd or 3rd generation. At Wave 1, 124 of the families were single-parent households (mothers only), and 549 of the families were two-parent households. At Wave 11, two-thirds of youth still lived with one or both parents.

Measures

Life satisfaction.—To assess life satisfaction, we used a single-item measure of global life satisfaction (i.e., "How satisfied or dissatisfied are you with your life as a whole?") (Campbell, Converse, & Rodgers, 1976). Youth rated this item on a 5-point Likert scale ranging from 1 ("Completely dissatisfied") to 7 ("Completely satisfied") annually from age 14 to 21.

Traditional Family Values.—To assess traditional family values at age 14, we used the Mexican American Cultural Values Scale (MACVS; Knight et al., 2010). The MACVS was developed through focus groups of immigrant and U.S. born Mexican-origin adolescents and adults who identified values that they ascribed to Mexican and American culture. In the present study, we aggregated two MACVS subscales: the 16-item *Familism* scale (e.g., How much do you agree that parents should teach their children that the family always comes first?) and the 8item *Respect* scale (e.g., "How much do you agree that, no matter what, children should always treat their parents with respect?"). Youth responded to each item using a 4-point Likert scale that ranged from 1 ("Not at all") to 4 ("Very much"). Cronbach's alpha was .92.

Family support.—To assess family support at age 14, we used the Multidimensional Scale of Perceived Support (Canty-Mitchell & Zimet, 2000; Zimet, Dahlem, Zimet, & Farley, 1988). Youth rated four items regarding the extent to which they receive support from the family members that they live with (e.g., "You can talk about your problems with your family."). Responses were made on a 4-point Likert scale that ranged from 1 ("Not at all true") to 4 ("Very true"). Cronbach's alpha was .95.

Parent-child relationship quality.—To assess parent-child relationship quality at age 14, we used a composite of child-reports of the quality of their relationship with their mother (3 items) and their father (3 items) (e.g., "How satisfied are you with your relationship with your [mom/dad]?). Responses were made on a 4-point Likert scale that ranged from 1 ("Very dissatisfied") to 4 ("Very satisfied"). Cronbach's alpha was .86.

[1]Because only five youth opted for Spanish administration at all timepoints, language of administration was coded as English for youth who opted for English administration at all timepoints and Spanish for youth who opted for Spanish administration at one or more timepoints. Spanish administration was associated with higher mean life satisfaction ($b = .15$, $t(643) = 3.10$, $p = .002$), but was not associated with life satisfaction *change* (*p*s > .62). Youth who chose Spanish administration likely differ from youth who chose English administration in aspects of acculturation. It is likely that these acculturation differences, rather than the language of administration per se, drove the observed differences in mean life satisfaction. Furthermore, given that the vast majority of interviews were administered in English, even within the group of youth who chose Spanish administration for at least one interview, it is unlikely that language of administration had a large impact on results.

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Parenting practices.—To assess parental monitoring, warmth, and hostility at age 14, we used a multi-method composite of self-reports, child-reports, and spouse-reports (e.g., Over the past three months, how often did [your mother know/your father know/you know/your spouse know] what [you/your child] was doing after school?). We used several scales, including the Parental Monitoring of Child Scale (PMC; Small & Kerns, 1993), the Behavioral Affective Rating Scale (BARS; Conger, 1989a), and the Iowa Parenting Scale (IPS; Conger, 1989b), to assess the three parenting dimensions. All responses were made on 4-point Likert scale that ranged from 1 ("Almost never/Never") to 4 ("Always/Almost always").

To assess parental monitoring, we used a mean composite of self-, child-, and spouse-reports from the PMC (14 items) (e.g., "Over the past 3 months, your mother/father knew how you were doing in your school work"). This measure assesses the extent to which parents monitor and have knowledge of their child's whereabouts. To assess parental warmth, we used a mean composite of child- and spouse-reports from the BARS (9 items) and the IPS (9 items) (e.g., "During the past 3 months when you and your parent have spent time talking or doing things together, how often did your parent let you know (s)he really cares about you?"). These measures assess various aspects of warm parenting, including how often the parent displays affection, uses positive reinforcement and inductive reasoning, and praises or shows concern for the child. To assess parental hostility, we used a mean composite of child- and spouse-reports from the BARS (13 items) (e.g., "During the past 3 months when you and your parent have spent time talking or doing things together, how often did your parent get angry at you?"). These measures assess various aspects of hostile parenting, including the frequency of hostile behavior toward the child, insulting or swearing at the child, and ignoring the child.

Positive family experiences.—The complete list of positive family experiences is displayed in Supplementary Table 1. Parents responded to 10 dichotomous items that asked about positive family experiences when the child was age 14. The items were taken from the Positive Economic Events and Other Life Events Scale (created for the California Families Project). To compute an overall index of positive family experiences, parent reports were consolidated, such that experiences that neither parent reported were scored as a 0 (did not occur) and experiences that one or both parents reported were scored as a 1 (occurred). Then, experiences were summed resulting in a positive family experiences score that could range from 0–10.

Negative family experiences.—The complete list of negative family experiences is displayed in Supplementary Table 1. We assessed negative family experiences at age 14 as the sum of 17 experiences. Nine experiences were rated by both mothers and fathers and eight different experiences were rated by the youth. Respondents reported whether or not each experience occurred in the previous three months. The nine parent-reported items came from the Major Events Inventory (developed for the Iowa Youth and Families Project and the Critical Transitions Project) and the Hispanic Stress Inventory (Cervantes, Padilla, & Salgado de Snyder, 1990, 1991). The eight youth-reported experiences came from the Multicultural Events Scale for Adolescents (Gonzales, Gunnoe, Jackson, & Samaniego,

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1999). Parent reports were consolidated, such that experiences that neither parent reported were scored as a 0 (did not occur) and experiences that one or both parents reported were scored as a 1 (occurred). Then, experiences were summed resulting in a negative family experiences score that could range from 0–16.

Family socioeconomic status.—At the age 10 assessment, mothers reported their own and their child's biological fathers' total years of education. A parent education variable was created by averaging the mother's and father's education level (for single-parent families, we used the mother's education level). Total annual household income was reported by the mothers at the age 14 and 16 assessments using a 20-point ordinal response scale, with response options increasing in $5,000 increments (1 = "Less than $5,000", 2 = "$5,000-$10,000, …, up to 20 = "95,000 or more"). We recoded this response scale into dollar values by taking the midpoint dollar range for each response option (1 = "$2,500", 2 = "$7,500", …, up to 20 = "$100,000"). We divided total household income by household size at each assessment to compute per capita income. SES was computed as a standardized composite of parent education level and per capita income.

Economic hardship.—To assess economic hardship at age 14, youth reported on their family's ability to afford basic necessities and the degree of their family's financial strain using 12 items developed by Conger and colleagues (Conger et al., 1991; Conger & Elder, 1994). Youth responded on a 4-point Likert scale that ranged from 1 ("Strongly disagree") to 4 ("Strongly agree"). Example items include "Because you do not have much money, your family has a hard time paying bills" and "You often skip going to the doctor when you are sick because your family does not have enough money." Cronbach's alpha was .89.

Personal ethnic discrimination.—To assess ethnic discrimination at age 14, youth rated their personal experiences with ethnic discrimination using four items (e.g., "How often have kids at school excluded you from their activities, like not inviting you to go out with them, not inviting you to their houses, or not letting you join their games, because you are Mexican/Mexican-American?"), rated on a 4-point Likert scale that ranged from 1 ("Not at all true") to 4 ("Very true"). Cronbach's alpha was .87. The resulting discrimination variable was right-skewed (skewness = 5.09). To address the skew, we also computed a parallel dichotomous personal discrimination variable that indexed whether or not participants reported experiencing at least some discrimination. Dichotomization is appropriate for this variable because the items asked participants to rate whether several discrete instances of discrimination have happened to them (e.g., "How often have kids at school excluded you from their activities, like not inviting you to go out with them, not inviting you to their houses, or not letting you join their games, because you are Mexican/Mexican-American?"). The most common response across all items was 1, indicating that the respondent had not experienced such an event. Participants who reported no discrimination (rated all items "1") were given scores of 0. Participants who reported at least some discrimination (rated one or more items "2" or higher) were given scores of 1. At age 14, 24% of youth experienced at least some personal ethnic discrimination. We report results using both continuous and dichotomous discrimination variables.

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Group ethnic discrimination.—Youth also rated their perceptions of the degree of ethnic discrimination against people of Mexican-origin using six items (e.g., “Kids at school think bad things about Mexicans/Mexican-Americans.”). All items were adapted for use in the La Familia Project (Johnston & Delgado, 2004) from questions on the Racism in the Workplace Scale (Hughes & Dodge, 1997) and Schedule of Sexist Events (Klonoff & Landrine, 1995), and rated on a 4-point Likert scale that ranged from 1 (“Not at all true”) to 4 (“Very true”). Cronbach’s alpha was .82.

Results

All analyses were conducted in R version 3.6.1 and R Studio using the following packages: nlme and effsize. Data and code to reproduce these results are publicly available on the Open Science Framework (osf.io/dhqus). Because we tested 13 predictor variables in Aim 2, we interpreted statistical significance after correcting for multiple tests (alpha = .05/13 = .004). We used the same alpha = .004 level to interpret interactions between gender, nativity status, and predictors in Aim 3. We also note when results would be significant at the traditional alpha = .05 level to inform future research aimed at replicating these effects. However, given the large number of tests, these results should be interpreted with caution.

Aim 1: Life Satisfaction Trajectories

Average life satisfaction trajectory.—To examine the average trajectory of life satisfaction from age 14 to 21, we used a random intercept, random slope multilevel model predicting life satisfaction from linear and quadratic time. Discrete time was modeled and both random and fixed effects were included for both time variables. The inclusion of a random intercept allowed individual participants to vary in their average level of life satisfaction. The inclusion of random effects of time allowed individual participants to vary in the trajectory of their life satisfaction. We used restricted maximum likelihood estimation to estimate all effects. Results are shown in Table 2. There was a statistically significant linear decrease in life satisfaction from age 14 to 21. However, there was also a statistically significant quadratic relationship between time and life satisfaction. On average, life satisfaction increased slightly from age 14 to 17 (d = −.07, 95% CI = [−.16, .03]) and then decreased from age 17 to 21 (d = .30, 95% CI = [.20, .41]) (see Figure 1).

To test whether the increase in life satisfaction from age 14 to 17 and the decrease in life satisfaction from age 17 to 21 were statistically significant, we used a piecewise approach to modeling time. Piecewise analysis of time allows for the representation of multiple discrete time periods by modeling separate variables (and therefore separate slopes) for each period. Using this approach, the period from age 14 to 17 and the period from age 17 to 21 can be conceptualized as discrete and yet represented within the same model. We used a random-intercept, random-slope multilevel model predicting life satisfaction from Piece 1 (age 14 to 17) and Piece 2 (age 17 to 21). Based on this model, the observed increase in life satisfaction from age 14 to 17 was not statistically significant. However, the observed decrease in life satisfaction from age 17 to 21 was statistically significant (see Table 2).

Individual differences in life satisfaction trajectories.—To examine individual differences in the trajectory of life satisfaction from age 14 to 21, we used a likelihood ratio

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test to compare a model with random effects of the time variables to a model without random effects of the time variables. The piecewise model with random effects of the time variables accounted for significantly more variance in life satisfaction, $\chi^2(5) = 51.04$, $p < .001$. Therefore, there was significant individual variability in the trajectories of life satisfaction from age 14 to 21 (i.e., not everyone followed the average trend).

To get a better idea of the variability in life satisfaction in our sample, we conducted person-centered analyses to determine the percentage of youth who increased, decreased, or showed no change over time. During both developmental periods, life satisfaction did not change for approximately half of youth. From age 14 to 17, life satisfaction increased for 27% of youth, decreased for 22% of youth, and stayed the same for 51% of youth. From age 17 to 21, life satisfaction increased for 17% of youth, decreased for 34% of youth, and remained the same for 49% of youth. Similarly, across the full developmental period from age 14 to 21, life satisfaction increased for 19% of youth, decreased for 31% of youth, and stayed the same for 49% of youth.

Aim 1 results summary.—On average, life satisfaction remained stable from age 14 to 17 and then decreased from age 17 to 21. However, there were substantial individual differences around this trajectory. Notably, despite the declining average trajectory from age 17 to 21, the majority of youth reported stable life satisfaction during both time periods.

Aim 2: Predictors of Life Satisfaction Trajectories

Cross-sectional correlations between each predictor variable and life satisfaction are shown in Table 3.

Predictors of mean life satisfaction.—To predict mean life satisfaction from age 14 to 21, we used a series of random-intercept multilevel models predicting life satisfaction from endorsement of traditional family values, family support, parent-child relationship quality, parental monitoring, parental warmth, parental hostility, positive and negative family experiences, SES, economic hardship, and discrimination. Each predictor was grand-mean centered and modeled in a separate multilevel model. Results are shown in Table 4. Greater endorsement of traditional family values, greater family support, more positive parent-child interactions, and greater parental monitoring and warmth were all associated with significantly higher mean life satisfaction from age 14 to 21. In contrast, greater parental hostility, more negative family experiences, and greater economic hardship were associated with significantly lower mean life satisfaction from age 14 to 21. SES and perceived general discrimination were not statistically significant predictors of mean life satisfaction from age 14 to 21. Personal discrimination was associated with significantly lower mean life satisfaction from age 14 to 21 when scored dichotomously (but not when scored continuously). Positive family experiences were associated with marginally higher life satisfaction, but was not statistically significant at the corrected alpha level.

Predictors of life satisfaction change.—For each predictor, we modeled a separate random-intercept, random-slope multilevel model predicting life satisfaction from the focal predictor, Piece 1 (age 14 to 17), Piece 2 (age 17 to 21), and interactions between the

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predictor and each Piece. We modeled both fixed and random effects of each time variable. Results are shown in Table 5 (family factors) and Table 6 (socio-contextual factors).

Endorsement of traditional family values, family support, and parent-child relationship quality were significant predictors of the trajectory of life satisfaction from age 14 to 17, as evidenced by a statistically significant interaction between each focal predictor and Piece 1. Youth with greater traditional family values, greater family support, and higher parent-child relationship quality had higher life satisfaction at age 14 and their life satisfaction remained stable from age 14 to 17 (see Figure 2). In contrast, youth with lower traditional family values, less family support, and lower parent-child relationship quality at age 14 were less satisfied with their lives at age 14, but their life satisfaction increased from age 14 to 17. Parenting, family experiences, SES, economic hardship, and discrimination were not statistically significant predictors of the trajectory of life satisfaction from age 14 to 17, as evidenced by non-significant interactions between these focal predictors and Piece 1. However, the effect of SES and negative family experiences on change in life satisfaction from age 14 to 17 were both significant before correcting for multiple tests, such that high SES youth and youth with fewer negative family experiences had high and stable life satisfaction whereas low SES youth and youth with more negative family experiences had low but increasing life satisfaction.

Aim 2 results summary.—Family factors and socio-contextual factors predicted average life satisfaction from age 14 to 21. A subset of these factors also predicted life satisfaction *change* from age 14 to 17, but none of the factors that were examined predicted life satisfaction *change* from age 17 to 21.

Aim 3: Generalizability across Gender and Nativity Status

We used two separate random-intercept multilevel models to predict life satisfaction from age 14 to 21 from gender and nativity status, respectively. Gender was not a significant predictor of mean life satisfaction from age 14 to 21, $b = -.017$, $SE = .049$, $p = .659$. Youth born in Mexico had slightly higher mean life satisfaction from age 14 to 21 compared to youth born in the U.S., $b = .094$, $SE = .043$, $p = .027$. However, the effect of nativity on life satisfaction was not significant after correcting for multiple tests. We also examined whether gender or nativity status moderated any of the key effects. There were no significant interactions between time variables and gender or nativity status in the linear, quadratic, or piecewise models, $ps > .565$. None of the interactions between gender, nativity status, and family and socio-contextual predictors of life satisfaction were statistically significant after correcting for multiple tests (all $ps > .033$).

However, some interactions with gender and nativity status were significant before correcting for multiple tests and may indicate areas for future research. First, there was an interaction between gender and three of the discrimination variables predicting mean life satisfaction from age 14 to 21, $.033 < ps < .050$, such that the negative effects of discrimination were stronger for boys compared to girls. Second, there was an interaction between nativity status and the dichotomous personal discrimination variable predicting mean life satisfaction from age 14 to 21, $p = .024$, such that the negative effects of having

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experienced personal discrimination were stronger for youth born in the U.S. compared to youth born in Mexico. Finally, there was an interaction between nativity status and SES predicting mean life satisfaction from age 14 to 21, $p = .045$, such that greater SES was associated with higher life satisfaction for youth born in the U.S. but lower life satisfaction for youth born in Mexico.

Aim 3 results summary.—We did not find strong evidence for effects of gender or nativity status on life satisfaction from age 14 to 21.

Discussion

The present research examined trajectories of life satisfaction from middle (age 14) to late adolescence (age 17) and during the transition from late adolescence into young adulthood (age 21), using data from a longitudinal study of 674 Mexican-origin youth. On average, life satisfaction did not change significantly ($d = -.07$) from middle adolescence to late adolescence, and then decreased ($d = .30$) during the transition to young adulthood. Despite the average decrease in life satisfaction during the transition from late adolescence to early adulthood, stable life satisfaction trajectories were still the most common type of trajectory (compared to increasing or decreasing) during both developmental periods.

Individuals differed substantially around these normative trends. Several family and socio-contextual factors predicted individual differences in mean life satisfaction as well as changes in life satisfaction during these periods. Specifically, more positive family environments, less economic hardship, and less ethnic discrimination were associated with higher mean life satisfaction. Moreover, youth with greater traditional family values, greater family support, and higher parent-child relationship quality had high and stable life satisfaction from middle (age 14) to late adolescence (age 17), whereas youth with lower traditional family values, less family support, and lower parent-child relationship quality had low but increasing life satisfaction from middle (age 14) to late adolescence (age 17). None of the variables examined in the present study predicted changes in life satisfaction during the transition from late adolescence (age 17) to young adulthood (age 21). Below, we discuss each of these findings in turn.

Average Life Satisfaction Trajectory during Adolescence and Young Adulthood

The lack of change in life satisfaction from middle (age 14) to late adolescence (age 17) is consistent with the majority of previous research on life satisfaction (e.g., Huebner et al., 2004; Salmela-Aro, Tynkkynen, 2010) and self-esteem (Orth, Erol, & Luciano, 2018) in adolescence, which has found little to no change during this period. The observed decrease in life satisfaction during the transition from late adolescence (age 17) to young adulthood (age 21) highlights this as a critical developmental period during which youth are particularly vulnerable. The decrease in life satisfaction may reflect difficulties adjusting to the new independence and responsibilities of young adulthood. It will be important for future research to identify the specific life experiences that contribute to this normative decrease in life satisfaction, as well as potential protective factors that help youth maintain their life satisfaction during this time of transition. Previous research has shown that life satisfaction is lower in adolescence and young adulthood compared to middle and late

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adulthood (Morganti, Nehrke, Hulicka, & Cataldo, 1988). This suggests that the decline in Mexican-origin youth's life satisfaction in young adulthood may be temporary, and with age, their life satisfaction will begin to rise as they successfully adapt to the many changes occurring in their lives. However, research that tracks Mexican-origin youth throughout young adulthood and into midlife is needed to test this possibility.

Predictors of Mean Life Satisfaction during Adolescence and Young Adulthood

Consistent with our hypotheses, family factors were important predictors of youths' mean life satisfaction. All of the family factors we examined were associated with individual differences in life satisfaction in the hypothesized direction. These findings are consistent with previous research, which has identified family factors as key predictors of life satisfaction for both Mexican-origin adolescents (Edwards & Lopez, 2006) and adolescents from a broad range of ethnic/racial groups (Gilman & Heubner, 2003). Notably, family factors predicted mean life satisfaction across the entire developmental period (middle adolescence to young adulthood). This suggests that even though many youth begin to develop independence from their families in young adulthood, family factors continue to play a role in their life satisfaction. This may be due to continued interactions with family, and/or may reflect downstream consequences of earlier familial interactions.

In contrast to family factors, results were mixed for more distal socio-contextual factors. For example, SES was not significantly associated with mean life satisfaction. This is somewhat at odds with past research, which has found links between SES and life satisfaction (Kahneman & Deaton, 2010). This may be due to restriction of range, because the majority of the present sample was low SES. Moreover, the practical impact of youth's relative economic situation, may be a stronger predictor of life satisfaction than SES. Indeed, greater economic hardship was associated with lower life satisfaction.

Perceived ethnic discrimination against people of Mexican-origin was not significantly associated with mean life satisfaction, and personal experiences of ethnic discrimination were only associated with mean life satisfaction when scored dichotomously. One potential explanation for these findings is that the overall level of ethnic discrimination was low, which resulted in skewed continuous variables with low predictive utility. The low average levels of discrimination may be due to characteristics of the measurement instruments and/or the location of the study. Considering the measurement instrument, most of the scale items assessed overt instances of discrimination (e.g., "Have kids called you names because you are Mexican/Mexican-American?"). Although endorsing only one or two items results in a very low scale score, it still reflects problematic levels of discrimination. Considering the location of the study, Sacramento is one of the most diverse and ethnically integrated cities in the United States. It is possible that Mexican-origin youth experience lower discrimination here than in other parts of the country.

Predictors of Change in Life Satisfaction During Adolescence and Young Adulthood

Traditional family values, family support, and parent-child relationship quality in middle adolescence (age 14) predicted individual differences in the trajectory of life satisfaction from middle (age 14) to late adolescence (age 17). However, the pattern of results was not

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consistent with our initial hypotheses that greater traditional family values, greater family support, and higher parent-child relationship quality would be associated with greater increases in life satisfaction. Instead, somewhat surprisingly, youth with greater traditional family values, greater family support, and higher parent-child relationship quality had high and stable life satisfaction, whereas youth with lower traditional family values, less family support, and lower parent-child relationship quality had low but increasing life satisfaction. At first glance, these findings may seem to suggest that lower traditional family values, less family support, and lower parent-child relationship quality were beneficial for youth's life satisfaction. However, a more likely interpretation of these results is that these factors exhausted their negative influence on life satisfaction by the time youth entered adolescence. Although youth lower in traditional family values, family support, and parent-child relationship quality started off lower in life satisfaction, they were able to regain some of their "lost" life satisfaction by late adolescence (age 17) as they became increasingly independent from their families.

Notably, none of the variables assessed in the present study predicted change in life satisfaction during the transition from late adolescence (age 17) to young adulthood (age 21). Thus, although family factors may still be important for life satisfaction during this period (as indicated by associations with mean levels), more work is needed to identify predictors of life satisfaction *change* during this period. This is consistent with prior work which has found several predictors of life satisfaction *level* are not associated with life satisfaction *change* (e.g., Mroczek & Spiro, 2005).

Limitations

The present study had several limitations that warrant discussion. First, youth reported their life satisfaction using a single item measure. Although this single item measure may be appropriate for assessing the overall quality of one's life, it likely has more measurement error than multi-item scales (Robins, Hendin, & Trzesniewski, 2002) and does not allow for an examination of domain-specific life satisfaction. However, single-item measures of life satisfaction are commonly used and results from four national panel studies estimate that the reliability of single-item measures of life satisfaction is greater than .70 (Lucas & Donnellan, 2004). Second, the present study is not based on a nationally representative sample; and thus, findings may not be broadly generalizable to the experience of all Mexican-origin youth living in the United States. For example, the data for this study were collected from Mexican American youth living in communities that have sizable Latino populations (26.6%−43.9%) located in one region of the U.S. (i.e., Sacramento, CA). As such, we do not know if our results will generalize to Mexican American youths living in other regions of the U.S. (e.g., border towns), Mexican American youths living in predominately White communities, Mexican American adults, members of other Latino subgroups (e.g., Peruvians, Cubans), members of other ethnic minority groups (e.g., African Americans, Asian Americans), or members of other stigmatized groups (e.g., LGBTQ individuals). Third, due to the already large number of statistical tests, we did not test all potential predictors of life satisfaction that were assessed in the dataset. Instead, we chose to focus on family and socio-contextual predictors of life satisfaction based on previous research suggesting that these factors may be particularly important for this age and ethnic

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group. Future research would benefit from examination of additional factors that may influence the development of life satisfaction, including individual psychological characteristics such as personality, self-esteem, and coping tendencies. Finally, because many of the predictor variables were not assessed at every timepoint, we did not examine whether *change* in family and socio-contextual variables predicted *change* in life satisfaction. This will be an important direction for future research aimed at understanding the co-development of these constructs in adolescence and early adulthood.

Concluding Remark

The present study highlights the transition from late adolescence (age 17) to young adulthood (age 21) as a vulnerable developmental period for Mexican-origin youth, a critically important but understudied ethnic group in the United States. On average, youth's life satisfaction did not significantly change from middle adolescence (age 14) to late adolescence (age 17), and then decreased from middle adolescence (age 17) to young adulthood (age 21). However, there were substantial individual differences around this normative trend. Youth who had more positive family experiences and who experienced less economic hardship and less discrimination in middle adolescence (age 14), showed higher mean life satisfaction from middle adolescence (age 14) to young adulthood (age 21). Several family factors also predicted subsequent *change* in life satisfaction from middle (age 14) to late adolescence (age 17), but not during the transition from late adolescence (age 17) to young adulthood (age 21). These findings highlight the family environment and social contextual factors as important contributors to life satisfaction among Mexican-origin youth. However, a priority for future research will be to identify risk and protective factors that predict *change* in life satisfaction among Mexican-origin youth during the transition into young adulthood.

Supplementary Material

Refer to Web version on PubMed Central for supplementary material.

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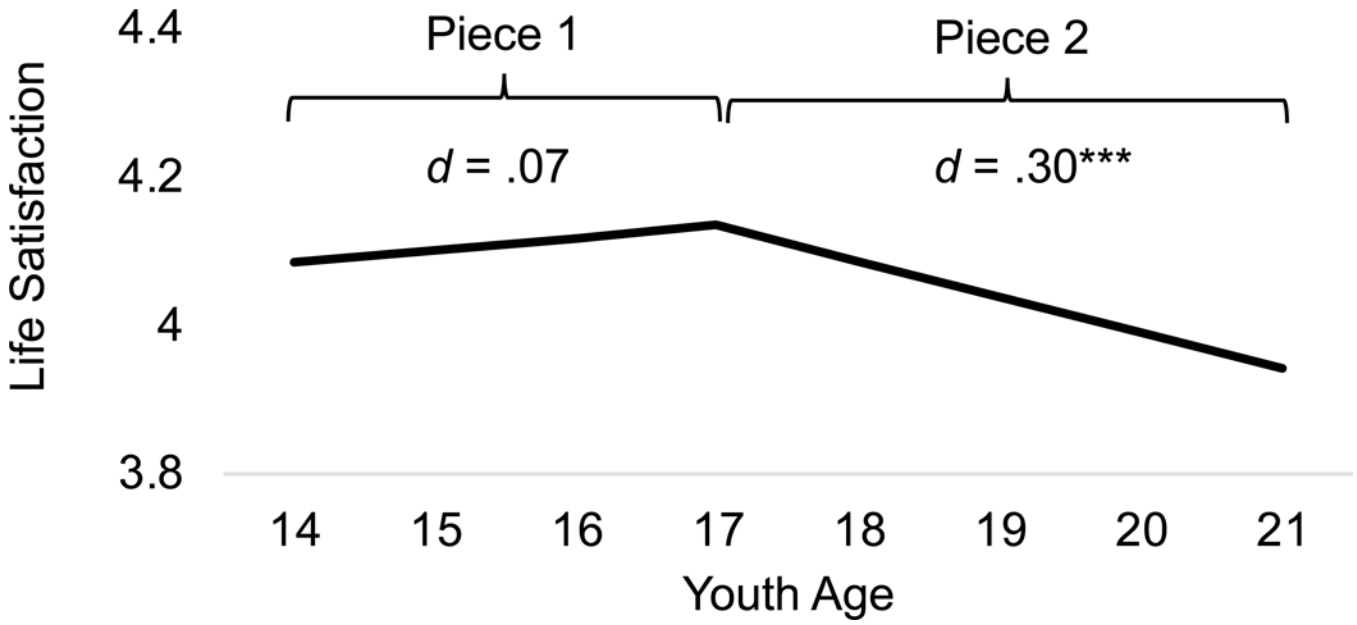

Figure 1.

Estimated average life satisfaction trajectory from age 14 to 21 using a piecewise analysis of time. Pieces were selected based on observed patterns in the data and a statistically significant quadratic effect of discrete time. Life satisfaction remained stable from age 14 to 17 (Piece 1) and decreased from age 17 to 21 (Piece 2). The range of the y axis is 1 standard deviation. *** = $p < .001$.

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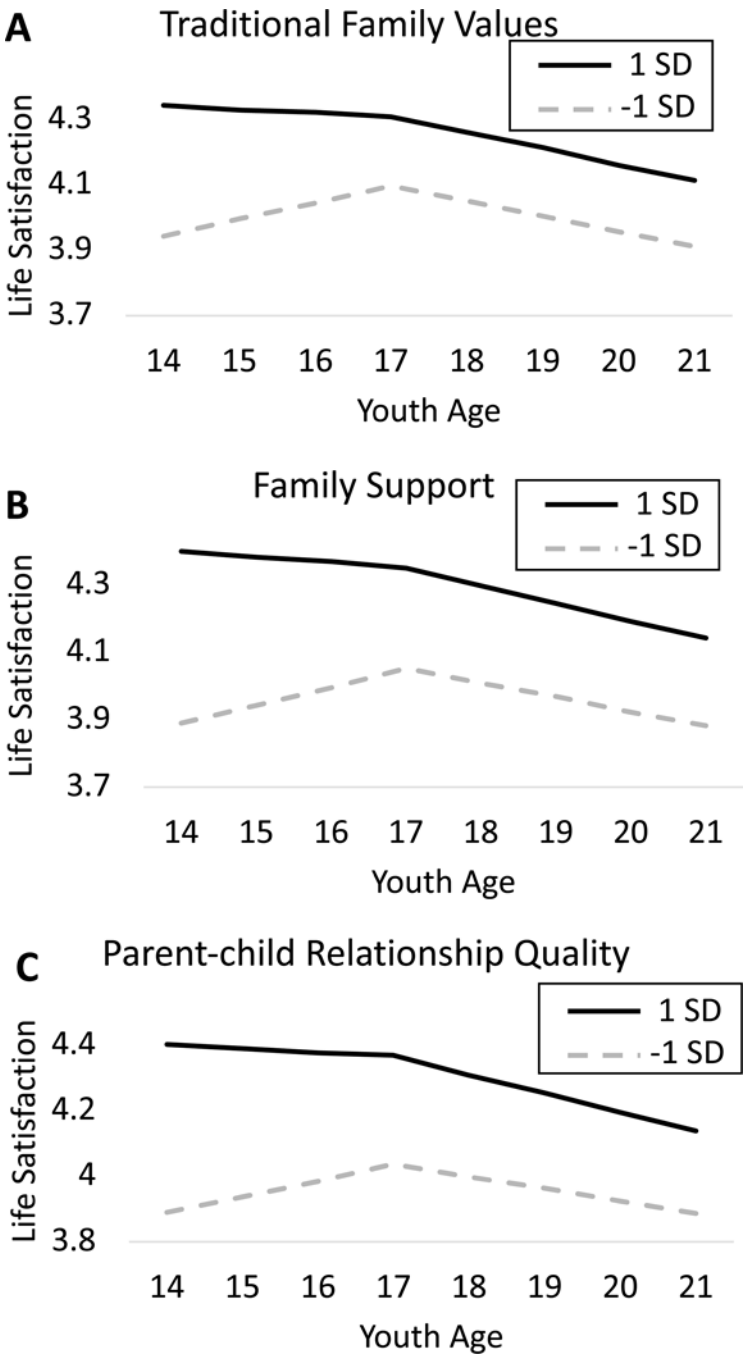

Figure 2.

Estimated life satisfaction trajectory from age 14 to 21 as a function of (A) endorsement of traditional family values at age 14; (B) family support at age 14; and (C) parent-child relationship quality at age 14. Trajectories are shown for youth one standard deviation above the mean (black solid line) and one standard deviation below the mean (grey dotted line) on each predictor variable. The range of the y axis is 1 standard deviation.

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Table 1

Means and Standard Deviations of Study Variables

Predictor Variables	***N***	**Mean (*SD*)**	**Skew**
Traditional Family Values	604	3.49 (*0.35*)	−0.94
Family Support	604	3.16 (*0.72*)	−0.52
Parent-child Relationship Quality	605	3.25 (*0.51*)	−0.73
Parental Monitoring	608	3.22 (*0.47*)	−0.80
Parental Warmth	606	2.79 (*0.48*)	−0.48
Parental Hostility	606	1.50 (*0.27*)	1.11
Positive Family Experiences	645	3.14 (*2.00*)	0.11
Negative Family Experiences	645	2.50 (*2.50*)	1.25
Per Capita Family Income	645	7.17 (*6.00*)	2.46
Economic Hardship	603	2.01 (*0.43*)	−0.14
Personal Discrimination	596	1.11 (*0.29*)	5.09
Group Discrimination	594	1.29 (*0.33*)	1.50
Dependent Variables	***N***	**Mean (*SD*)**	**Skew**
Age 14 Life Satisfaction	603	4.18 (*0.71*)	−0.57
Age 15 Life Satisfaction	589	4.13 (*0.70*)	−0.71
Age 16 Life Satisfaction	600	4.16 (*0.71*)	−0.60
Age 17 Life Satisfaction	599	4.22 (*0.71*)	−0.74
Age 18 Life Satisfaction	587	4.16 (*0.72*)	−0.72
Age 19 Life Satisfaction	584	4.08 (*0.74*)	−0.63
Age 21 Life Satisfaction	541	4.01 (0.75)	−0.81

Note. Per capita family income is shown in thousands of dollars.

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Table 2

Multilevel Models Predicting the Average Life Satisfaction Trajectory from Age 14 to 21

Linear Time Model	**b**	***SE***	***t***	***p***
Intercept	4.13	0.192	215.47	< .001
Time	−0.02	0.005	4.14	< .001
Quadratic Time Model	**B**	***SE***	***t***	***p***
Intercept	4.17	0.023	183.42	< .001
Time	−0.02	0.005	3.30	< .001
Timê2	−0.01	0.002	3.36	< .001
Piecewise Time Model	**B**	***SE***	***t***	***p***
Intercept	4.14	0.025	163.94	< .001
Piece 1 (14 to 17)	0.02	0.010	1.75	.080
Piece 2 (17 to 21)	−0.05	0.009	5.52	< .001

Note. Results from three multilevel models are shown. In each model, life satisfaction from age 14 to 21 is the dependent variable. In the Linear Time model, discrete time was mean-centered and entered as the independent variable. In the Quadratic Time model, discrete time and the square of discrete time were entered as independent variables. In the Piecewise Time model, two separate linear trajectories were fit to the time period between age 14 to 21. Piece 1 was modeled from age 14 to 17 and Piece 2 was modeled as age 17 to 21.

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Table 3

Cross-sectional Pearson's Correlations between Family Factors, Socio-contextual Factors, and Life Satisfaction at Age 14

	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.
1. Life Satisfaction	--											
2. Traditional Values	0.29	--										
3. Family Support	0.39	0.46	--									
4. Parent-child Relationship	0.36	0.33	0.51	--								
5. Parental Monitoring	0.25	0.30	0.44	0.48	--							
6. Parental Warmth	0.29	0.34	0.56	0.62	0.73	--						
7. Parental Hostility	−0.24	−0.20	−0.34	−0.35	−0.18	−0.29	--					
8. Positive Experiences	0.05	0.11	0.08	0.12	0.22	0.16	0.00	--				
9. Negative Experiences	−0.13	−0.02	−0.12	−0.16	−0.07	−0.68	0.23	0.17	--			
10. Family SES	0.07	0.00	0.07	−0.01	0.10	0.10	0.04	0.14	−0.06	--		
11. Economic Hardship	−0.31	−0.16	−0.31	−0.24	−0.30	−0.28	0.19	−0.12	0.21	−0.24	--	
12. Personal Discrimination	−0.02	0.00	−0.05	−0.09	−0.08	−0.02	0.25	0.01	0.10	0.05	0.10	--
13. Group Discrimination	−0.06	−0.02	−0.14	−0.16	−0.08	−0.10	0.29	−0.02	0.12	0.00	0.08	0.45

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Table 4

Family and Socio-contextual Factors Predicting Mean Life Satisfaction from Age 14 to 21

Model 1a	**b**	***SE***	***t***	***p***
Intercept	4.14	0.019	221.44	< .001
Traditional Family Values	0.38	0.053	7.14	< .001
Model 2a	**b**	***SE***	***t***	***p***
Intercept	4.14	0.018	228.51	< .001
Family Support	0.25	0.025	9.78	< .001
Model 3a	**b**	***SE***	***t***	***p***
Intercept	4.14	0.080	230.17	< .001
Parent-Child Relationship Quality	0.37	0.036	10.23	< .001
Model 4a	**b**	***SE***	***t***	***p***
Intercept	4.14	0.018	224.87	< .001
Parental Monitoring	0.32	0.039	8.24	< .001
Model 5a	**b**	***SE***	***t***	***p***
Intercept	4.14	0.018	224.79	< .001
Parental Warmth	0.32	0.039	8.38	< .001
Model 6a	**b**	***SE***	***t***	***p***
Intercept	4.14	0.019	219.60	< .001
Parental Hostility	−0.42	0.070	6.06	< .001
Model 7a	**b**	***SE***	***t***	***p***
Intercept	4.12	0.019	215.79	< .001
Positive Family Experiences	0.02	0.010	2.46	.014
Model 8a	**b**	***SE***	***t***	***p***
Intercept	4.13	0.019	218.54	< .001
Negative Family Experiences	−0.02	0.008	3.03	.003
Model 9a	**b**	***SE***	***t***	
Intercept	4.13	0.019	215.59	< .001
Family Socioeconomic Status	0.02	0.023	0.81	.420
Model 10a	**b**	***SE***	***t***	***p***
Intercept	4.14	0.018	227.12	< .001
Economic Hardship	−0.40	0.042	9.45	< .001
Model 11a	**b**	***SE***	***t***	***p***

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Model 1a	**b**	***SE***	***t***	***p***
Intercept	4.14	0.020	211.76	< .001
Personal Discrimination (Continuous)	−0.05	0.069	0.76	.446
Model 12a	**b**	***SE***	***t***	***p***
Intercept	4.18	0.022	188.49	< .001
Personal Discrimination (Dichotomous)	−0.15	0.046	3.37	< .001
Model 13a	**b**	***SE***	***t***	***p***
Intercept	4.14	0.020	211.78	< .001
Group Discrimination	−0.08	0.059	1.33	.183

Note. Results from 13 multilevel models are shown. In each model, life satisfaction from age 14 to 21 is the dependent variable. Each predictor was grand-mean centered and entered as the independent variable in a separate model.

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Table 5

Multilevel Models Predicting Individual Differences in Life Satisfaction Trajectories from Age 14 to 21 from Family Factors at Age 14

Model 1b: Traditional Family Values	**b**	***SE***	***t***	***p***
Intercept	4.14	0.024	172.18	< .001
Traditional Family Values	0.57	0.069	8.28	< .001
Piece 1	0.02	0.010	1.93	.054
Piece 2	−0.05	0.009	5.36	< .001
Piece 1 * Traditional Family Values	−0.09	0.029	3.14	.002
Piece 2 * Traditional Family Values	0.00	0.025	0.12	.902
Model 2b: Family Support	**b**	***SE***	***t***	***p***
Intercept	4.14	0.023	178.56	< .001
Family Support	0.36	0.032	11.03	< .001
Piece 1	0.02	0.010	1.95	.051
Piece 2	−0.06	0.009	5.37	< .001
Piece 1 * Family Support	−0.02	0.014	3.59	< .001
Piece 2 * Family Support	0.00	0.012	0.55	.581
Model 3b: Parent-Child Rel. Quality	**b**	***SE***	***t***	***p***
Intercept	4.014	0.023	178.59	< .001
Parent-Child Relationship Quality	0.51	0.046	11.08	< .001
Piece 1	0.02	0.010	1.93	.054
Piece 2	−0.05	0.009	5.37	<.001
Piece 1 * Parent-Child Rel. Quality	−0.06	0.020	3.11	.002
Piece 2 * Parent-Child Rel. Quality	−0.02	0.018	1.09	.275
Model 4b: Parental Monitoring	**b**	***SE***	***t***	***p***
Intercept	4.14	0.025	170.82	< .001
Parental Monitoring	0.39	0.052	7.56	< .001
Piece 1	0.02	0.010	1.88	.060
Piece 2	−0.05	0.009	5.43	< .001
Piece 1 * Parental Monitoring	−0.02	0.021	0.76	.444
Piece 2 * Parental Monitoring	0.03	0.019	1.93	.054
Model 5b: Parental Warmth	**b**	***SE***	***t***	***p***
Intercept	4.12	0.023	172.53	< .001
Parental Warmth	0.42	0.050	8.43	< .001
Piece 1	0.02	0.010	1.87	.061
Piece 2	−0.05	0.009	5.45	< .001
Piece 1 * Parental Warmth	−0.04	0.021	1.72	.086
Piece 2 * Parental Warmth	−0.03	0.019	1.40	.161

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Model 1b: Traditional Family Values	**b**	***SE***	***t***	***p***
Model 6b: Parental Hostility	**b**	***SE***	***t***	***p***
Intercept	4.15	0.025	168.78	< .001
Parental Hostility	−0.59	0.091	6.48	< .001
Piece 1	0.02	0.010	1.90	.058
Piece 2	−0.05	0.009	5.36	< .001
Piece 1 * Parental Hostility	0.07	0.037	1.81	.070
Piece 2 * Parental Hostility	0.03	0.033	0.99	.335
Model 7b: Positive Family Experiences	**b**	***SE***	***t***	***p***
Intercept	4.13	0.025	162.34	< .001
Positive Family Experiences	0.03	0.013	2.53	.012
Piece 1	0.02	0.010	1.94	.053
Piece 2	−0.05	0.009	5.56	< .001
Piece 1 * Positive Family Experiences	0.00	0.005	1.08	.281
Piece 2 * Positive Family Experiences	0.00	0.045	0.59	.554
Model 8b: Negative Family Experiences	**b**	***SE***	***t***	***p***
Intercept	4.15	0.025	164.94	< .001
Negative Family Experiences	−0.03	0.010	3.29	< .001
Piece 1	0.02	0.010	1.63	.103
Piece 2	−0.05	0.009	5.66	< .001
Piece 1 * Negative Family Experiences	0.00	0.004	0.33	.739
Piece 2 * Negative Family Experiences	0.01	0.004	2.15	.032

Note. Results from eight multilevel models are shown. In each model, life satisfaction from age 14 to 21 is the dependent variable. The focal predictor was grand-mean centered. The focal predictor, Piece 1, Piece 2, and the interaction between the focal predictor and each Piece were entered as the independent variables.

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Table 6

Multilevel Models Predicting Individual Differences in Life Satisfaction Trajectories from Age 14 to 21 from Socio-contextual Factors at Age 14

Model 9b: Family Socioeconomic Status	**b**	***SE***	***t***	***p***
Intercept	4.14	0.025	164.54	< .001
Family Socioeconomic Status	0.08	0.030	2.61	.009
Piece 1	0.02	0.010	1.78	.075
Piece 2	−0.05	0.009	5.50	< .001
Piece 1 * Family Socioeconomic Status	−0.03	0.012	2.20	.028
Piece 2 * Family Socioeconomic Status	0.00	0.010	0.25	.800
Model 10b: Economic Hardship	**b**	***SE***	***t***	***p***
Intercept	4.14	0.024	173.43	< .001
Economic Hardship	−0.51	0.056	9.13	< .001
Piece 1	0.02	0.010	2.01	.045
Piece 2	−0.04	0.009	5.54	< .001
Piece 1 * Economic Hardship	0.04	0.023	1.56	.118
Piece 2 * Economic Hardship	0.03	0.021	1.64	.102
Model 11b: Personal Discrimination (Continuous)	**b**	***SE***	***t***	***p***
Intercept	4.14	0.026	162.34	< .001
Personal Discrimination (Continuous)	−0.09	0.089	0.99	.323
Piece 1	0.02	0.010	1.85	.065
Piece 2	−0.05	0.009	5.44	< .001
Piece 1 * Personal Discrimination (Continuous)	0.02	0.036	0.45	.651
Piece 2 * Personal Discrimination (Continuous)	0.01	0.032	0.17	.864
Model 12b: Personal Discrimination (Dichotomous)	**b**	***SE***	***t***	***p***
Intercept	4.18	0.030	143.91	< .001
Personal Discrimination (Dichotomous)	−0.16	0.060	2.71	.007
Piece 1	0.02	0.012	1.72	.085
Piece 2	−0.05	0.010	5.30	< .001
Piece 1 * Personal Discrimination (Dichotomous)	−0.01	0.024	0.24	.809
Piece 2 * Personal Discrimination (Dichotomous)	0.02	0.021	1.11	.269
Model 13b: Group Discrimination	**b**	***SE***	***t***	***p***
Intercept	4.14	0.026	162.37	< .001
Group Discrimination	−0.10	0.077	1.27	.205
Piece 1	0.02	0.010	1.73	.083
Piece 2	−0.05	0.009	5.35	< .001
Piece 1 * Group Discrimination	0.02	0.031	0.52	.600
Piece 2 * Group Discrimination	−0.01	0.027	0.55	.585

Note. Results from five multilevel models are shown. In each model, life satisfaction from age 14 to 21 is the dependent variable. The focal predictor was grand-mean centered. The focal predictor, Piece 1, Piece 2, and the interaction between the focal predictor and each Piece were entered as the independent variables.

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