

Retrospective Recall of Sexual Orientation Identity Development Among Gay, Lesbian, and Bisexual Adults

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Although recent attention has focused on the likelihood that contemporary sexual minority youth (i.e., gay, lesbian, bisexual [GLB]) are “coming out” at younger ages, few studies have examined whether early sexual orientation identity development is also present in older GLB cohorts. We analyzed retrospective data on the timing of sexual orientation milestones in a sample of sexual minorities drawn from the California Quality of Life Surveys. Latent profile analysis of 1,260 GLB adults, ages 18–84 years, identified 3 trajectories of development: early ($n = 951$; milestones spanning ages 12–20), middle ($n = 239$; milestones spanning ages 18–31), and late ($n = 70$; milestones spanning ages 32–43). Motivated by previous research on variability in adolescent developmental trajectories, we identified 2 subgroups in post hoc analyses of the early profile group: child onset ($n = 284$; milestones spanning ages 8–18) and teen onset ($n = 667$; milestones spanning ages 14–22). Nearly all patterns of development were identity centered, with average age of self-identification as GLB preceding average age of first same-sex sexual activity. Overall, younger participants and the majority of older participants were classified to the early profile, suggesting that early development is common regardless of age cohort. The additional gender differences observed in the onset and pace of sexual orientation identity development warrant future research.

Keywords: gender, sexual orientation, life-course research, developmental milestones

As research on sexual orientation identity development continues to grow, much attention has focused on the possibility that contemporary sexual minority youth (i.e., gay, lesbian, bisexual [GLB]) are self-identifying as GLB and “coming out” at younger ages than previous generations of sexual minorities (Cianciotto & Cahill, 2003; Denizet-Lewis, 2009). Both trends, if true, have important social, psychological, and health implications. A secular trend toward early and identity-centered development could signify greater social acceptance of sexual

minorities. With greater perceived acceptance, sexual minority youth may be less likely to question or experience internal conflict regarding same-sex-oriented feelings and attractions. Limited empirical evidence suggests that identity-centered patterns of development are associated with less internalized homophobia and less risky sexual behavior than sex-centered patterns (in which sexual experience precedes self-identification; Dubé, 2000; Schindhelm & Hospers, 2004). However, development and disclosure of GLB identities in childhood or adolescence may increase lifetime exposure to discrimination and victimization, particularly from peers in school (Kosciw, Greytak, Diaz, & Bartkiewicz, 2010). Such experiences may lead to suboptimal developmental outcomes, including decrements in school performance, self-esteem, and physical and mental health (Bontempo & D’Augelli, 2002; Toomey, Ryan, Diaz, Card, & Russell, 2010).

A life-span and life-course perspective on these issues is often lacking because most studies on sexual orientation identity development focus on adolescent and young adult samples (e.g., Floyd & Stein, 2002; Rosario, Schrimshaw, Hunter, & Braun, 2006; Savin-Williams, & Diamond, 2000). It is therefore not clear whether early development actually represents a recent cohort effect. By definition, samples restricted to GLB adolescents and young adults consist of individuals who develop sexual minority identities early and come out at a young age. The current study explores variability in recalled sexual orientation identity development in a large, age-diverse (18–84 years) sample of sexual minorities drawn from the California Quality of Life Surveys (Cal-QOLs, Cochran & Mays, 2007), thus providing valuable information about early sexual orien-

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tation identity development among both older and younger GLB cohorts.

Variability in the Timing and Sequence of Sexual Orientation Milestones

Previous research on the development of sexual minority identities has commonly drawn from stage-sequential models, which propose that various milestones precede or follow from self-identification as GLB (Cass, 1996; Rotheram-Borus & Langabeer, 2001; Sophie, 1985–1986; Troiden, 1989). Although the stage-sequential models vary in their terminology and theoretical orientations, most models share the same general linear sequence of milestones (Cohen & Savin-Williams, 1996; Savin-Williams, 1995). Sexual minority identity development is thought to begin with an awareness of attraction to members of the same sex, typically in adolescence. Given the stigma associated with homosexuality, a period of confusion and sexual experimentation may ensue. Sexual experiences with same-sex partners are expected to precipitate the third milestone: self-identifying as GLB. The final milestone—coming out (i.e., disclosure of same-sex attraction, behavior, or sexual minority identity)—typically follows personal self-identification.

The concordance between early stage-sequential models and actual identity development is somewhat questionable. Emerging evidence indicates that some aspects of sexual orientation may be less stable than others (Diamond, 2008; Kinnish, Strassberg, & Turner, 2005), and that there is considerable variability in the timing and sequence in which sexual orientation milestones are experienced (Friedman, Marshal, Stall, Cheong, & Wright, 2008; Savin-Williams, 1998). For example, Floyd and Stein (2002) used cluster analysis to examine underlying developmental patterns in adolescents and young adults. They identified five patterns of development: one pattern in which milestones occurred early and participants came out in adolescence, two patterns in which attraction and self-identification occurred early (but with differences in levels of same-sex sexual experience and coming-out status), and two patterns characterized by experiencing milestones in adulthood (but differing according to level of GLB community involvement). Floyd and Stein's findings indicate that there may be considerable heterogeneity in the timing and sequence of milestones, with some evidence of very early developmental trajectories.

Researchers have also noted deviations from the theorized models, particularly for women and bisexuals. Savin-Williams and Diamond (2000) detected two patterns in their study of gender differences in sexual orientation identity development: a sex-centered group, which primarily consisted of male youth (51% of the boys, as opposed to 20% of the girls), and an identity-centered group (80% of the female participants and 49% of the male participants). Beyond gender differences in the sequence of milestones, girls also reported experiencing attraction, sexual contact, and self-identification 1–2 years later than boys. Other research has found that sexual minority female participants may be more likely to adopt bisexual identities, vacillate between identity labels, and experience both same- and other-sex (i.e., heterosexual) relationships (Diamond, 2007). The onset and sequence of milestones may also differ for bisexual individuals, given the inherent complexities in understanding and integrating attractions to both same-

and other-sex partners (Diamond, 2008; Rust, 2000). Indeed, experiencing other-sex attractions could delay the self-recognition of sexual minority identities because such attractions could be interpreted as evidence of a heterosexual identity. However, the increasing visibility of bisexuality as a stable identity label may increase the likelihood that contemporary bisexual youth identify as bisexual at younger ages (Rust, 2000).

Life-Span and Life-Course Perspectives on Sexual Orientation Identity Development

Life-span and life-course perspectives can further inform understanding of the variability in the timing and sequence of sexual orientation identity development. From a life-span perspective, the sequence of sexual orientation identity development may depend on maturation effects and the developmental stage in which identity development takes place (e.g., adolescence, adulthood, middle adulthood; Fuller-Iglesias, Smith, & Antonucci, 2010). To date, research on the development of sexuality has largely focused on the experiences of heterosexual adolescents. In this population, the emergence of sexual feelings and other-sex attractions generally occurs in late childhood or early adolescence, followed by the onset of dating and partnered sexual activities in middle to late adolescence (Diamond & Savin-Williams, 2009).

As a basic developmental milestone, the emergence of general sexual feelings and desire is unlikely to differ among sexual minority and heterosexual youth. Limited research also indicates that self-identified GLB youth may begin same-sex sexual activity around the same time that their heterosexual peers are engaging in other-sex sexual activity (ages 14–18 for girls and 13–15 for boys; Diamond, 1998; Herdt & Boxer, 1993; Rosario, Meyer-Bahlburg, et al., 1996). However, multiple factors can contribute to delays in other milestones for sexual minorities. For example, some sexual minority youth delay same-sex sexual activities and coming out until after they have entered college (Evans & D'Augelli, 1996; Sanlo, 2004). Such a trajectory of development could represent a conscious decision to delay sexual exploration and coming out until one is better able to avoid parental and peer rejection, the greater availability of sexual and relationship partners, and/or the emergence of novel same-sex attractions in young adulthood. It is also possible that delaying same-sex (and other-sex) sexual behavior until college results from maturation effects, given that expectations to attend college are associated with later onset of sexual behavior and romantic relationships in general (Halpern, Joyner, Udry, & Suchindran, 2000), and that approximately 40% of U.S. adolescents overall are virgins at the end of high school (Centers for Disease Control and Prevention, 2010). The presence of these multiple factors may pattern sexual orientation identity development differently for adolescent developers in comparison to adult developers, who experience sexual minority identity development later in life and likely under different circumstances (e.g., following other-sex sexual and romantic relationship experiences).

Studies have explored how identity development may differ at various points in the life span and whether such differences have health implications. Friedman et al. (2008) investigated the connections between timing of sexual milestones, early abuse and victimization, and adult health outcomes among a large sample of gay and bisexual men from the Urban Men's Health Study. The researchers identified three distinct developmental trajectories, all

characterized by sex-centered identity development. All groups experienced milestones in the same order (attraction, sex, self-identification, coming out), but the groups differed in the timing of each milestone. Members of the early trajectory were younger than participants in the other trajectory groups and reported experiencing attractions before age 10 and first disclosure prior to turning 18. Members of the middle trajectory tended to experience the milestones 2–3 years later than the early trajectory, and members of the late trajectory (the smallest group) experienced milestones 2–10 years later than the early trajectory (not coming out until their late 20s). Their results underscore the considerable diversity in timing of sexual orientation milestones. Further, Friedman et al. found that early development was associated with greater rates of victimization, depression, suicidality, and HIV risk.

From a life-course perspective, the onset and sequence of sexual orientation identity development may also be affected by the historical context in which development is experienced (Fuller-Iglesias et al., 2010). Because research on sexual orientation identity development often draws from age-restricted, younger samples, few studies to date have formally integrated a life-course perspective. Floyd and Bakeman's study (2006) of a large community sample of GLB adults in the southern United States (ranging in age from 18 to 74 years) is a notable exception. The authors assigned participants to one of four trajectory groups: younger participants who self-identified in adolescence, younger participants who self-identified in adulthood, older participants who self-identified in adolescence, and older participants who self-identified in adulthood. The authors also noted gender differences in development, and that participants who self-identified in adolescence reported earlier sexual attraction and sexual behavior than those who self-identified in adulthood. Adolescent identifiers were also more likely to display identity-centered developmental patterns. However, the authors found that more than 60% of the individuals who identified in adolescence were older participants, thus suggesting that earlier development is not a recent historical phenomenon. With regard to cohort effects, the only notable difference was that participants who came out in adolescence after 1988 (the sample's median calendar year of coming out) were more likely to disclose their identities to multiple individuals than were older participants who also came out in adolescence. These findings regarding disclosure provide evidence that social acceptance for sexual minorities may be increasing, but the results challenge the popular belief that early development is unique to contemporary youth.

Although Friedman et al.'s (2008) and Floyd and Bakeman's (2006) studies broke new ground by exploring maturation and cohort effects, they highlight at least two areas of further needed work. First, Floyd and Bakeman's method of dividing groups to examine cohort effects (i.e., splitting the sample according to the median calendar year of self-identification for the sample) is not anchored in sociologically relevant birth generations (e.g., baby boomers, Generations X and Y; Elder & Shanahan, 2006; Strauss & Howe, 1992). GLB history timelines (such as those produced by the Transgender Aging Network; Cook-Daniels, 2008) highlight the importance of incorporating life-course perspectives into sexual orientation identity research. In the United States, it is conceivable that the sexual orientation identity development of baby boomers (those born shortly after World War II) may have been delayed by social norms during childhood that strictly enforced

traditional gender roles. By contrast, the less traditional context of Generation X individuals (those born in the 1970s) may have been more accepting of homosexuality, given the rise in GLB civil rights movements and the removal of homosexuality from the American Psychiatric Association's *Diagnostic and Statistical Manual of Mental Disorders*. Yet, Generation X individuals also entered adolescence during the start of the HIV/AIDS epidemic; public sentiment regarding the links between the disease and homosexuality may have had detrimental effects on sexual minority identity development. Contemporary youth (i.e., Generation Y—those born in the 1980s and early 1990s) are developing in a current context of unprecedented attention to promoting GLB civil rights (e.g., same-sex marriage, antibullying policies to protect sexual minority youth in schools). Analyzing data with these sociologically relevant cohort structures in mind is likely to contribute to a deeper understanding of how cohort membership might influence sexual orientation identity development.

Second, research on sexual orientation identity development may also benefit from the use of different sampling methods and more sophisticated pattern-centered analysis techniques. Friedman et al.'s (2008) study defined trajectory groups using latent profile analysis (LPA), which is a superior technique for investigating hidden patterns in the onset and sequencing of developmental processes (B. Muthén & Muthén, 2000), but the study focused only on men and excluded participants older than 40 years of age. This precludes the possibility of taking into account potential gender effects or detecting further diversity in patterns of development within older age cohorts. Finally, as with the majority of research on sexual minority populations, both studies above depended on data obtained from participants recruited via sampling methods that are confounded with participation in the gay community. It is possible that individuals who are involved in sexual minority community events may differ from other GLB persons in ways that are related to their identity development. Examining identity development among sexual minorities recruited via alternative methods, such as population-based study designs, facilitates the ability to determine the generalizability of findings derived from convenience samples. Alternative methods such as the utilization of population-based sampling are a potential path to new insights about representative developmental trajectories in sexual minority populations.

The Current Study

This study is designed to investigate patterns of development by pursuing three aims. First, we examine four key milestones—attraction, self-identification, same-sex sexual experience, and coming out—and employ LPA to explore patterns of sexual orientation identity development in an age-diverse sample of male and female sexual minorities. On the basis of Friedman et al.'s (2008) results with LPA methodology, we anticipate detecting at least three trajectories of sexual orientation development characterized by development in childhood/adolescence, late adolescence/early adulthood, and adulthood. Also, in line with previous research on youth samples, we expect that earlier developmental trajectories may be more likely to exhibit identity-centered developmental patterns.

The second aim of the study is to compare the demographic and behavioral characteristics of the different trajectory groups. Be-

cause previous research has highlighted important gender and sexual orientation differences in sexual minority identity development, we expect that female participants and bisexuals will exhibit later developmental patterns than male participants and those who identify as gay or lesbian. It is also likely that exploring heterosexual sexual and romantic behavior may contribute to delays in the onset or timing of sexual minority developmental milestones. Controlling for age, we hypothesize that participants who engage in heterosexual sexual intercourse in adulthood, or who have been married to a other-sex partner in the past (i.e., heterosexual marriage), will be more likely to be classified into older trajectory groups. Additionally, on the basis of research indicating that some sexual minority individuals wait to come out until their college years, and the associations between expectations to attend college and later onset of sexual behavior overall, we expect that college attendance will be linked to later developmental trajectories.

The third aim of the study is to examine age and cohort differences in sexual orientation identity development. By examining the identity development of both younger and older adults, this study will provide additional information about whether earlier development is unique to contemporary sexual minority youth. Although participants from younger generations cannot be classified into older developmental groups due to their current age, in keeping with Floyd and Bakeman's (2006) findings, we expect that significant portions of participants from older generation cohorts will be represented in the earlier developmental groups.

Method

Participants and Procedure

Data were drawn from the Cal-QOLs I and II (Cochran & Mays, 2007), unique samples created by double-sampling from the population-based 2003 and 2007 California Health Interview Surveys (CHIS). The CHIS are multistage, random digit dial telephone interviews of California adults, age 18 and older, selected irrespective of their sexual orientation (2003 CHIS, $N = 42,004$; 2007 CHIS, $N = 40,154$). During the course of the computer-assisted telephone interview, respondents provided information about their sexual orientation identity, recent sexual history, and willingness to be recontacted for similar health surveys in the future. From this CHIS pool, all who indicated a GLB identity or any same-sex sexual partners in the year prior to the interview (Cal-QOL I, $n = 1,193$; Cal-QOL II, $n = 1,390$) and a representative heterosexual comparison sample were deemed eligible for participation in the Cal-QOL surveys. The Cal-QOL I successfully interviewed 2,386 respondents drawn from the 2003 CHIS, and the Cal-QOL II interviewed 2,815 respondents from the 2007 CHIS. The Cal-QOLs then reassessed sexual orientation more extensively to ensure accurate classification of individuals. Because the Cal-QOLs included a more extensive assessment of same-sex sexual experiences than the CHIS, we also included for possible consideration 105 persons as potential eligibles for the study who were sampled as presumptive heterosexuals from the CHIS but on Cal-QOL reinterview reported at least one marker of minority sexual orientation, most commonly a positive lifetime history of same-sex partners. In total, 639 and 868 sexual minority partici-

pants, respectively, were successfully reinterviewed between 6 and 18 months after their participation in the CHIS.¹

For the current study, data were included from self-identified GLB individuals with substantially complete information for all four sexual orientation milestones measured in Cal-QOL ($N = 1,260$; 84% of 1,507). Most participants provided exact ages for all four milestones (82.7%; $n = 1,042$), although 5.4% ($n = 68$) indicated that they experienced one or more milestones but could not provide an exact age (i.e., responding "don't remember" or "all my life"), and 12.2% ($n = 154$) were missing data on one or more milestones but provided responses in other survey questions that sufficiently implied that they had completed the milestone (e.g., a participant who had missing data for the first same-sex sexual experience milestone, but in other responses indicated having had sex with members of the same sex). For those who responded "all my life" to a particular milestone variable, we substituted the minimum valid age from other participants for that milestone. For participants who could not remember when they experienced a milestone (or who did not provide a valid age but did experience a milestone), we used full-information maximum likelihood estimation techniques in Mplus to estimate a response. We did not include participants who had missing data on all four milestones ($n = 8$), or who did not currently self-identify as GLB and were missing an age for first self-identification as GLB ($n = 239$). Of the 239 who did not currently self-identify as GLB and were missing the self-identification milestone, 134 reported a lifetime history of same-sex partners but avowed a current heterosexual identity, including 78 persons who had been sampled for the Cal-QOL as presumptive heterosexuals. Analyses indicate that there were no significant differences on demographics and available milestone data between those with any imputed or substituted values ($n = 218$) and those who provided concrete ages for all four milestones ($n = 1,042$). However, chi-square analyses indicated that there were significantly fewer racial/ethnic minorities and significantly more college-educated participants in the analysis sample ($N = 1,260$; 17.1% non-White, 62.5% with college degrees) than in the excluded (majority heterosexual) subgroup ($N = 247$; 25.1% non-White, 44% with college degrees; $ps < .001$).

The analysis sample consisted of 674 men and 586 women ($M_{\text{age}} = 49.31$ years, $SD = 12.25$; range: 18–84). Eighty-three percent of the participants were White, 8% Hispanic, 5% Black, and 3% Asian or Pacific Islander. Due to the small numbers of racial/ethnic minorities, it was not possible to conduct separate analyses for these groups. Approximately 27% of the participants self-identified as bisexual, and 73% self-identified as lesbian or gay. The majority of participants (92%) currently resided in urban settings (as determined by census guidelines). Nearly two thirds of the participants possessed college degrees. The original Cal-QOL data sets were weighted to the California population. However, due to the selective exclusion of participants from the original sample, all analyses were conducted without sample weights.

Measures

Milestones. Participants responded to four questions concerning sexual orientation identity development: (a) age of first same-

¹ A thorough account of CHIS design and sampling can be found online (<http://www.chis.ucla.edu/design.html>).

sex sexual attraction; (b) age of first self-identification as lesbian, gay, bisexual, or homosexual; (c) age of first same-sex sexual experience (defined as vaginal sex, oral sex, anal sex, or any other form of sex); and (d) age of first disclosure (i.e., coming out) regarding either sexual minority identity or same-sex sexual activity. Milestone variables were examined for normality and found to be within acceptable ranges for latent variable modeling techniques (Kline, 1998). Descriptive statistics for milestone variables are presented for the overall sample and by gender in Table 1.

Cohort effects. Cohort effects were assessed in two ways. First, we considered the effects of current age as a continuous variable. Second, we examined the effect of cohort generation on latent profile membership. Drawing from U.S. sociological and demographic literature (Cook-Daniels, 2008; Strauss & Howe, 1992), we classified participants as Generation Y (born in 1980–1990), Generation X (1965–1979), baby boomers (1946–1964), and the Greatest Generation (1900–1945). To avoid issues regarding multicollinearity, current age was used as a correlate in regression models to compare the different development groups, and generation status was used as a descriptive variable to further evaluate the proportion of participants within each group who may have experienced development during different historical contexts.

Adult heterosexual relationship and sexual experience. Consistent with the life-course perspective that older cohorts of sexual minorities may have been more likely to attempt or to

engage in heterosexual romantic and sexual relationships prior to developing, acknowledging, or accepting their sexual minority identities, we examined three correlates that serve as proxy measures for adult heterosexual relationship and sexual experience: current or past heterosexual marital status (0 = no, 1 = yes), engaged in any heterosexual sex since age 18 (0 = no, 1 = yes), and engaged in heterosexual sex in the past year (0 = no, 1 = yes).

Analysis

The first set of analyses aimed to identify developmental trajectory subgroups within the sample. Subgroups were estimated with LPA in Mplus (Version 5.21; Muthén & Muthén, Los Angeles, CA) with the four milestone variables as indicators. LPA is a pattern-centered approach that uses a probabilistic grouping procedure to sort participants into groups of individuals who are similar to one another and different from those in other groups (B. Muthén & Muthén, 2000; Pastor, Barron, Miller, & Davis, 2007; Vermunt & Magidson, 2002). LPA assigns probability scores to participants for being in each group and a categorical class code indicating their most-likely group membership. This class code is used as an indicator of developmental profile membership. LPA provides fit indices to help evaluate the fit of different solutions to the data, including Akaike and Bayesian information criteria, the Lo–Mendell–Rubin fit index, and the bootstrap likelihood ratio

Table 1
Demographics, Generation Status, and Descriptive Statistics of Gay Men, Lesbians, and Bisexuals in California Quality of Life Surveys I and II

Variable	Sample (N = 1,260)				Men (n = 674)				Women (n = 586)			
	M	SD	%	n	M	SD	%	n	M	SD	%	n
Age (years)	49.31	12.25			50.62	12.34			47.81	11.99		
Generation status												
Generation Y			6.9	87			5.6	38			8.4	49
Generation X			14.0	176			11.7	79			16.6	97
Baby boomers			58.8	741			57.9	390			59.9	351
Greatest Generation			20.3	256			24.8	167			15.2	89
Sexual orientation												
Bisexual			27.0	340			14.7	99			41.1	241
Gay/lesbian			73.0	920			85.3	575			58.9	345
Ethnicity												
Hispanic			8.2	103			10.1	68			6.0	35
White			82.9	1,044			81.9	552			84.0	492
Black			4.7	59			3.6	24			6.0	35
Asian/Pacific Islander			2.8	35			3.4	23			2.0	12
Native American			1.5	19			1.0	7			2.0	12
Marital status												
Married			10.0	126			5.9	40			14.7	86
Cohabiting			30.6	386			26.9	181			35.0	205
Widowed			1.7	22			1.6	11			1.9	11
Divorced			10.5	132			7.1	48			14.3	84
Separated			2.1	27			1.2	8			3.2	19
No relationship			45.0	567			57.3	386			30.9	181
College degree			62.5	788			63.1	425			61.9	363
Heterosexual sex												
Since age 18			72.9	919			61.7	416			85.8	503
In past year			16.0	201			7.9	53			25.3	148
Milestones												
Attraction	14.80	7.54			12.76	6.05			17.16	8.36		
Self-identification	19.67	7.70			17.76	6.54			21.99	8.34		
Sex experience	20.55	7.57			18.46	6.59			23.02	7.91		
Coming out	23.88	8.26			22.96	7.84			24.93	8.61		

test. Lower Akaike and Bayesian information criteria values and significant Lo–Mendell–Rubin and bootstrap likelihood ratio test values are indicative of better model fit (Henson, Reise, & Kim, 2007; Lo, Mendell, & Rubin, 2001; McLachlan & Peel, 2000; Nylund, Asparouhov, & Muthén, 2007; Yang, 2006). However, because previous research cautions against the use of goodness-of-fit indices alone to determine the appropriate number of profiles (Marsh, Lüdtke, Trautwein, & Morin, 2009; Nylund et al., 2007), final decisions as to numbers of relevant profiles also considered parsimony, relevance, and previous theoretical and empirical literature. To examine differences between the developmental profiles, we used the final categorical class codes and multinomial logistic regression in Mplus.²

Results

Milestone Profiles

To determine the optimal solution, we estimated two- to five-profile solutions, comparing the fit indices and the interpretability of the N and $N - 1$ profile solutions. We also increased the number of random sets of starting values to 1,000, the number of iterations to 20, and the number of final-stage optimizations to 100 in order to address the potential problem of local maxima (L. Muthén & Muthén, 2008). Fit indices for the estimated models are displayed in Table 2. From these, we determined that the three-profile solution was optimal because of the better distribution of participants across classes, the interpretability of the solution, and acceptable fit indices. We further examined the stability of this solution by increasing the number of random starts to 5,000, the number of iterations to 100, and the number of final-stage optimizations to 500. The solution and fit indices were replicated.

The three patterns identified through LPA and the average ages at which participants achieved each sexual orientation milestone are illustrated in Figure 1. The three groups exhibited substantially different developmental patterns. The largest group (early profile, $n = 951$) displayed first attraction at an average age of 12.52 years, first self-identification at 16.63 years, first same-sex sexual experience at 17.78 years, and coming out at 20.44 years. The second largest group (middle profile, $n = 239$) reported first attraction later in adolescence (18.38 years), experienced first self-identification and first same-sex sexual experience in their 20s (25.69 and 26.40, respectively), and came out in their early 30s (31.20 years). Finally, the smallest group (late profile, $n = 70$) reported attraction at an average age of 32.74 years, had their first same-sex sexual experiences at age 37.65, self-identified at age 40.14 (after, on average, their first same-sex sexual experience), and came out at age 43.18.

Gender and Bisexuality Differences

We hypothesized that gender and bisexuality would be associated with overall timing of milestones, with female participants and bisexuals reporting later sexual orientation milestones than male and gay/lesbian participants, respectively. As hypothesized, female participants comprised a greater percentage of the middle and late profiles, and male participants comprised a

greater percentage of the early profile (see Table 3). Consistent with the bisexuality hypothesis, within-profile counts indicate that bisexuals comprised a larger percentage in the middle and late profile individuals in comparison to those allocated to the early profile. To further examine the hypothesis that female participants experience milestones later than male participants, we conducted analyses of variance controlling for current age comparing male and female participants' average ages for each milestone within each profile (see Table 4). Within the early profile, female participants experienced attraction, self-identification, and first same-sex sexual experiences significantly later than male participants. However, female participants in the early profile did not differ from male participants in their age of coming out. Interestingly, female participants in the middle profile reported coming out, on average, 3 years earlier than male participants. Female participants in the late profile reported coming out over 5 years earlier than male participants. Additionally, although female participants in the middle profile experienced first attraction significantly later than male participants, they did not differ from male participants on their average age of self-identification and first sexual experience. Within the late profile, female participants did not differ from male participants on timing of first attraction or self-identification, but experienced first same-sex sexual experience significantly later than male participants. Overall, the results provide partial support for the hypothesis that women experience milestones later than men. However, there is also evidence that among participants who come out later in life, women may come out earlier than men.³

To test the hypothesis that bisexual participants experience milestones later than gay and lesbian participants, we conducted additional analyses of variance (see Table 4) controlling for age and gender that compared age of milestones among bisexual and gay/lesbian participants within each profile. Although bisexual participants were younger overall ($M_{\text{bisexual}} = 45.33$ years, $SD = 13.53$; $M_{\text{gay/lesbian}} = 50.79$ years, $SD = 11.04$), $t(1258) = 5.46$, $p < .001$, those in the early profile experienced attraction, self-identification, and coming out approximately 1 year later than gay and lesbian participants. Bisexual middle profilers reported experiencing same-sex attractions approximately 2 years later than gay and lesbian middle profilers. Bisexual late profilers did not differ on same-sex attraction, first sex, or coming out, but reported self-identifying approximately 3 years later than gay and lesbian late profilers. In sum, although there were some statistically significant timing differences according to sexual orientation, the sequence of milestones appeared to be similar for bisexual and gay/lesbian participants.

² A conservative Box–Tidwell test detected potential nonlinearity in the association between age and log odds of profile membership. We followed the recommendations of Menard (2002) and investigated whether adding quadratic and cubic age terms improved model fit. The quadratic and cubic age terms were not significant, nor did they improve the fit of the model; thus we ran the models with age modeled as a linear covariate.

³ Chi-square analyses indicated that female participants were more likely than male participants to report a bisexual sexual orientation, $\chi^2(1, 1260) = 111.02$, $p < .001$. The results presented in Table 4 were virtually identical after controlling for both age and bisexual orientation.

Table 2

Fit Indices for Latent Profile Analyses on Sexual Orientation Milestones for Gay Men, Lesbians, and Bisexuals in the California Quality of Life Surveys I and II

Profile	No. free parameters	Log-likelihood	AIC	BIC	BIC (<i>N</i> -adj)	LMRIBLRT <i>p</i>	No. classes with <i>n</i> < 5% study sample
Main analysis (<i>N</i> = 1,260)							
2	13	-15865.97	31757.95	31824.75	31783.46	.001.00	0
3	18	-15622.72	31281.44	31373.94	31316.77	.001.00	0
4	23	-15499.11	31044.22	31162.41	31089.36	.081.00	1
5	28	-15385.97	30827.94	30971.83	30882.88	.451.00	2
Subanalysis on early profilers (<i>N</i> = 951)							
2	13	-10493.29	21012.57	21075.72	21034.43	.001.00	0
3	18	-10380.10	20796.20	20883.63	20826.47	.031.00	1
4	23	-10329.28	20704.55	20816.27	20743.23	.021.00	2
5	28	-10278.86	20613.72	20749.73	20660.80	.111.00	1

Note. Final solutions are in bold. AIC = Akaike information criterion; BIC = Bayesian information criterion; *N*-adj = sample size adjusted; LMR = Lo-Mendell-Rubin; BLRT = bootstrap likelihood ratio test.

Describing the Profiles

An examination of sociodemographic characteristics of profiles indicated fewer ethnic minority participants in the late profile compared with the early and middle profiles. More participants in the middle and late profiles reported a current or past heterosexual marriage than participants in the early profile. The middle and late profiles also included a higher percentage of college graduates compared with early profiles. Although younger participants were restricted to classification in the early and middle profiles (i.e., nearly all participants from Generation Y were classified in the early profile, and no Generation X and Y participants were in the late profile), 83% of Generation X participants, 76% of the baby boomers, and 60% of the Greatest Generation participants were classified as early profilers. Further, although baby boomers comprised approximately 60% of the middle and 40% of the late

profile groups, only 20% and 4%, respectively, of the total baby boomers were classified in the middle and late profiles. Similarly, although 57% of the late profile consisted of Greatest Generation participants, only 16% of this cohort was categorized as late profilers.

Secondary LPA on the Early Profile

In all, over 75% of study participants were classified as early profilers. To further explore this early developing subset, we next restricted the sample to early profilers and again conducted an LPA analysis. In this subanalysis, we tested the a posteriori hypothesis that there may be two or more subgroups within the early profile. We estimated two- to five-profile solutions, comparing fit indices and the interpretability of the *N* and *N* - 1 solutions to determine the best solution. For reasons of parsimony and size, the two-profile solution provided the best fit for the data (see Table 2).

The average ages at which individuals in the two early groups achieved each sexual orientation milestone are presented in Figure 2. The child-onset group (*n* = 284) experienced first attractions at age 8.10, first self-identified at age 12.37, first experienced same-sex sexual activity at age 14.94, and came out at age 17.99. Comparable figures for the teen-onset group (*n* = 667) are 14.51 (attraction), 18.51 (self-identification), 18.95 (sex), and 21.56 (coming out). Notably, the child-onset group experienced all four milestones during adolescence. By contrast, the teen-onset group experienced attraction in early adolescence but experienced the other three milestones in late adolescence and early adulthood.

Gender differences were also examined within these two subprofiles. Male participants comprised 73% of the child-onset group and 55% of the teen-onset group. However, comparison of male and female age at each milestone within profiles and controlling for current age (see Table 4) did not reveal consistent gender differences. Specifically, within the child-onset profile, female participants experienced first same-sex sexual experience significantly later than male participants but came out significantly earlier. Within the teen-onset profile, female

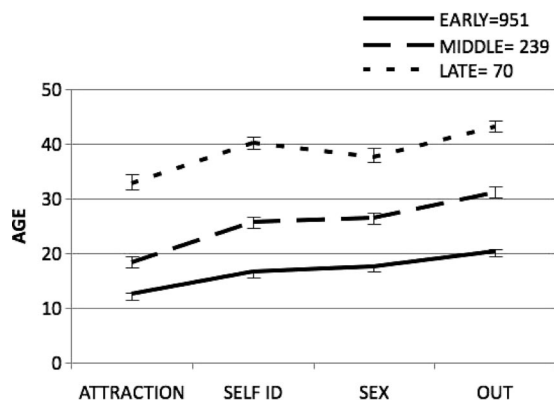


Figure 1. Results of latent profile analyses of sexual orientation milestones from gay men, lesbians, and bisexuals in the California Quality of Life Surveys I and II. Error bars indicate standard errors. Attraction = age of first attraction to member of same sex; self ID = age of first self-recognition of gay, lesbian, bisexual, or nonheterosexual identity; sex = age of first same-sex sexual experience; out = age for first disclosure of gay, lesbian, bisexual, or nonheterosexual identity, same-sex attraction, or same-sex sexual experience.

Table 3

Demographic Characteristics of the Latent Profiles of Gay Men, Lesbians, and Bisexuals in the California Quality of Life Surveys I and II

Variable	Early (<i>n</i> = 951)				Middle (<i>n</i> = 239)				Late (<i>n</i> = 70)			
	<i>M</i>	<i>SD</i>	%	<i>n</i>	<i>M</i>	<i>SD</i>	%	<i>n</i>	<i>M</i>	<i>SD</i>	%	<i>n</i>
Age (years)	47.66	12.40			52.66	10.13			60.34	8.29		
Age range	18–80				28–82				42–84			
Generation status												
Generation Y			9.0	86			0.4	1			0	0
Generation X			15.4	146			12.6	30			0	0
Baby boomers			59.5	566			60.7	145			42.9	30
Greatest Generation			16.1	153			26.4	63			57.1	40
Gender												
Male			60.7	577			33.5	80			24.3	17
Female			39.3	374			66.5	159			75.7	53
Sexual orientation												
Bisexual			24.7	235			31.8	76			41.4	29
Gay/lesbian			75.3	716			68.2	163			58.6	41
Ethnic minority			17.9	171			16.3	39			8.6	6
Current/past heterosexual marriage			19.4	184			37.1	89			48.7	34
College degree			58.8	559			74.9	179			71.4	50
Heterosexual sex												
Since age 18			67.8	645			87.9	210			91.4	64
In past year			15.7	149			17.2	41			15.7	11

participants experienced attraction, self-identification, and sex significantly later than male participants but came out approximately 1 year earlier than male participants. Bisexual-related comparisons of the two profiles revealed that bisexual participants were more likely to be represented in the teen-onset as opposed to child-onset profile (see Table 5). Examination of sexual orientation subgroup differences in the timing of milestones within the child- and teen-onset profiles (see Table 4) indicated that teen-onset bisexual participants experienced first same-sex attractions approximately 1 year later than gay/lesbian participants, but there were no other statistically significant differences.

Comparing Profiles and Testing for Gender, Bisexuality, and Age Effects

We next investigated whether there were differences in profile membership based on age, gender, bisexuality, adult heterosexual sexual experience, or college education. Analyses focused first on comparing the three profiles from the main LPA analysis (see Table 6). Participants in the middle and late profiles were likely to be older than those in the early profile; however, given the impossibility of the youngest participants being classified into the middle or late profiles, we do not consider this evidence of significant age effects in timing of developmental milestones. Female participants compared with male participants had 3 times greater odds of being in the middle profile than the early profile ($OR = 3.29$, 95% CI [2.34, 4.62]), and the odds of female participants being allocated to the late profile were over 7 times greater ($OR = 7.61$, 95% CI [3.87, 14.97]). Thus, although the within-profile comparisons suggest that female participants in the middle and late profiles come out earlier than male participants, between-profile com-

parisons indicate that female participants have a greater likelihood of being in the later trajectory groups.

Contrary to our hypotheses, bisexual sexual orientation did not predict profile membership. However, in comparison to respondents with no current or past history of heterosexual marriage, participants with current or past heterosexual marital experience had 60% greater odds of being classified in the middle profile rather than the early profile ($OR = 1.62$, 95% CI [1.10, 2.41]), and nearly three times greater odds for being in the late profile than the early profile ($OR = 2.76$, 95% CI [1.46, 5.20]). Because age was included in the model, such results indicate that the effect of past heterosexual marital experience is independent of participants' current age. Similarly, participants who reported a heterosexual sexual experience since the age of 18 versus those who did not had over 2 times greater odds of being in the middle profile versus early profile group ($OR = 2.42$, 95% CI [1.55, 3.78]). Among participants who reported receiving a college degree, the odds of being in the middle profile compared with the early profile was over 2 times as large as the odds for those without a college degree ($OR = 2.10$, 95% CI [1.50, 2.95]), providing partial support for the hypothesis that college experience is related to later onset of sexual minority milestones.

Age, gender, and other demographic and behavioral correlates also distinguish the teen-onset profile from the child-onset profile (see Table 7). Given that the child- and teen-onset groups consist of participants from all generations, we considered age a valid potential predictor of profile membership between the two subtypes. Results suggest that age is not a significant predictor of teen-onset versus child-onset profile membership. However, for female participants, the odds of being classified in the teen-onset profile versus the child-onset profile were almost 2 times greater than the odds for male participants ($OR = 1.97$, 95% CI [1.42, 2.73]). In comparison to

Table 4

Mean Gender and Sexual Orientation Differences on Age of Milestones for the Main Latent Profile Analysis and the Subanalysis in the California Quality of Life Surveys I and II

Variable	Attraction		Self-ID		Sex		Out	
	<i>M</i>	<i>SE</i>	<i>M</i>	<i>SE</i>	<i>M</i>	<i>SE</i>	<i>M</i>	<i>SE</i>
Main analysis (<i>N</i> = 1,260)								
Early profilers								
Male (<i>n</i> = 577)	11.67	4.75	16.12	4.54	17.05	4.79	20.76	4.68
Female (<i>n</i> = 374)	13.84	4.86	17.50	4.02	18.77	3.66	20.04	4.02
<i>F(df)</i>	43.55(1, 946)***		24.06(1, 872)***		29.70(1, 888)***		1.35(1, 930)	
Bisexual (<i>n</i> = 235)	13.50	0.33	17.29	0.34	17.88	0.33	21.02	0.30
Gay/lesbian (<i>n</i> = 716)	12.21	0.18	16.47	0.17	17.66	0.17	20.29	0.17
<i>F(df)</i>	11.03(1, 945)**		4.48(1, 871)*		0.34(1, 887)		4.39(1, 929)*	
Middle profilers								
Male (<i>n</i> = 80)	17.11	6.84	25.72	6.50	25.72	7.22	33.81	7.77
Female (<i>n</i> = 159)	19.46	6.34	26.40	5.30	27.35	5.76	30.75	6.22
<i>F(df)</i>	5.19(1, 234)*		0.42(1, 218)		3.07(1, 224)		5.20(1, 232)*	
Bisexual (<i>n</i> = 76)	20.02	0.76	25.41	0.75	27.17	0.78	32.80	0.74
Gay/lesbian (<i>n</i> = 163)	18.05	0.51	26.46	0.46	26.67	0.51	31.27	0.50
<i>F(df)</i>	4.48(1, 233)*		1.38(1, 217)		0.28(1, 223)		2.81(1, 231)	
Late profilers								
Male (<i>n</i> = 17)	29.12	8.61	37.93	6.24	33.44	13.45	47.24	10.13
Female (<i>n</i> = 53)	34.02	10.69	40.95	5.70	39.08	7.47	41.85	5.76
<i>F(df)</i>	1.98(1, 66)		3.63(1, 56)		5.82(1, 62)*		4.38(1, 66)*	
Bisexual (<i>n</i> = 29)	34.02	1.99	42.28	1.25	37.94	1.85	43.84	1.28
Gay/lesbian (<i>n</i> = 41)	31.99	1.63	38.94	0.95	37.53	1.50	42.69	1.08
<i>F(df)</i>	1.39(1, 65)		4.36(1, 55)*		0.03(1, 61)		0.45(1, 65)	
Subanalysis on early profilers (<i>N</i> = 951)								
Child onset								
Male (<i>n</i> = 207)	7.58	3.34	11.89	3.76	14.32	4.48	18.23	4.36
Female (<i>n</i> = 77)	8.29	3.51	12.29	3.52	15.68	2.86	16.37	2.99
<i>F(df)</i>	1.28(1, 281)		0.47(1, 256)		3.97(1, 263)*		8.20(1, 272)**	
Bisexual (<i>n</i> = 48)	8.06	0.52	12.64	0.70	13.93	0.70	17.41	0.63
Gay/lesbian (<i>n</i> = 236)	7.72	0.22	11.90	0.25	14.80	0.28	17.79	0.27
<i>F(df)</i>	0.34(1, 280)		0.93(1, 255)		1.30(1, 262)		0.30(1, 271)	
Teen onset								
Male (<i>n</i> = 370)	13.96	3.79	18.37	3.09	18.57	4.26	22.14	4.26
Female (<i>n</i> = 297)	15.29	4.06	18.90	2.82	19.55	3.42	20.97	3.70
<i>F(df)</i>	16.05(1, 662)***		6.48(1, 613)*		8.30(1, 622)**		6.43(1, 655)*	
Bisexual (<i>n</i> = 187)	15.13	0.30	18.45	0.25	19.01	0.33	22.05	0.30
Gay/lesbian (<i>n</i> = 480)	14.33	0.18	18.65	0.14	18.99	0.18	21.45	0.18
<i>F(df)</i>	4.82(1, 661)*		0.44(1, 612)		0.00(1, 621)		2.81(1, 654)	

Note. Analyses of gender differences control for age. Analyses for sexual orientation differences control for age and gender.

* $p < .05$. ** $p < .01$. *** $p < .001$.

gay/lesbian participants, bisexual participants had nearly twice the odds of being in the teen-onset profile ($OR = 1.90$, 95% CI [1.11, 3.26]). Finally, participants with college degrees had 65% greater odds of being in the teen-onset profile compared with those without a college degree ($OR = 1.65$, 95% CI [1.23, 2.21]).

Discussion

This study provides a unique, retrospective examination of the life-span and life-course characteristics of sexual orientation identity development among a general population of sexual minority men and women living in the United States, specifically California. We found that the overwhelming majority of participants—including those from the Greatest Generation and baby boomers—report early development, suggesting that there may be life-course consistency across cohorts. We also found

evidence of maturation effects in that the two largest profiles in the study (early and middle) were characterized by identity-centered patterns of development. Additional results support previous research on gender and sexual orientation differences in sexual minority identity development (e.g., Savin-Williams & Diamond, 2000); however, within-profile gender comparisons offer intriguing evidence regarding differences in the pace of development within each profile.

Maturation and Cohort Effects

Limited research has found that identity-centered development is associated with less internalized homophobia and less risky sexual behavior than sex-centered development (Dubé, 2000; Schindhelm & Hospers, 2004). Participants in the current study reported three distinct developmental trajectories—early, middle, and late—which parallel those reported by Friedman et

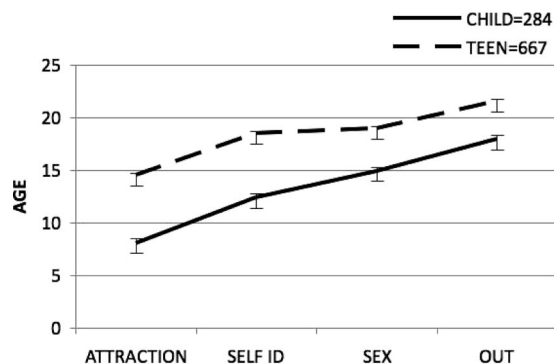


Figure 2. Results of latent profile analysis on the early profilers in the California Quality of Life Surveys I and II. Attraction = age of first attraction to member of same sex; self ID = age of first self-recognition of gay, lesbian, bisexual, or nonheterosexual identity; sex = age of first same-sex sexual experience; out = age for first disclosure of gay, lesbian, bisexual, or nonheterosexual identity, same-sex attraction, or same-sex sexual experience; child = child-onset trajectory; teen = teen-onset trajectory.

al. (2008) with a similar methodology. However, in contrast to reports by Friedman et al. (2008)⁴ and others (Herdt & Boxer, 1993; Rosario, Meyer-Bahlburg, et al., 1996; Troiden, 1989), self-identification as a sexual minority preceded same-sex sexual experience on average by at least 1 year for most of the participants in the present study. Among early and middle profilers, the average lag between self-identification and same-sex sexual experiences in both profiles was relatively small. Although some early and middle profilers experienced first same-sex sexual behavior and self-identification at the same age (approximately 25% and 38%, respectively), and some reported that first same-sex sexual behavior occurred before self-identification (approximately 26% and 24%, respectively), overall, the majority of the respondents reported self-identification as GLB occurring at a younger age than first same-sex sexual experience (approximately 50% and 38%, respectively). Evidence of sex-centered development was evident only in the late profile group.

Our study, like others, found that identity-centered patterns are common (D'Augelli, 1994; D'Augelli & Hershberger, 1993). However, our findings add further scientific weight to the generalizability of previous work in that they were derived from a large, cohort-diverse sample of sexual minority men and women—not solely sexual minority youth—who were drawn from a population-based sampling frame, as opposed to convenience samples of GLB community-involved or resource-seeking sexual minorities. Early conceptual models (e.g., Troiden, 1989) and lay theories of sexual orientation identity development are largely sex centered, propagating the notion that same-sex sexual experiences serve as a way of “testing” or “confirming” same-sex attractions prior to accepting a sexual minority identity. Instead, the current results suggest that identity-centered patterns may be much more common than predicted by these previous models. Further, because the majority of respondents in our sample—even those from older cohorts—experienced the onset of sexual minority identity development at young ages, the current results support the

proposition that sexual minority status develops in conjunction with general patterns of sexual identity development. As such, Western cultural mores against youth sexual behavior for all adolescents, regardless of sexual orientation, and the likely dearth of available same-sex partners in adolescence may create a context in which identifying as GLB is more likely to precede same-sex sexual experiences.

Given that previous studies of adolescent and young adult samples found multiple developmental trajectories (e.g., Floyd & Stein, 2002), we specifically investigated potential differences among individuals in the early profile. In doing so, we found no evidence of the anticipated distinct identity- and sex-centered adolescent patterns detected in previous research (Savin-Williams & Diamond, 2000). Instead our findings underscore the importance of timing, with each of the five profiles showing similar patterns of development, though starting at different points in the life span. This has important developmental implications for health and psychosocial adjustment. For example, although child-onset profilers are likely to be “on time” with their heterosexual peers when they begin exploring partnered sexual activity and romantic relationships (Diamond & Savin-Williams, 2009), it is possible that they may be at greater risk for negative sexual health outcomes (e.g., via contact with older and more sexually experienced partners; inexperience with safer sex negotiation) than those who are developmentally on somewhat later trajectories. Furthermore, sexual minority individuals who develop GLB identities and come out earlier in adolescence may experience greater amounts of victimization in school, thereby increasing the risk of concurrent and long-term mental and physical health problems (D'Augelli, Pilkington, & Hershberger, 2002; Kosciw et al., 2010; Toomey et al., 2010).

The later trajectories, reported by 25% of the sample with middle and late profiles, indicate that the timing of milestones may be further influenced by a complex combination of individual- and contextual-level factors, some of which may be connected to cohort effects. It seems reasonable to assume that the positioning of identity development in the life span likely results in a qualitatively different experience of sexual minority identity development. For example, later onset development could represent the emergence of novel same-sex sexual attractions, the development of a deep sexual or romantic attraction to a particular same-sex individual, or the later life acceptance and integration of a long “closeted” sexual minority identity (Diamond, 2007; Peplau, Spalding, Conley, & Veniegas, 1999). Longitudinal research is needed to elucidate the qualitative differences in identity development at different periods of the life span. Equally as useful would be attempts to disentangle the contributions of diverse maturational, individual- and contextual-level correlates of the timing and course of identity development.

⁴ To further compare the results of our LPA to Friedman et al.'s (2008) study, which focused only on men, we isolated male participants ($n = 674$) and estimated a separate LPA. Again, a three-profile solution fit the data best, with early ($n = 395$), middle ($n = 240$), and late ($n = 39$) trajectories emerging. Only the late trajectory exhibited a sex-centered developmental pattern (mean age of attraction: 23.01; self-ID: 33.92; sex: 29.34; out: 43.05).

Table 5

Demographic Characteristics of the Child- and Teen-Onset Profiles From the Subanalysis on the California Quality of Life Surveys I and II

Variable	Child onset (<i>n</i> = 284)				Teen onset (<i>n</i> = 667)			
	<i>M</i>	<i>SD</i>	%	<i>n</i>	<i>M</i>	<i>SD</i>	%	<i>n</i>
Age (years)	47.19	13.08			47.86	12.10		
Age range	18–80				18–79			
Generation status								
Generation Y			11.3	32			8.1	54
Generation X			13.4	38			16.2	108
Baby boomers			58.5	166			60.0	400
Greatest Generation			16.9	48			15.7	105
Gender								
Male			72.9	207			55.5	370
Female			27.1	77			44.5	297
Sexual orientation								
Bisexual			16.9	48			28.0	187
Gay/lesbian			83.1	236			72.0	480
Ethnic minority			22.8	65			15.8	106
Current/past heterosexual marriage			15.6	44			20.9	140
College degree			51.1	145			62.1	414
Heterosexual sex								
Since age 18			59.9	170			71.2	475
In past year			12.0	34			17.2	115

Overall, we found little evidence of strong cohort effects. By basing our historical cohort variable on U.S. sociological, historical, and GLB life-span research, we were able to examine how particular historical contexts might shape the timing and course of development. Nevertheless, early development was the norm in this study, with 60%–75% of participants from the Greatest Generation and baby boom generation allocated to the early profile group. Older participants in the early profile group were also equally likely as younger participants to be in the child-onset profile as opposed to the teen-onset profile. These results bolster previous research indicating that earlier development is not a recent cohort effect (Floyd & Bakeman, 2006), and provide critical evidence that most sexual minorities may traverse sexuality milestones during childhood and adolescence, as do their heterosexual peers (Diamond & Savin-Williams, 2009).

Complex Gender and Bisexuality Effects

We hypothesized that female participants would have a greater probability of being classified into later developmental profiles than male participants. Our results provide some support for this hypothesis in the between-profile comparisons. Specifically, female participants were more likely than male participants to be classified to middle, late, and teen-onset profiles than early and child-onset profiles. Such results are consistent with previous research on gender differences in same-sex sexual attraction. There are some studies that suggest that same-sex sexual attractions may be connected more to biological factors among men (e.g., hormonal shifts around puberty) and situational factors among women (e.g., opportunities for same-sex sexual contact in early adulthood; Bailey, Dunne, & Martin, 2000; Diamond, 2007; Kitzingler &

Table 6

Multinomial Logistic Regression Results Predicting Membership to the Middle and Late Profiles in the California Quality of Life Surveys I and II

Variable	Middle				Late			
	<i>b</i>	<i>SE</i>	<i>OR</i>	95% CI	<i>b</i>	<i>SE</i>	<i>OR</i>	95% CI
Age	0.05***	0.01	1.05	[1.03, 1.06]	0.13***	0.02	1.14	[1.11, 1.18]
Gender ^a	1.19***	0.17	3.29	[2.34, 4.62]	2.03***	0.35	7.61	[3.87, 14.97]
Bisexual ^b	0.01	0.23	1.01	[0.64, 1.58]	0.41	0.38	1.50	[0.72, 3.14]
Ethnicity ^c	0.41	0.22	1.51	[0.99, 2.30]	0.08	0.51	1.08	[0.40, 2.91]
Current/past heterosexual marriage ^b	0.48*	0.20	1.62	[1.10, 2.41]	1.02**	0.32	2.76	[1.46, 5.20]
College degree ^b	0.74***	0.17	2.10	[1.50, 2.95]	0.52	0.32	1.68	[0.91, 3.12]
Heterosexual sex since age 18 ^b	0.88***	0.23	2.42	[1.55, 3.78]	0.84	0.47	2.32	[0.92, 5.83]
Heterosexual sex in past year ^b	−0.21	0.28	0.81	[0.47, 1.41]	−0.40	0.48	0.67	[0.26, 1.70]

Note. Early profile is the reference group. *N* = 1,260. *OR* = odds ratio; *CI* = confidence interval.

^a 0 = male, 1 = female. ^b 0 = no, 1 = yes. ^c 0 = White, 1 = non-White.

* *p* < .05. ** *p* < .01. *** *p* < .001.

Table 7
Binomial Logistic Regression Results Predicting Membership to the Teen-Onset Profile in the California Quality of Life Surveys I and II

Variable	<i>b</i>	<i>SE</i>	<i>OR</i>	95% CI
Age	0.01	.01	1.01	[0.99, 1.02]
Gender ^a	0.68***	.17	1.97	[1.42, 2.73]
Bisexual ^b	0.64*	.28	1.90	[1.11, 3.26]
Ethnicity ^c	-0.37	.19	0.69	[0.47, 1.00]
Current/past heterosexual marriage ^b	0.09	.24	1.09	[0.68, 1.74]
College degree ^b	0.50**	.15	1.65	[1.23, 2.21]
Heterosexual sex since age 18 ^b	0.20	.17	1.22	[0.88, 1.69]
Heterosexual sex in past year ^b	-0.31	.32	0.74	[0.39, 1.38]

Note. Child-onset profile is the reference group. *N* = 951. *OR* = odds ratio; *CI* = confidence interval.

^a 0 = male, 1 = female. ^b 0 = no, 1 = yes. ^c 0 = White, 1 = non-White.

* *p* < .05. ** *p* < .01. *** *p* < .001.

Wilkinson, 1995; Peplau et al., 1999). Within-profile gender comparisons of the middle and late profiles, however, indicate that male and female participants do not differ in the average age of self-identification and first same-sex sexual experiences. Most surprisingly, we found evidence that female participants in older profiles may come out earlier than male participants. No gender differences emerged when comparing male and female participants in the early profile overall, but within both the child- and teen-onset profiles, female participants came out earlier than male participants. These results are consistent with other studies finding that female participants do not always experience milestones later than male participants (Rosario, Rotheram-Borus, & Reid, 1996; Savin-Williams & Diamond, 2000). Indeed, the complexity of the gender effects in this study contributes to the growing body of research suggesting that there may be qualitative differences in the ways in which men and women proceed through and experience sexual orientation milestones (Diamond, 2007; Mustanski, Chivers, & Bailey, 2002; Peplau et al., 1999). We posit that prevailing gender role norms play a pivotal role in how sexual minority identity development is experienced and expressed. For example, it is possible that lower overall levels of public antipathy toward lesbians (Herek, 2002; Kite & Whitley, 1998) may make it possible for sexual minority women to disclose their identities to others earlier than is possible for sexual minority men. Future research may profitably evaluate both how patterns of development are consistent across gender and how social and hormonal factors shape sexual orientation identity development among men and women. Estimating separate models for male and female participants and more focused attention on gender-specific mechanisms (e.g., biology, socialization, contexts) would bring much needed clarity to these important life-span and life-course issues.

We also hypothesized that bisexual participants would exhibit later development, possibly due in part to the complexities of understanding and integrating attractions to both same- and other-sex partners. Consistent with this hypothesis, bisexual participants were more likely to be in the middle and late profiles, and bisexual sexual orientation was associated with higher odds of being classified to the teen-onset profile in comparison to the child-onset profile. Further, bisexual early profilers experienced milestones on average 1 year later than gay and lesbian early profilers. Although the findings support previous research that bisexual identities may develop later than gay and lesbian identities (Diamond, 2008;

Rust, 2000), there were no stark sexual orientation differences in the timing or sequence of milestones. The recent increase in the visibility of bisexuality as a stable identity may mean that contemporary bisexual youth are more likely to self-identify as bisexual at younger ages, rather than adopt gay/lesbian or heterosexual identity labels first (Rust, 2000). In keeping with this trend, bisexual participants in our sample were on average 5 years younger than gay and lesbian participants. Further research with larger samples is needed to explore these differences in the identity development of bisexual individuals.

Directions for Future Research

Studying sexual orientation milestones in the context of a large-scale epidemiologic study advances knowledge about sexual minority identity development in important ways. Notably, the sampling method employed in Cal-QOL enabled us to investigate how identity development may vary across generational cohorts—a question that is a fundamental directive within developmental psychology, but that has, to date, received limited empirical evaluation in the study of sexual orientation identity development. Because participants were double-sampled from a population-based study, the data may provide useful information about the generalizability of previous research to a more general population not recruited specifically through their involvement in clinical or social support settings or GLB community events. However, studying sexual orientation identity development via a large-scale survey framework is also accompanied by several trade-offs, some of which can and should be addressed in future research.

Nearly all research and theory on sexual orientation identity development has drawn from convenience samples, which are inherently restricted demographically, regionally, and temporally (Saewyc, 2011). Although the Cal-QOL was derived from the population-based CHIS, the demographic profile of the Cal-QOL sample warrants some attention. The mean age of the Cal-QOL sample was 49 years (consistent with the average age of adult Californians), and most sexual minority respondents were well educated and self-identified as non-Hispanic White—consistent, too, with other population-based surveys of lesbians, gay men, and bisexual adults in the United States (Black, Gates, Sanders, & Taylor, 2000; Carpenter & Gates, 2008; Chandra, Mosher, Copen, & Sionean, 2011). Previous research has demonstrated that the

modal demographic characteristics observed in this study are similar to other digit-dialing survey methods in general (potential bias toward older, White participants; Simon, Mercy, & Barker, 2006) and the structure of the GLB population when identified through general population survey methods (Black et al., 2000). Yet a key concern remains whether characteristics of the sample might bias the developmental trends uncovered in this study. This is difficult to determine due to the notable dearth of comparable data from other states within the United States or from other countries (Saewyc, 2011). Nevertheless, it is promising that in the face of the sample characteristics, some of the findings mirror those of other smaller or convenience-based samples (Diamond, 1998; Herdt & Boxer, 1993; Rosario, Meyer-Bahlburg, et al., 1996; Schindhelm & Hoppers, 2004). It is our hope that our study stimulates additional research using population survey methods both in North America and elsewhere to examine whether the results of the current study replicate in different geographic, cultural, and temporal contexts.

The sampling criteria applied in the CHIS prevented us from examining the experiences of GLB individuals younger than age 18. Thus, although we were able to consider whether older GLB adults report early development, we were unable to investigate whether contemporary GLB youth report milestones at even younger ages than current young adult, middle-aged, and older GLB adults. Implementing questions about sexual orientation milestones into ongoing longitudinal studies of children and adolescents can explore this important question. Due to the small number of ethnic minority participants in the present sample, we were also unable to examine ethnic group differences in profile membership, or to estimate separate profiles for each ethnic group. A growing number of studies suggest that there may be racial and ethnic differences in sexual orientation identity development, possibly due to sexual orientation-related stigma within racial and ethnic minority communities (Dubé & Savin-Williams, 1999; Rosario, Schrimshaw, & Hunter, 2004). However, previous researchers have also noted the difficulty of sampling individuals who self-identify as both racial/ethnic and sexual minorities within large-scale population-based surveys, thus indicating that population-based data may not yield the power to test for racial and ethnic minority subgroup differences in sexual orientation identity development (Heckathorn, 1997; Stueve, O'Donnell, Duran, San Doval, & Blome, 2001).

The goal of the current study was to investigate the timing of milestones among self-identified GLB adults from different generation cohorts. Thus we excluded participants who did not self-identify as GLB and did not provide an age of first self-identification as GLB. Although it is possible that this decision may have resulted in the exclusion of some individuals who exhibit sex-centered identity development patterns, the great majority of excluded participants were middle aged and unlikely to be transitioning quickly through development of their sexual orientation ($M_{\text{age}} = 46$ years, $Mdn = 45$; interquartile range: 17.5). Many of these individuals also self-identified as heterosexual in the course of the Cal-QOL interview, and thus never had an opportunity to provide information about the first self-identification milestone, a question that was asked only of respondents who did not self-identify as heterosexual. Nevertheless, this excluded subset may be of theoretical interest in the future. Research on the sexual orientation identities of adults who exhibit same-sex oriented

attractions and/or sexual behavior, but who do not self-identify as GLB or disclose a sexual minority identity, may provide additional insight into the complexities of life-span and life-course effects on identity development.

Future research efforts should also be directed toward developing more efficient and rigorous methods of assessing identity development. The order in which milestones were assessed in this study may have somewhat biased participants toward reporting identity-centered developmental patterns. Randomizing the order of question presentation would have removed this potential source of bias, but might also have introduced other concerns, such as differences between respondents in comprehension of the study questions. In general, large-scale epidemiologic telephone surveys are carefully worded and sequenced to ensure high levels of respondent comprehension. Asking questions that are temporally randomized increases the cognitive load for both respondents and interviewers, which may lead to its own set of performance decrements. Greater variability in patterns of development might have also been detected with more extensive assessment of developmental milestones. Future research using methodologies more favorable to randomization of questions and in-depth probing of study topics could profitably investigate the nuances of sexual minority development that lie out of reach of the current methodology.

Further, the use of retrospective report to assess milestones is clearly vulnerable to known limitations that may influence the accuracy of participants' reports (e.g., Hegarty, 2009). Given the age range of the sample, some participants had to remember developmental milestones that occurred several decades earlier. Research on the recall accuracy of sexual orientation milestone data in older adults is lacking, but limited research on recall for psychosexual developmental milestones among adolescent and young adult sexual minorities has found substantial reliability (Schrimshaw, Rosario, Meyer-Bahlburg, & Scharf-Matlick, 2006). In light of the saliency of sexual orientation milestones—particularly first same-sex sexual experience and coming out—we expect that recall, though not precise, may be less prone to memory errors (Brewin, Andrews, & Gotlib, 1993; Craik, 1999; Rivers, 2001). The bias is likely to be forward telescoping (i.e., reporting onset of events closer to the time of the interview than is true; Johnson & Schultz, 2005), suggesting that older respondents would report later milestones than younger respondents. Since even the oldest participants reported a preponderance of early patterns of sexual orientation identity development, our confidence is increased that sexual orientation milestones generally occur in childhood and adolescence and can be remembered even after many years have elapsed.

Finally, additional research on the developmental trajectories of bisexuals in general, and of sexual minority female participants in particular, would be beneficial to the field. In-depth qualitative and longitudinal work has stimulated debate about whether stage-sequential models of sexual orientation identity development hold for bisexual identities or accurately describe the experiences of sexual minority women. Research focused on sexual orientation milestones in general has also been scrutinized because milestone theories were largely based on retrospective studies of adult, primarily gay-identified men, because such theories often ignore emotional aspects of sexual orientation identity development (e.g., romantic feelings and interpersonal connections), and because

milestone paradigms promote the assumption that sexual orientation is a stable trait that unfolds in adolescence and is consistent thereafter (Saewyc, 2011). The cross-sectional nature of the study and its focus on only four major sexual orientation milestones did not permit the examination of fluidity, other-sex sexual milestones, or trajectories of the emotional dimensions of sexual orientation identity development. Having data on both current and past self-identified sexual orientation would clearly further enhance understanding of sexual minority identity development.

Summary and Conclusions

In sum, the present study contributes in important ways to the growing literature on sexual minority identity development. Much research of late has focused on identity development in convenience samples of adolescent and young adults. Extending this research to an older and more age-diverse sample in this study revealed that the majority of older participants also report early sexual orientation identity development. Although we cannot definitely conclude that there is no secular trend toward earlier coming out, we can state that early identity development has been normative at least as far back as individuals from the Greatest Generation. Closer inspection of early profilers in this study did not replicate the identity- and sex-centered patterns detected in previous research, but the findings did reveal the presence of a child-onset developing group. This group is especially noteworthy because being younger may make them more vulnerable and hence at greater risk for victimization and physical and mental health morbidities, the most serious of which are suicide and suicide attempts (Haas et al., 2011; Mays & Cochran, 2001). Examining the health status and health correlates of early developers from different age groups across the life span can provide important insights about how to maximize positive developmental outcomes and successful aging for sexual minorities.

The findings from this study provide compelling evidence that a substantial number of older GLB adults report experiencing milestones in adolescence, thus indicating that early development may not be unique to current GLB youth cohorts. The consistency of early identity development across cohorts further suggests that sexual minority individuals proceed through sexuality-related milestones in a similar developmental trajectory as their heterosexual peers (i.e., from late childhood through late adolescence). However, it is likely that the interpretations and emotional reactions to milestones may differ substantially across cohorts (e.g., current cohorts may view the emergence of same-sex attractions in adolescence and the adoption of sexual minority identities more positively than older cohorts; see Floyd & Bakeman, 2006; there may be cohort differences in levels of disclosure). Furthermore, although the early profile was most common, the presence of the middle and late profiles and intriguing gender differences in the timing of milestones suggest that there is substantial individual heterogeneity in when sexual minority identities emerge. Such diversity indicates that GLB individuals may vary in levels of maturity, coping capacity, and availability of social support while traversing milestones. Given the elevated prevalence of physical and mental health problems among some sexual minorities (Cochran & Mays, 2009; Cochran, Sullivan, & Mays, 2003), it is imperative that health providers, researchers, parents, and policy makers work together to ensure that resources are available to

encourage positive identity development at all stages of the life span.

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