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Abstract

Numerous studies have demonstrated long-term benefits of optimism for physical and mental health. However, little research has examined how optimism develops across the life span and how it is shaped by positive and negative life experiences. In this study, we examined the normative trajectory of optimism development from ages 26 to 71 in a longitudinal sample ($N = 1,169$) of Mexican-origin couples assessed 4 times across 7 years. Latent growth curve analyses indicated that optimism increased throughout early and middle adulthood before plateauing at age 55, with significant individual differences in change. Furthermore, the experience of positive events was associated with optimism development across adulthood, but negative life events were not associated with development. Men and women developed similarly in optimism, while U.S.-born participants developed differently from Mexican-born participants. We discuss how these findings inform our understanding of optimism as a dynamic, adaptive construct.

Keywords

optimism/pessimism, personality development, adult personality development

In Voltaire's satire *Candide*, the eponymous young protagonist travels around the globe, optimistic that he is living in the best of all possible worlds. Unfortunately for Candide, he suffers one tragic event after another: His friends are enslaved and executed, he is repeatedly jailed, and, soon after gaining a fortune, he loses it all. These events shatter Candide's rosy worldview and allow him to mature, conveying Voltaire's rhetorical point that blind optimism is both naive and dangerous. But to what extent does Candide's story mirror reality? Does optimism really decline with maturity? and to what extent is a person's optimism shaped by life experience?

Dispositional optimism is a relatively stable, generalized tendency of individuals to expect positive outcomes in life (Scheier & Carver, 1985). Research shows that optimistic people enjoy better physical and mental health, increased longevity, more positive social relationships, and better coping skills (Assad, Donnellan, & Conger, 2007; Brissette, Scheier, & Carver, 2002; Carver, Scheier, & Fulford, 2008; Castro-Schilo et al., 2013; Segerstrom, Taylor, Kemeny, & Fahey, 1998; Taylor et al., 2012). Indeed, being optimistic seems to have profound positive consequences for everyday functioning and long-term outcomes. Despite the vast literature on the correlates and consequences of optimism, we know very little about how optimism changes with age or the factors that influence its development. In the present study, we address this gap by examining the normative development of optimism across

adulthood and testing four potential moderators of development in a longitudinal sample of over 1,000 Mexican-origin adults. In doing so, we aim to broaden our understanding of optimism as a dynamic construct that may change with age and in response to life experiences.

The Development of Optimism Across Adulthood

Two studies have examined the mean-level development of optimism (i.e., the extent to which the average optimism score in a sample changes over time) using longitudinal data. First, in an unpublished dissertation, Abraham (2007) found that mean levels of optimism increased linearly over a period of 9 years in a sample of middle-aged, predominantly African American adults. Second, Chopik, Kim, and Smith (2015) examined changes in optimism from ages 50 to 97 in a large sample of Americans. They found an inverted U-shaped optimism trajectory, with increases from ages 51 to 70 and declines afterward.

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Together, these studies provide initial insight into the course of optimism development in middle and late adulthood. However, no research to date has examined how optimism develops earlier in life. Theoretically, we may expect mean levels of optimism to increase throughout early and middle adulthood, as the majority of young adults successfully navigate major life tasks such as marriage, parenthood, and transitioning into the workforce (Arnett, 2007; Roberts & Robins, 2000). Progressively attaining these major developmental goals may be an engine for increasing optimism throughout early adulthood. Additionally, increases in autonomy and self-regulation ability, which allow a person to more easily execute their desired behaviors and reach desired outcomes, may lead to increases in optimism with age (Scheier & Carver, 1985; Deci & Ryan, 2000). Finally, increases in optimism throughout adulthood may also be related to increasing levels of other indicators of well-being, such as self-esteem and life satisfaction, that tend to show mean-level increases throughout adulthood (Baird, Lucas, & Donnellan, 2010; Orth & Robins, 2014). People who increase in these indicators of well-being and develop increasingly positive general feelings about themselves may also become increasingly optimistic.

Beyond theoretical considerations, we can develop hypotheses about optimism development from results of past research. Specifically, there are about 20 years of age overlap between Chopik and colleagues' (2015) estimates of optimism development from ages 51 to 97 and the sample used in the present study. Based on those results, we expect mean levels of optimism to increase and then plateau from ages 50 to 70. In addition, there has been much research on the development of traits that are conceptually and empirically associated with optimism, such as self-esteem (Orth & Robins, 2014) and emotional stability (Roberts, Walton, & Viechtbauer, 2006). These lines of research have typically found age-graded increases in these traits throughout early and middle adulthood, which suggests that optimism may follow a similar trajectory. In summary, based on both theoretical and empirical considerations, we predicted that optimism trajectories would be characterized by increases throughout early and middle adulthood that gradually taper out as participants approach old age.

Life Events and Optimism Development

In addition to describing the normative age-graded developmental trajectory of optimism over time, we can improve our understanding of optimism as a dynamic construct by examining the factors that are associated with systematic between-person differences in optimism development. Behavioral genetic research has indicated that about 25% of the variance in optimism can be attributed to genetic differences, with the other 75% coming from environmental factors (Plomin et al., 1992). This estimate of heritability for optimism is lower than for most other personality traits (typically 40% of the variance in a personality trait can be attributed to genetic influences), suggesting that optimism tends to be substantially influenced by environmental factors.

However, while multiple studies have looked at how optimism can serve as a buffer for coping with negative life events or conditions (de Ridder, Schreurs, & Bensing, 2000; Taylor et al., 2012), little research has examined how optimism development may be affected by environmental factors such as these life experiences. Recent research by Chopik and colleagues (2015) and Chopik, Kim, and Smith (2018) has examined the codevelopment between optimism and health in older adults. In one study, they found that those whose functional health declined also tended to become less optimistic (Chopik, Kim, & Smith, 2015). They later extended these analyses across married couples and found that changes in one spouse's optimism were associated with changes in their partner's health over time and that people who were married to a partner high in optimism at baseline tended to become more optimistic over time (Chopik, Kim, & Smith, 2018). While declines in health are typically less of an issue in early and middle adulthood, these results open the door for research on other life experiences that may be relevant to optimism development earlier in life.

As suggested in *Candide*, positive or negative experiences may influence a person's optimism. Those whose experiences are consistently positive may expect the future to bring good tidings as well, whereas those whose life is filled with stress and strife may expect the opposite and become more pessimistic. Over time, codevelopment between valenced life events and optimism would allow a person to remain adaptively calibrated to their future environment (Carver & Scheier, 1982; DeYoung, 2015). For example, a person who frequently experiences positive (or negative) events may proactively prepare for these events to continue, allowing the person to more effectively reap the positive event's benefits (or mitigate the negative event's harms). Furthermore, codevelopment between life events and optimism may occur because of self-fulfilling prophecies: Optimists who expect the best may be more likely to interpret their neutral experiences in a positive light, leading them to experience subjectively more positive life events and reinforce their optimism (i.e., learned optimism; Gillham, Shatte, Reisch, & Seligman, 2001).

Whether life events are associated with optimism development was preliminarily addressed in Abraham's (2007) dissertation, with mixed results. He found that the experience of marriage was associated with increases in optimism, but other associations between optimism development and life events were less conclusive.

In the present study, we provide a more comprehensive test of the associations between optimism development and life events by focusing on the valence of events (positive vs. negative) rather than their particular type. Life events, such as changing careers, may vary in valence across people. For some, a new job may be a promotion full of opportunity, whereas for others, it may be a downgrade in pay and status. In the present study, we aimed to assess the subjective valence of life events (i.e., "Have you *improved* your personal relationship with any of your immediate family members?") and clustered events by this valence, allowing us to specifically test how positive and negative life events are associated with optimism development.

We predicted that those who experienced more positive events would display higher levels of optimism across adulthood, whereas those who experienced more negative events would display decreased optimism levels across adulthood.

Although this study focused on positive and negative life events and optimism development, we also explored two other potential moderators of development: gender and nativity (whether a participant was born in Mexico or the United States). We did not have concrete hypotheses about how these variables may affect development but hope that these exploratory analyses may point toward future directions in the study of optimism development.

The Present Study

In the present study, we measured the development of optimism across early and middle adulthood (ages 26–71) in a sample of over 1,000 Mexican American parents who have contributed optimism information across four biennial measurement occasions spanning 7 years ($N = 1,169$; 3,947 responses). We addressed two related research questions. First, what is the age-graded developmental trajectory of optimism across adulthood? Second, does the trajectory of optimism vary depending on (a) the experience of positive and/or negative events, (b) gender, or (c) nativity (whether a person was born in the United States or Mexico)? To address these questions, we first estimated a cohort-sequential latent growth curve model that described the normative optimism development from ages 26 to 71 in this sample and then included the moderator variables in a series of moderated latent growth curve models. Through addressing these two research questions, we aimed to broaden our understanding of optimism as a dynamic construct that may develop systematically across the adult life span.

Method

Participants and Procedures

Data came from the California Families Project (CFP), a community-based study of 674 Mexican-origin families (549 two-parent and 125 single-mother). Families were drawn at random from rosters of students from the Sacramento and Woodland, CA, school districts. The focal child had to be in the fifth grade, of Mexican origin, and living with his or her biological mother. We included both single- and two-parent families, but, if the father was in the household, he had to be the biological father and identify as Mexican or Mexican American. Seventy-three percent of eligible families agreed to participate in the study.

Eighty-four percent of the women and 88% of the men were born in Mexico. The remainder were born in the United States. On average, women had spent 16.1 years (standard deviation [SD] = 10.6) in the United States and men 19.4 years (SD = 9.8). Thirty-eight percent of women and 40% of men did not attend high school, 25% of women and 25% of men completed some high school, 18% of women and 20% of men completed high school or had a general equivalency diploma, and 19% of

Table 1. Descriptive Statistics.

Variable	<i>N</i>	<i>M</i>	<i>SD</i>	α
Age at T1	1,169	38.27	6.11	
Female	1,169	0.61	0.50	
Immigrant	1,169	0.86	0.34	
Optimism at T1	1,040	2.91	0.36	.51
Optimism at T2	954	2.99	0.40	.56
Optimism at T3	996	3.00	0.39	.59
Optimism at T4	957	3.01	0.38	.62
Positive life events per year	1,169	3.14	2.67	
Negative life events per year	1,169	1.44	1.57	

women and 15% of men had some college, a college degree, or a graduate degree; of those who completed high school or less, the median grade achieved was ninth grade for both sexes.

The present study uses data from four biannual assessments of optimism and life events spanning a total of 7 years (T1: $N = 1,040$, T2: $N = 954$, T3: $N = 996$, T4: $N = 957$). At T1, optimism data were provided by 637 women (median age = 36, range = 26–57) and 403 men (median age = 39, range = 27–65). Of all participants who contributed optimism data at T1, 81.5% contributed optimism data at T4. Attrition analyses indicated that those who remained in the study across all assessment waves did not differ significantly on optimism, positive or negative life events, or nativity from those who dropped out. However, men were more likely to drop out of the study than women, $t(1,038) = 6.63$, $p < .001$, reflecting the fact that, when two-parent families experienced divorce or separation, we continued to interview the men only when they maintained regular contact with their child.

Measures

Trained research staff interviewed the participants in their homes using laptop computers. Interviews were conducted in Spanish or English based on the preference of the participant. All interviewers were proficient in both Spanish and English, and most were of Mexican descent. All measures not already available in Spanish were translated to Spanish by bilingual staff members and then back translated to English by another group of bilingual staff members to confirm that the original meaning remained clear. Across T1–T4, between 79% and 81% of women and between 84% and 88% of men were interviewed in Spanish.

Dispositional optimism. We measured dispositional optimism using the revised 6-item Life Orientation Test (Scheier, Carver, & Bridges, 1994), the most widely used and best validated measure of optimism (for a review, see Carver, Scheier, & Segerstrom, 2010). Across T1–T4, participants indicated their agreement with each of the six statements using an anchored 4-point Likert-type scale, where 1 = *strongly disagree* and 4 = *strongly agree*, an example item is, “In uncertain times, I usually expect the best.” We report means, SD s, and α s for each wave in Table 1, age-graded distribution of the data in Table 2, and correlations between optimism and life events in Table 3.

Table 2. Distribution of Data by Age.

Age Range	25–30	31–35	36–40	41–45	46–50	51–55	56–60	61–65	66+
N	192	841	1,370	1,267	674	234	80	17	8

Table 3. Correlations Between Optimism Scores.

Variable	Opt. T1	Opt. T2	Opt. T3	Opt. T4	Pos. events	Neg. events
Optimism T1	1					
Optimism T2	.42*	1				
Optimism T3	.36*	.45*	1			
Optimism T4	.34*	.46*	.43*	1		
Pos. events	.19*	.21*	.19*	.22*	1	
Neg. events	-.01	-.06	-.04	-.08	.24*	1

Note. Opt. = optimism. Pos. events = positive events per year. Neg. events = negative events per year.

* $p < .001$.

Life events. We measured life events using a 39-item measure of negative life events and a 15-item measure of positive life events. The Negative Life Events Scale was adapted from Dohrenwend, Krasnoff, Askenasy, and Dohrenwend (1978) and includes items such as “Over the past three months, you got laid off;” “Over the past three months, your child died;” and “Over the past three months, you moved to a worse residence or neighborhood.” This scale was administered across T1–T4. The Positive Life Events Scale was created for the CFP and includes items such as “In the past year, were you accepted into an educational program that is important to you?” “In the past year, did you become a parent when you wanted to?” and “In the past year, have you developed any new friendships that are important to you?” This scale was administered to the entire sample at T3 and T4 and solely to women at T2. For both negative and positive life events, we computed the sum across all items at all assessments and divided by the number of assessments the participant contributed. These averages thus indicate the total number of positive and negative events each participant experienced per assessment. We report means and *SDs* for positive and negative life event frequency in Table 1.

Statistical Analyses

Analyses were conducted using R Version 3.4.1 (R Core Team, 2017) and Mplus Version 7.31 (Muthén & Muthén, 1998–2011). We used the R package ggplot2 Version 3.1.0 (Wickham, 2016) to visualize results. We used a robust maximum likelihood estimator to account for nonnormal distributions of observed variables and full information maximum likelihood procedure to account for missing data. We assessed model fit by change in Akaike’s information criterion (AIC) and Bayesian information criterion (BIC). Although AIC and BIC cannot be used to test absolute model fit, they can be compared between models, with smaller values indicating better fit and

parsimony (Duncan, Duncan, & Strycker, 2013). When noted, we also assessed absolute and comparative model fit using χ^2 difference tests using log-likelihood ratios and scaling correction factors (Satorra, 2000), with a cutoff value of $p < .05$ for determining model misfit. Mplus syntax and results are available at osf.io/6udms.

Optimism scores of men and women living in the same household at T1 were significantly associated (intraclass coefficient = .12, $p < .001$). Treating these scores as independent may bias the estimation of standard errors and artificially inflate the precision of estimates (Asparouhov, 2005). We therefore conducted analyses using the CLUSTER option in Mplus, which takes this data dependency into account and calculates unbiased standard errors.

We estimated the statistical power of this study using a Monte Carlo simulation (Muthén & Muthén, 2002). Specifically, we estimated a quadratic cohort-sequential latent growth curve model with a small linear effect of age ($r = .05$) and a very small quadratic effect of age ($r = -.001$). We computed sample size, missing data, and participant ages using values from the present study. Over 500 simulations of this model, the linear age parameter was significant at $p < .05$ 98% of the time and the quadratic age parameter was significant 94.4% of the time, suggesting that the present study was well-powered to detect small age-graded developmental effects.

Results

The Development of Optimism Across Adulthood

To examine the mean-level trajectory of optimism, we estimated a series of cohort-sequential latent growth curve models. These models aggregate the 7-year developmental trajectories provided by individuals of different ages into a single estimate for optimism development across ages 26–71. Before estimating this model, we centered data at age 26, the age of the youngest participant at T1. We then estimated models that described optimism development across adulthood, with measurement occasions nested within participants over time. First, we estimated a no-change model with a single intercept parameter, which implies that mean levels of optimism are not associated with age. We then estimated a model that added a fixed linear change term. We set slope factor loadings equal to participants’ age at each measurement occasion, which rescales time by age (Orth, Robins, & Widaman, 2012). If this model fit the data best, it would imply that age is associated with monotonically increasing or decreasing optimism. We next estimated a model that added a fixed quadratic change term, with slope factor loadings set equal to participants’ squared age at each measurement occasion. If this model fit the data best, it

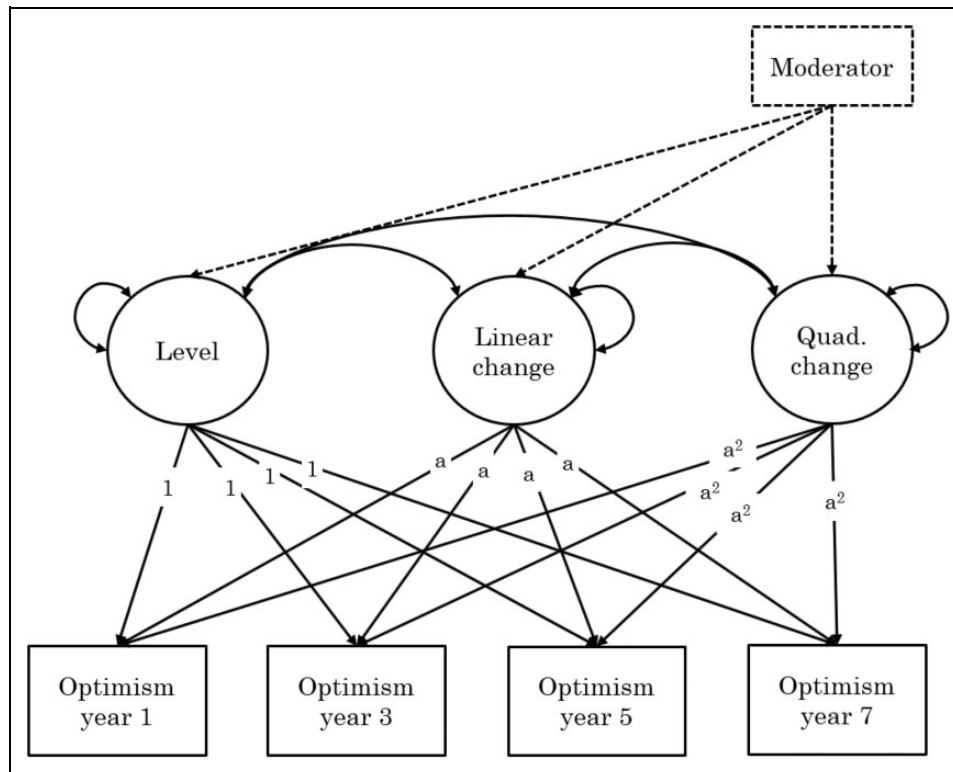


Figure 1. Cohort-sequential latent growth curve model path diagram. a = participant's age at relevant year; a^2 = participant's squared age in relevant year. Dashed associations are only modeled when estimating associations between moderators and development.

Table 4. Fit Statistics for Optimism Development Models.

Model	df	Log-Likelihood	Correction Factor	χ^2 Difference Test	AIC	BIC
1. Intercept only	6	-19,426.08	1.31	—	38,864.15	38,894.42
2. Fixed linear slope	7	-19,415.23	1.29	19.40*	38,844.47	38,879.78
3. Random linear slope	9	-19,410.08	1.33	7.01*	38,838.16	38,883.55
4. Fixed quadratic slope and random linear slope	10	-19,408.34	1.16	16.15*	38,836.67	38,887.11
5. Random quadratic slope and random linear slope	13	-19,405.83	1.02	8.98*	38,837.66	38,903.23

Note. df = model degrees of freedom. AIC = Akaike information criterion; BIC = Bayesian information criterion. Lower AIC and BIC indicate that the model is a better fit to the data. Bolded cells indicate the best-fitting model according to that parameter. We selected Model 5 as the best fitting model.

* χ^2 difference test results indicated the previous model was a worse fit to the data at $p < .05$.

would imply curvilinear mean-level changes in optimism. Finally, we estimated additional models where linear and quadratic growth parameters were modeled as random effects (i.e., their values were allowed to vary across participants). The presence of random effects in the best fitting model would imply significant individual differences in optimism development. Figure 1 shows the path diagram of the quadratic growth model.

As shown in Table 4, AIC model fit comparisons indicated that optimism development was best described by a quadratic model with individual differences in linear change. BIC model fit comparisons indicated that development was best described by a linear model with no individual differences in linear change. Chi-square difference tests using log-likelihood ratios and scaling correction factors indicated that development was best described by a quadratic model with individual differences

in both linear and quadratic change. Given the disagreement among these three fit measures, we decided on the best fitting developmental model by examining whether parameters were significant at the $p < .05$ level and visually inspecting the raw data.

Using these criteria, the best fitting model was the quadratic model with individual differences in both linear and quadratic change. As shown in Figure 2, the trajectory of optimism was best described by an inverted U-shaped trajectory (B for linear effect of age = .036, 95% CI [.016, .058], $p = .001$; B for quadratic effect of age = -.0007, 95% CI [-.0012, -.00005], $p = .035$). Specifically, optimism increased by half a standard deviation from age 26 until about age 55, when it plateaued and leveled off. From age 26–71, mean levels of optimism increased by a total of .35 SD s. Furthermore, there were significant individual differences in both linear ($B = .26$, 95% CI

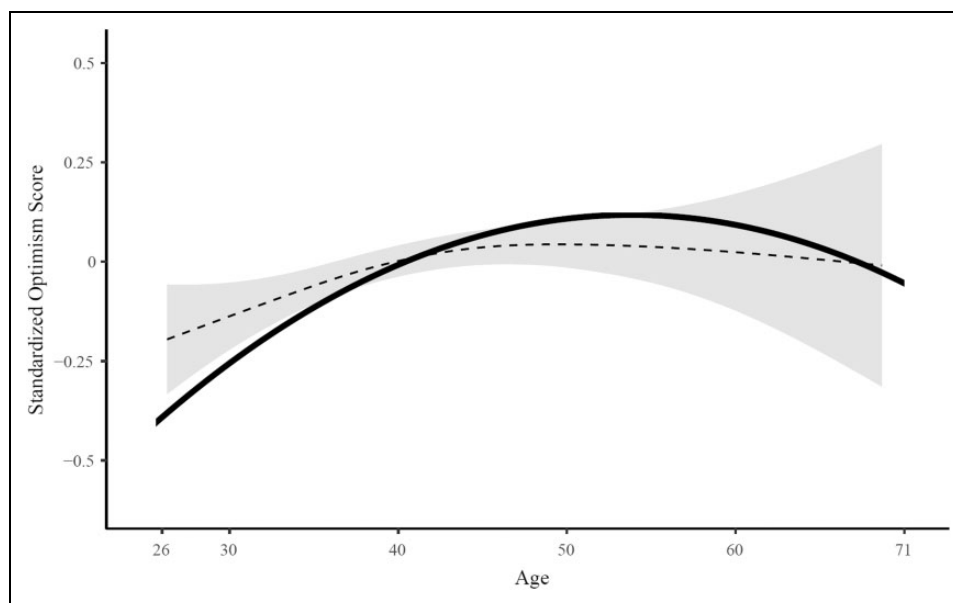


Figure 2. Optimism development across adulthood ($N = 1,169; 3,947$ responses). The solid line depicts the best fitting quadratic developmental model. The dashed line depicts the locally estimated scatterplot smoothing-smoothed population mean with a 95% confidence interval plotted in gray.

[.14, .40], $p < .001$) and quadratic development ($B = .0002$, 95% CI [.0001, .0002], $p < .001$).

Moderators of Optimism Development

We examined whether positive and negative life events were associated with individual differences in optimism development. To do this, we estimated an extension of the quadratic latent growth curve model in which we regressed the intercept, linear growth, and quadratic growth parameters on the positive life events covariate. We compared the fit of this model to the fit of the basic model with no covariate, following Orth, Robins, and Widaman (2012). Both AIC and BIC model fit improved when including positive life events as a covariate, which indicated that individual differences in optimism development were associated with the experience of positive life events. As shown in Figure 3, while positive life events were not significantly associated with any specific parameter ($ps \geq .104$), visual inspection of simple slopes results suggested that, across adulthood, people who experienced a greater number of positive life events tended to be more optimistic. (Because AIC and BIC assess the overall fit of a model rather than the fit of a specific parameter, the addition of a parameter to a model will sometimes improve model fit despite no associations with that parameter being significant at $p < .05$.)

We repeated this procedure to examine whether negative life events were associated with optimism development. We found that optimism development was unrelated to the experience of negative life events: Both AIC and BIC model fit worsened when including negative life events as a covariate, and negative life events were not significantly associated with any parameter estimate ($ps \geq .708$). This suggests that people who experienced a greater number of negative life events did *not*

differ systematically in their optimism trajectory from those who experienced few negative life events.

We then examined whether optimism development differed for men and women. Both AIC and BIC model fit decreased when gender was included as a covariate. Gender was not significantly associated with any parameter estimate ($ps \geq .483$). These results suggest that optimism development did not differ for men and women.

Finally, we examined whether optimism trajectories differed for participants born in Mexico versus the United States. Both AIC and BIC model fit improved when nativity was included as a covariate, and nativity status was significantly associated with the optimism intercept parameter ($B = -.50$, 95% CI [-.98, -.02], $p = .041$). As shown in Figure 3, the trajectory of optimism development for the 14% of participants who were born in the United States was different than the trajectory of the majority of the sample, who had immigrated from Mexico: Participants born in the United States exhibited a U-shaped developmental trajectory, with decreases in optimism from ages 26 to 40 but increases in optimism from ages 40 to 71. Participants born in Mexico exhibited an inverted U-shaped trajectory similar to the normative trajectory. To further explore the link between nativity and optimism, we examined whether optimism development was moderated by the number of years that Mexican-native participants had lived in the United States. Length of time spent in the United States was not significantly associated with any developmental parameter ($ps \geq .365$).

Discussion

In the present study, we examined the development of optimism across adulthood in a large sample of Mexican American

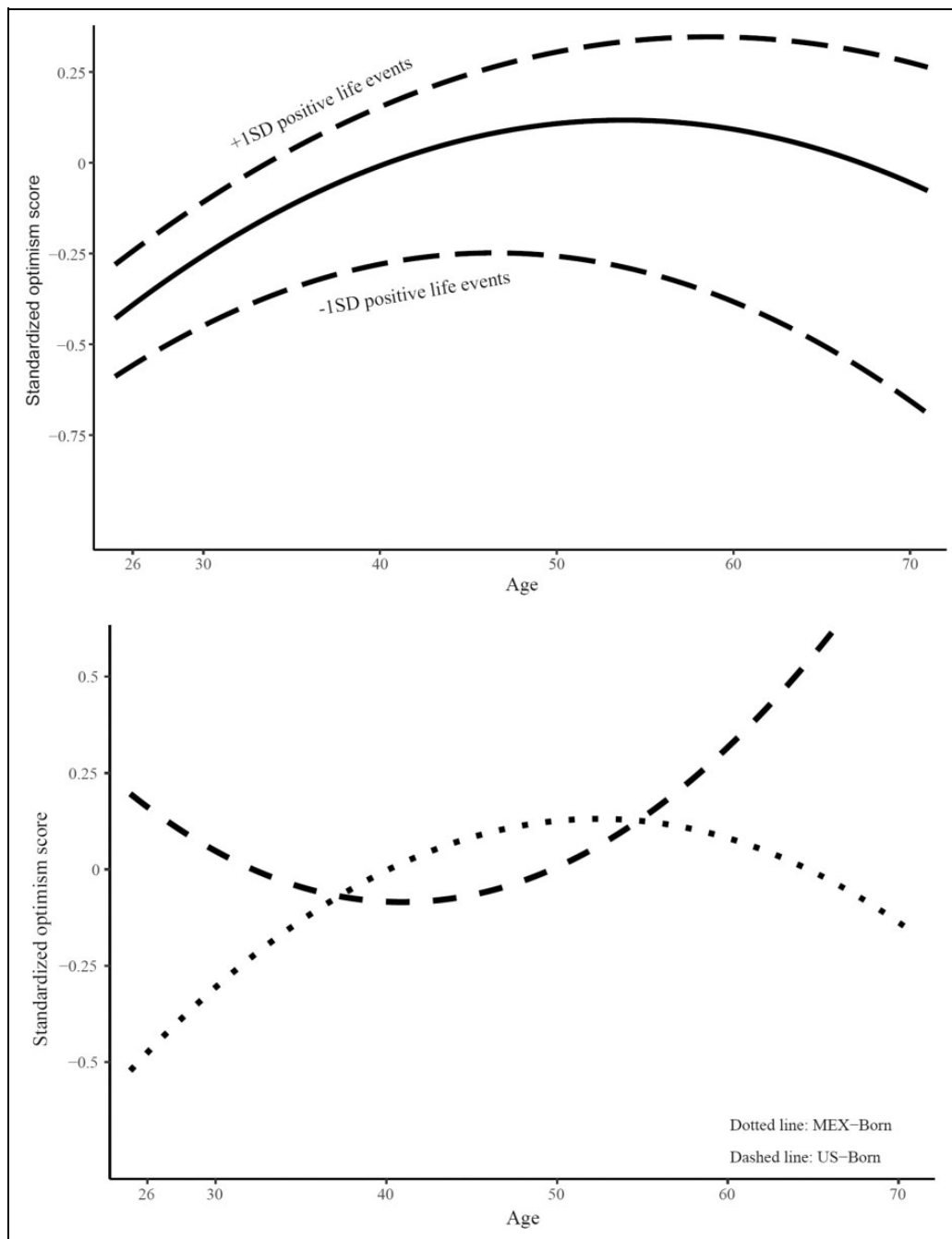


Figure 3. Moderators of optimism development: Positive life events and nativity status ($N = 1,169$; 3,947 responses).

parents. Optimism increased by half a standard deviation from ages 26 to 55 before plateauing at that age. We identified two moderators of this trajectory. Participants who experienced more positive life events developed differently in their optimism, and optimism development differed between participants born in the United States and Mexico. Negative life events and gender were not associated with optimism trajectories. We discuss the relevance of these results for our understanding of dispositional optimism as a dynamic personality trait that changes across the life span.

Life-Span Optimism Development

We found that the trajectory of optimism from ages 26 to 71 was characterized by normative age-graded increases, at a rate of about .15 *SD* per decade, before plateauing around age 55. These findings connect well with prior research by Chopik and colleagues (2015), who examined optimism across ages 50–95 and found normative increases until age 70 followed by normative decreases. Together, these findings suggest that the development of optimism across the adult life span follows an inverted U shape, with a peak in late midlife, similar to other

positive personality traits such as self-esteem (Orth & Robins, 2014) and satisfaction with life (Baird et al., 2010). In our sample, optimism peaked around age 55, while it peaked around age 70 in the sample examined by Chopik and colleagues (2015). Thus, the precise age at which optimism peaks may differ across samples, perhaps as a function of differential experiences across cultures and cohorts.

Overall, our findings cohere with theories of life-span development that posit normative increases in well-being and attainment of developmental goals across early and middle adulthood (Arnett, 2007; Deci & Ryan, 2000). The increases in optimism found in the present sample suggest that people increasingly look forward to their future as they navigate early adulthood.

Effects of Positive Live Events and Nativity on Optimism Development

To better understand the normative developmental trajectory of optimism across adulthood, we examined whether positive and negative life events were associated with optimism development. We found that those who experienced more positive life events, such as graduating from college, developing important romantic relationships, and receiving pay raises, followed different developmental trajectories across adulthood than their peers. People who have experienced more positive events in the past may have a rosier view of what is likely to happen in the future. Indeed, updating one's optimism according to previous positive interactions may serve an adaptive cybernetic function, allowing an organism to more accurately perceive affordances in its future environment (Carver & Scheier, 1982; DeYoung, 2015). Contrary to the events in *Candide*, however, negative events were not associated with optimism development—those who experienced negative events more frequently than their peers did not expect the future to be any better or worse.

Thus, the results of this study suggest that optimism development may be more strongly associated with positive experiences than negative ones, which, if true, would run counter to theories that state people are more sensitive to negative information than positive information (Baumeister, Bratlavsky, Finkenauer, & Vohs, 2001; Pratto & John, 1991; Tversky & Kahneman, 1991). This finding does not seem to be a statistical artifact—dispositional optimism was measured by equal numbers of positively keyed and negatively keyed items, and there was ample variance in both positive and negative event experiences. Nevertheless, we hesitate to speculate on the mechanisms underlying this finding prior to replication in other samples.

We also found, in this Mexican-American sample, that participants born in America tended to develop differently in their optimism than those who had immigrated from Mexico. These results suggest, broadly, that differences in culture, even among members of the same ethnic group, may lead to differences in optimism development. However, given the relatively small size of the nonimmigrant group (only 14% of respondents were

nonimmigrants), we refrain from further interpreting this finding until more evidence emerges.

Limitations and Future Directions

Although research on personality development has generally found that the *shape* of personality trait trajectories tends to be replicable across cultures (Bleidorn et al., 2013), the *magnitude* of these age-graded changes often differs from culture to culture. As such, one should take caution when generalizing the results of this study beyond Mexican Americans. However, because there is a dearth of research on personality development in Latinx populations, as well as in low-socioeconomic status populations (our sample has an average education level of ninth grade), we believe the present study makes a valuable contribution to our knowledge about personality development in non-WEIRD (Western, Industrialized, Educated, Rich, Democratic) populations (Henrich, Heine, & Norenzayan, 2010).

A second limitation of the present study is that, because we aggregated events by valence, we could not identify which particular positive experiences were most associated with the development of optimism. This was done by design to boost the statistical signal of our moderator analyses. However, some specific experiences, such as marriage, may be associated with optimism development (Abraham, 2007); this possibility can be investigated further in subsequent research.

Finally, our study was limited by the self-report nature of life events. Optimists may be more likely to interpret neutral life events as positive, and pessimists may be more likely to see neutral events as negative. If this is the case, optimists may have inflated counts of positive life events driven more by perception rather than reality, which would reflect a strong influence of attribution style on optimism development (Gillham, Shatte, Reivich, & Seligman, 2001). Although, in some respects, the valence of life events has definitional truth (i.e., if a person decides that an event negatively impacted him or her, that subjective evaluation becomes part of the truth of the event), future research that measures the valence of life events with respect to objective standards can provide an additional lens into optimism development.

As this is only the fourth study that we know of to examine the development of optimism, more research is needed to better understand the dynamic nature of this disposition. Indeed, results of this study and past research suggested that optimism is a malleable construct that not only influences a person's experiences but is also influenced by experiences such as aging and life events (Abraham, 2007; Chopik et al., 2015, 2018). We envision a productive program of research that focuses on both describing and explaining optimism development across the life span. That is, what is the normative life-span trajectory of optimism? Which mechanisms drive development? And which variables account for individual differences in development? We *look forward* to an investigation of these three research questions to advance our understanding of this consequential construct.

Declaration of Conflicting Interests

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