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Predictors of mental health in emerging adult offspring of lesbian-parent families

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ABSTRACT

Emerging adulthood is a new, distinct life stage for 18- to 29-year-olds in the United States. In the sixth wave of data collection in a longitudinal cohort study (started in 1986), predictors of mental health were examined in the emerging adult offspring within lesbian-parent parent families. The donor-conceived offspring were 25 years old. In cross-sectional analyses, we assessed whether their mental health (life satisfaction and behavioral/emotional problems) was associated with personal characteristics, family characteristics, quality of important relationships, and experiences of homophobic stigmatization. The findings revealed that the predictors of mental health in these offspring were typical of what has been previously reported on emerging adults. However, offspring who reported stigmatization because of their parents' sexual identity had higher rates of behavioral/emotional problems than those who did not.

KEYWORDS

Emerging adults; sexual minority parent families; offspring of lesbian parents; mental health; homophobic stigmatization

In the United States and other high-income countries, emerging adulthood is a distinct life stage for individuals between 18 and 29 years old (e.g., Arnett, 2000; Fussell & Furstenberg, 2014). In the field of developmental psychology, there has been considerable interest in emerging adulthood, particularly in young people with economic security. Research on this life stage (e.g., Settersten, Ray, & MacArthur Research Network on Transitions to Adulthood and Public Policy, 2010) has primarily focused on U.S. populations. There are also studies of emerging adulthood within specific subgroups, such as women and racial/ethnic minorities (e.g., Fussell & Furstenberg, 2014), and across cultures (Arnett, 2003; Fussell & Furstenberg, 2014; Nelson & Luster, 2015). The first generation of offspring conceived by lesbians through donor insemination is only now entering emerging adulthood in substantial numbers (Gartrell, Bos, & Koh, 2018;

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Golombok & Badger, 2010), offering a rich opportunity to study the predictors of well-being in these adult offspring.

Developmental psychologists theorize that the emerging adulthood life phase has resulted from dramatic demographic, economic, and cultural changes in the last half century (e.g., Arnett, 2015). As recently as 1960, young people experienced a standardized, compact transition from adolescence to adulthood, progressing from education to marriage and full-time employment or parenthood, all by their early twenties (e.g., Settersten & Ray, 2010). In contrast, many are now allowed some or all of their twenties for identity exploration before assuming adult responsibilities and settling on more enduring choices in love, work, and world views (e.g., Arnett, 2015; Shanahan, 2000). In the U.S., the median age of first marriage is now 27.4 for women and 29.5 for men (U.S. Census Bureau, 2017), the median age of a mother's first birth is 26.6 (Martin, Hamilton, Osterman, Driscoll, & Drake, 2018), and emerging adults hold an average of 7.8 different jobs between the ages of 18 and 31 (U.S. Department of Labor, 2018).

There is considerable discussion among social scientists regarding the definition of emerging adulthood (e.g., Benson & Furstenberg, 2007; Johnson, Berg, & Sirotzki, 2007). One definition hinges on the attainment of traditional milestones associated with adulthood, namely: (1) leaving the parental home; (2) completing schooling; (3) obtaining a full-time job; (4) marrying or committing to a long-term romantic relationship; and (5) becoming a parent (Fussell & Furstenberg, 2014).

Arnett, the original proponent of emerging adulthood, defines the phase by five distinct and classic features: (1) identity exploration; (2) instability (in intimate relationships, employment, and place of residence); (3) self-focus (with few obligations to others); (4) feeling in-transition; and (5) optimism (Arnett, Zukauskienė, & Sugimura, 2014). Erikson's (1950) theory of life stages initially highlighted adolescence (ages 12–18) as the period for resolving identity versus role confusion. However, by 1968, Erikson noted that industrial societies provide a psychosocial moratorium in prolonged adolescence wherein youth continue to experiment with their roles before forming identities and assuming adult responsibilities (Erikson, 1968). This prolonged adolescence concept can be seen as a progenitor to the subsequently coined "emerging adulthood" stage.

Young people in industrialized countries around the world have been asked how they define the attainment of adulthood. Individualistic characteristics that connote "self-sufficiency" were equated with adulthood, whereas traditional milestones were not. The characteristics most highly endorsed were accepting responsibility for oneself, making independent decisions, and achieving financial independence (Arnett, 1998; Nelson & Luster, 2015). Some researchers espouse a combination of these definitions,

utilizing transition milestones, Arnett's five classic features, and/or the previously noted self-sufficiency characteristics (Eliason, Mortimer, & Vuolo, 2015; Johnson et al., 2007; Shanahan, Porfeli, Mortimer, & Erickson, 2014).

Two areas of systems theory are notable in the context of emerging adulthood. First, Bronfenbrenner's (1986) ecological systems theory is pertinent to emerging adults, as this life phase is distinguished by wholesale changes in each of their ecosystems or environments. Secondly, the social determinants of health framework examines health as shaped by the life-course interaction of social factors at the personal level—daily life circumstances—and at more distal levels—family, neighborhood, school/work environments, and nation (e.g., Braveman, Egerter, & Williams, 2011; Marmot et al., 2008; Solar, Irwin, & WHO Commission on Social Determinants of Health, 2010). Since well-being and health behaviors have been found to be strongly correlated from adolescence to adult life, the social determinants of health for young people have profound interactions with the expansive realms of national and global health (e.g., Park, Scott, Adams, Brindis, & Irwin, 2014). Safe and supportive families and schools are critical in helping young people achieve their best health as they transition to adulthood (e.g., Viner et al., 2012).

Moving from theory to the actual experience of emerging adulthood, many young people find that the paths to adulthood are varied and circuitous. During transitional periods such as emerging adulthood, individuals are more sensitive to environmental inputs (e.g., Mulye et al., 2009). Although many options exist for individualistic Westerners, the unpredictability and setbacks along the way to adulthood may be stressful (e.g., Arnett et al., 2014). Some common features of this life stage, such as exploring one's identity, having limited familial or occupational obligations, and being open to possibility, may contribute to increased risk taking by emerging adults (e.g., Arnett et al., 2014; Mulye et al., 2009). As detailed in the Diagnostic and Statistical Manual of Mental Disorders (American Psychiatric Association, 2013), common mental illnesses that present during emerging adulthood (and their respective years of peak incidence) are: schizophrenia (mid-20s); bipolar I (18); bipolar II (mid-20s); major depression (20s); panic disorder (20–24); alcohol-related disorders (late teens to mid-20s); and opioid use (late teens to early 20s). The most common psychiatric diagnoses in the 18- to 29-year age group are anxiety, impulse control, mood, and substance use disorders (Kessler & Wang, 2008), and three-fourths of all mental health disorders begin by age 24 (Kessler et al., 2005).

The frameworks of ecological system theory and the social determinants of health are particularly illuminating in analyzing stigmatized populations. Minority stress arises when stigma and discrimination against a minority

population overload adaptive mechanisms, thereby increasing the risk for health problems (e.g., Krieger & Sidney, 1996; Meyer, 2003; Thoits, 2010). For example, racial minority stress has been found to be associated with some behavioral problems during the emerging adult years (e.g., Caldwell, Kohn-Wood, Schmeelk-Cone, Chavous, & Zimmerman, 2004; Lai, Lun, & Daoust, 2017). Additionally, investigators have reported that the unique stress experienced by sexual minority populations can diminish mental and overall health (e.g., Hatzenbuehler, 2009; Hatzenbuehler, Phelan, & Link, 2013; Hendricks & Testa, 2012; Landers, 2015; Mays & Cochran, 2001; Meyer, 2003). Individuals who are not members of the stigmatized group may still experience the negative consequences of minority stress due to their association with the group.

The offspring of lesbian parents are an example of those who can experience associative stress (van Gelderen, Bos, & Gartrell, 2015; van Gelderen, Gartrell, Bos, van Rooij, & Hermanns, 2012). Supportive social climates can ameliorate these negative health sequela (e.g., Landers, 2015; Lick, Tornello, Riskind, Schmidt, & Patterson, 2012; Meyer, 2003; Thoits, 2010). Although children (Bos, Gartrell, Peyser, & van Balen, 2008) and adolescents (e.g., Bos & Gartrell, 2010; Gershon, Tschann, & Jemerin, 1999) in planned lesbian families have experienced associative stigmatization, relatively little data exist on the stigmatization experienced by the emerging adult offspring of sexual minority parents (Golombok & Badger, 2010; Golombok, 2015, pp. 59–61). There is no information on the predictors of well-being in emerging adult offspring of lesbian parents.

This community-based, longitudinal study, started in 1986, was designed to provide data on this very cohort (Gartrell et al., 1996). It has followed offspring in planned lesbian families from conception into emerging adulthood. In the most recent wave of data collection (Wave 6), the offspring were 25 years old, placing them in the middle of the emerging adult phase of life. A previous report found no significant differences in mental health between these emerging adult offspring and a matched national probability sample of adults (Gartrell et al., 2018). Yet, within this offspring cohort, there is a diversity of characteristics that may affect specific aspects of the emerging adulthood life phase, which is the focus of this cross-sectional investigation.

The current investigation is designed to address the following questions: (1) Do known social determinants of mental health for emerging adults apply to the offspring cohort? Specifically, are the following predictors associated with their mental health (life satisfaction and behavioral/emotional problems): (a) personal demographic characteristics (e.g., education level, involvement in an important intimate relationship, living independently of parents); (b) family characteristics (e.g., born in a single or two-parent

family, parental couple continuity); or (c) the quality of important relationships (e.g., connectedness to others, offspring-parent relationship characteristics)? (2) Do features unique to the offspring of sexual minority parents (experiences of homophobic stigmatization and associated stress) affect mental health during this life phase?

Method

Study participants

The current investigation is based on the sixth wave of data collection in the U.S. National Longitudinal Lesbian Family Study (NLLFS). Wave 1 examined prospective lesbian mothers who enrolled before or at conception. In the current cross-sectional study, the total analytic sample consisted of 77 adult offspring (38 females and 39 males). As shown in Table 1, their mean age was 25.01 years ($SD = 0.11$) and the majority were White (non-

Table 1. Demographic characteristics of emerging adult offspring in lesbian-parent families.

Sex, <i>n</i> (%)	
Female	38 (49.4)
Male	39 (50.6)
Age	
<i>M</i>	25.01
<i>SD</i>	00.11
Race/ethnicity, <i>n</i> (%) ¹	
White (non-Latina/o or Hispanic)	70 (90.9)
African American/Black	3 (3.90)
Latina/o or Hispanic	1 (1.30)
Asian	0 (0.00)
Native American	0 (0.00)
Pacific Islander	0 (0.00)
Other or mixed	3 (3.90)
Educational level, <i>n</i> (%) ²	
No college degree	10 (13.0)
College degree or higher	67 (87.0)
Important intimate relationship, <i>n</i> (%)	
No	32 (41.6)
Yes	45 (58.4)
Living with parents, <i>n</i> (%) ³	
No	63 (82.9)
Yes	13 (17.1)
Two-parent family when offspring was born, <i>n</i> (%)	
No	8 (10.4)
Yes	69 (89.6)
Continuously coupled parents, <i>n</i> (%) ⁴	
No	43 (62.3)
Yes	26 (37.7)

¹Based on the finding that almost all offspring (90.0%) had a White (non-Latina/o or Hispanic) background, this variable was not included in the analyses pertaining to the predictors of mental health.

²No college degree: no high school diploma or General Equivalency Diploma = 0, high school graduate = 0, some college but no college degree = 10 (13.0%). College degree or higher: associate's degree = 2 (2.6%), bachelor's or registered nurse degree = 52 (67.5%), some graduate school but no graduate degree = 7 (9.1%), master's degree = 6 (7.8%), doctoral or law degree = 0.

³One missing value.

⁴Based on the 69 offspring born in a two-parent family.

Latina/o or Hispanic) ($n = 70$, 90.9%) (Gartrell et al., 2018). Sixty-seven (87.0%) participants had completed an associate's degree or higher (i.e., associate's, bachelor's or registered nurse degree, some graduate school but no graduate degree, master's, doctoral, or law degree; Gartrell et al., 2018). Forty-five (58.4%) were involved in an intimate relationship, 63 (82.9%) were not living with their parents, 69 (89.6%) had been born into a two-parent family, and 26 (37.7%) had continuously coupled parents.

Procedure

At Wave 1 (between 1986 and 1992), recruitment occurred via notices placed in lesbian newspapers, at women's bookstores, and at lesbian events in the metropolitan areas of Boston, Washington, D.C., and San Francisco. Prospective lesbian mothers who were inseminating or pregnant through donor insemination were invited to participate. Before the study was closed to new participants in 1992, 154 lesbians, comprising 84 families (70 birth mothers, 70 co-mothers, and 14 single mothers), volunteered to participate. All volunteers were enrolled. The 84 pregnancies produced 85 offspring, including one set of twins (Gartrell et al., 2018).

At each wave (1–6), the parents were interviewed or surveyed. The offspring have been interviewed or surveyed (after obtaining parental assent when they were minors) since Wave 4. The longitudinal study has a 92% retention rate since Wave 1 (see study flow diagram; Gartrell et al., 2018). The longitudinal study has Institutional Review Board approval, and all participants gave written informed consent for Wave 6.

The Wave 6 data collection was completed in October 2017. One offspring was excluded from the Wave 6 analyses due to an incomplete survey. The resulting adult offspring sample size was 77, including one set of twins.

Measures

After reaching 25 years of age, the offspring were contacted about participating in the protected online Wave 6 survey. Each participant received a \$60 gift card in compensation. The survey included sections on (1) demographic information and family characteristics; (2) quality of important relationships; (3) features unique to the offspring of sexual minority parents; and (4) mental health (life satisfaction and problem behavior).

Demographics and family characteristics

Demographic questions focused on offspring characteristics (educational level, involvement in an important intimate relationship, living

independently or with parents) and family characteristics (single or two-parent family at the time of birth, and whether the original co-parents were separated or continuously coupled).

Quality of important relationships

The offspring were queried about connectedness to others and relationship with parent(s) (warmth and closeness of relationship, disagreements with parent(s), parent(s) as facilitator(s) of independence).

Connectedness to others was measured with three items from the Relatedness Scale (Kobau, Sniezek, Zack, Lucas, & Burns, 2010). Each item was a statement (e.g., “I get along well with people I come into contact with”), and participants were asked to indicate their degree of agreement on a five-point scale (1 = strongly disagree, to 5 = strongly agree). A high score on this variable indicates a high level of connectedness. Cronbach’s alpha for this subscale was .68.

Offspring-parent relationships were measured using three scales. First, to assess the extent to which offspring had warm and close relationships with their parents, two items were selected from an Aquilino (1999) scale derived from the National Survey of Families and Households: “It’s easy for me to laugh and have a good time with my parent(s),” and “I feel on edge or tense when I am with my parent(s).” Answers ranged from 1 “strongly disagree” to 5 “strongly agree,” and they were coded such that a high score indicated a warm and close relationship. Cronbach’s alpha for this scale was .61. Second, offspring-parent disagreement was assessed by asking participants if they had disagreed with their parents in any of 10 different realms (e.g., dating, friends, work) in the preceding three months (0 = no, 1 = yes; Aquilino, 1999). Scores were then tabulated so that a higher score was an indicator of more offspring-parent disagreement. Third, 12 items were selected from the Parents as Facilitators of Independence Scale of the Parental Attachment Questionnaire (Kenny, 1987). Participants rated their parents as facilitators of autonomy on a five-point Likert scale (1 = not at all, to 5 = very much). A high score on this variable indicates parental support of offspring autonomy. Cronbach’s alpha was .84.

Features unique to the offspring of sexual minority parents

A six-item instrument was used to query the offspring about experiences of homophobic stigmatization that took place during their adulthood (0 = never, to 4 = very frequently). The following are two examples of the items used: “People excluded (me) from activities” and “People asked annoying questions.” The survey instructions explicitly stated that all incidents must

have been associated with the gender identity or sexual orientation of the parent(s). [Appendix 1](#) shows the distribution and frequency of the scores on this variable. Because of the distribution and small cell sizes, the answer categories 1 = rarely, 2 = sometimes, 3 = often, and 4 = very frequently were combined, indicating that a participant had such an experience. Based on this recoding (0 = no experience, 1 = having had experiences), the scores were then tabulated so that a high score was an indicator that the offspring had been stigmatized as an adult because of having lesbian parents. Offspring who answered affirmatively to this type of homophobic stigmatization were then asked how stressful that experience had been (0 = not at all, to 3 = extremely stressful). Cronbach's alpha for this six-item scale was .77.

Mental health

Two aspects of mental health were investigated: (1) life satisfaction and (2) problem behavior. Life satisfaction was measured with items from two standardized, validated scales: Satisfaction with Life (Diener, Emmons, Larsen, & Griffin, 1985) and Meaning in Life (Steger, Frazier, Oishi, & Kaler, 2006). The Satisfaction with Life Scale assesses subjective well-being through five items (e.g., "In most ways my life is close to my ideal"); in our survey, these items were rated on a five-point scale (1 = strongly disagree, to 5 = strongly agree). Cronbach's alpha was .81. Three items were used from the Meaning in Life Scale that assesses whether life is felt to be substantive and worthwhile (e.g., "My life has a clear sense of purpose"). In our survey, these three items were scored "1 = not at all true," to "5 = completely true." Cronbach's alpha was .82.

The Achenbach Adult Self-Report (ASR) is a standardized, internationally validated behavioral checklist used to assess behavioral/emotional problems in adults (Achenbach & Rescorla, 2003). On a Likert scale (0 = not true, 1 = somewhat true, 2 = very true or often true), the offspring were asked to specify how pertinent each of 120 statements was for them during the prior six months. A higher score indicates poorer functioning. Scores were tabulated on the 39 items related to internalizing behavioral/emotional problems (i.e., anxious/depressed, withdrawn, and somatic complaints; examples: "I feel that no one loves me" or "I feel worthless or inferior") and the 35 items pertaining to externalizing behavioral/emotional problems (i.e., aggressive, rule-breaking, and intrusive behavior; examples: "I argue a lot" or "I steal"). The means for these two syndrome scales were then calculated. Cronbach's alphas for the Internalizing and Externalizing Scales were .89 and .85, respectively.

Statistical analysis

For the descriptive analyses, female and male offspring were compared on personal demographic characteristics (educational level, involvement in an important intimate relationship, living independently of parents) and family characteristics (single or two-parent family when the offspring was born, whether the parents were separated or continuously coupled at Wave 6); χ^2 -tests were used for these categorical variables. The remaining variables on quality of relationships, features unique to offspring of sexual minority parents, and mental health were continuous, and therefore analyses of variance (ANOVAs) were performed to assess gender differences.

To identify associations between the independent variables (demographics, family characteristics, quality of important relationships, and features unique to the offspring of sexual minority parents) and the dependent mental health variables (mental health operationalized as life satisfaction and problem behavior), bivariate analyses were carried out. When the independent variables were continuous (relationship quality, and features unique to the offspring of sexual minority parents), Pearson r correlations were conducted to assess their associations with the mental health variables. For the remaining categorical independent variables, ANOVAs were used, with mental health as dependent variables. For three independent variables (education, living independently of parents, and single or two-parent family at birth), the cell sizes were small, and thus a Mann-Whitney U test was performed. All analyses were conducted for females and males together using SPSS version 24.

Results

Descriptive analyses

Table 2 shows the findings of the descriptive analyses assessing whether there were differences between female and male offspring on all studied variables. Significant gender differences were found in the stress reported from homophobic stigmatization, with females reporting higher levels of incident-related stress than males. On satisfaction with life, females scored significantly higher than males. No significant gender differences were found for any other studied variable.

Predictors of mental health

Table 3 presents the findings for the bivariate analyses between the predictors of mental health (offspring characteristics, family characteristics, quality of relationships, and features unique to offspring of sexual minority parents) and satisfaction with life and meaning in life. The results for the

Table 2. Offspring characteristics, family characteristics, quality of relationships, features unique to offspring of sexual minority parents, and mental health, separately for females and males.

	Females	Males	F/χ^2	p
Offspring Characteristics				
Educational level, n (%) ¹				
No college degree	4 (10.5)	6 (15.4)	0.09	.768
College degree or higher	34 (89.5)	33 (84.6)		
Important intimate relationship, n (%)				
No	16 (42.1)	16 (41.0)	0.01	.923
Yes	22 (57.9)	23 (59.0)		
Living with parents, n (%)				
No	31 (83.8)	32 (82.1)	0.04	.841
Yes	6 (16.2)	7 (17.9)		
Family characteristics				
Two-parent family when offspring was born, n (%) ¹				
No	4 (10.5)	4 (10.3)	0.00	> .999
Yes	34 (89.5)	35 (89.7)		
Continuously coupled parents, n (%) ²				
No	21 (61.8)	22 (62.9)	0.01	.925
Yes	13 (38.2)	13 (37.1)		
Quality of relationships				
Connectedness to others, M (SD)	4.63 (0.37)	4.50 (0.52)	1.53	.219
Warm and close relationship with parent(s), M (SD)	4.37 (0.67)	4.08 (0.89)	2.63	.109
Offspring-parent disagreement, M (SD)	1.21 (1.61)	0.67 (1.08)	3.03	.086
Parent(s) as facilitator(s) of independence, M (SD)	4.06 (0.66)	4.27 (0.54)	2.47	.120
Features unique to offspring of sexual minority parent(s)				
Homophobic stigmatization, M (SD)	2.63 (1.73)	1.92 (1.69)	3.30	.073
Stress from homophobic stigmatization, M (SD) ³	0.54 (0.48)	0.30 (0.38)	4.76	.033
Mental health				
Life satisfaction				
Satisfaction with life, M (SD)	3.93 (0.78)	3.58 (0.71)	4.07	.047
Meaning in life, M (SD)	3.95 (0.77)	3.90 (0.87)	0.07	.790
Behavioral/emotional problems				
Internalizing, M (SD)	13.34 (9.88)	13.08 (7.36)	0.02	.894
Externalizing, M (SD)	8.61 (5.49)	8.97 (7.12)	0.07	.800

¹Yates' correction because more than 20% of cells have an expected count less than 5.

²Based on 69 offspring born in a two-parent family.

³Based on 62 offspring who, as adults, experienced associative homophobic stigmatization.

bivariate analyses concerning these same predictors and internalizing and externalizing behavioral/emotional problems are shown in Table 4.

Life satisfaction

Both satisfaction with life and meaning in life were significantly positively correlated with connectedness to others. Having a warm and close relationship with parents was significantly positively correlated with finding meaning in life. No other studied predictor was associated with satisfaction with life or meaning in life.

Behavioral/emotional problems

Offspring with an associate's degree or higher scored significantly lower on internalizing and externalizing behavioral/emotional problems than those

Table 3. Bivariate associations between predictors (offspring characteristics, family characteristics, quality of relationships, features unique to offspring of sexual minority parents) and satisfaction with life and meaning in life.

Predictors	Satisfaction with life			Meaning in life		
	M (SD)	F/Mann-Whitney U/r	p	M (SD)	F/Mann-Whitney U/r	p
Offspring Characteristics						
Educational level, n (%) ¹						
No college degree	3.34 (0.88)	233.00	.120	3.57 (1.18)	285.00	.444
College degree or higher	3.81 (0.72)			3.98 (0.75)		
Important intimate relationship, n (%) ²						
No	3.58 (0.91)	2.89	.093	3.76 (0.86)	2.18	.144
Yes	3.88 (0.61)			4.04 (0.77)		
Living with parents, n (%) ¹						
No	3.84 (0.71)	309.50	.166	3.95 (0.80)	374.00	.620
Yes	3.46 (0.83)			3.79 (0.95)		
Family characteristics						
Two-parent family when offspring was born, n (%) ¹						
No	3.40 (0.94)	195.00	.174	4.29 (0.74)	196.00	.177
Yes	3.72 (0.74)			3.88 (0.82)		
Continuously coupled parents, n (%) ^{2,3}						
No	3.84 (0.73)	0.48	.490	3.99 (0.75)	2.22	.141
Yes	3.72 (0.74)			3.69 (0.90)		
Quality of relationships⁴						
Connectedness to others						
Warm and close relationship with parent(s)		0.32	.005		0.40	< .001
Offspring-parent disagreement		0.17	.135		0.25	.027
Parent(s) as facilitator(s) of independence		-0.15	.199		-0.02	.863
Features unique to offspring of sexual minority parent(s) ⁴		0.17	.132		0.16	.158
Homophobic stigmatization		-0.02	.862		0.00	.977
Stress from homophobic stigmatization ⁵		0.01	.935		-0.10	.431

¹Mann-Whitney U test.

²ANOVA.

³Based on 69 offspring born in a two-parent family.

⁴Pearson r correlations.

⁵Based on 62 offspring who, as adults, experienced associative homophobic stigmatization.

Table 4. Bivariate associations between predictors (offspring characteristics, family characteristics, quality of relationships, features unique to offspring of sexual minority parents) and internalizing and externalizing behavioral/emotional problems.

Predictors	Internalizing problems			Externalizing problems		
	<i>M</i> (<i>SD</i>)	<i>F</i> / <i>Mann-Whitney U</i> / <i>r</i>	<i>p</i>	<i>M</i> (<i>SD</i>)	<i>F</i> / <i>Mann-Whitney U</i> / <i>r</i>	<i>p</i>
Offspring Characteristics						
Educational level, <i>n</i> (%) ¹	19.90 (09.64)	169.00	.012	13.30 (07.99)	193.00	.031
No college degree	12.21 (08.09)			08.12 (05.82)		
College degree or higher						
Important intimate relationship, <i>n</i> (%) ²		7.20	.009	10.13 (06.68)	2.48	.120
No	16.22 (10.25)			07.84 (05.97)		
Yes	11.07 (06.60)					
Living with parents, <i>n</i> (%) ¹		193.00	.003	08.54 (06.56)	297.00	.120
No	12.03 (08.42)			10.54 (04.91)		
Yes	19.00 (07.91)					
Family characteristics						
Two-parent family when offspring was born, <i>n</i> (%) ¹		272.00	.947	10.00 (07.09)	240.00	.547
No	14.25 (09.78)			08.65 (06.28)		
Yes	13.09 (08.56)					
Continuously coupled parents, <i>n</i> (%) ^{2,3}		1.78	.187	08.40 (05.47)	0.19	.664
No	12.02 (08.10)			09.08 (07.52)		
Yes	14.85 (09.18)					
Quality of relationships ⁴						
Connectedness to others		-0.23	.042		0.07	.576
Warm and close relationship with parent(s)		-0.35	.002		-0.19	.095
Offspring-parent disagreement		0.27	.016		0.30	.009
Parent(s) as facilitator(s) of independence		-0.41	< .001		-0.33	.003
Features unique to offspring of sexual minority parent(s) ⁴						
Homophobic stigmatization		0.24	.035		0.24	.037
Stress from homophobic stigmatization ⁵		0.19	.144		0.00	.999

¹Mann-Whitney *U* test.²ANOVA.³Based on 69 offspring born in a two-parent family.⁴Pearson *r* correlations.⁵Based on 62 offspring who, as adults, experienced associative homophobic stigmatization.

with lower levels of educational attainments. Those who were not involved in an important intimate relationship and those who were living with their parents showed significantly higher scores on internalizing behavioral/emotional problems than those who had an intimate relationship and those who lived independently, respectively. None of the studied family characteristics (single or two-parent family at birth, parents separated or continuously coupled) was significantly correlated with internalizing or externalizing behavioral/emotional problems (see Table 4).

Significant results were found for all associations between the relationship quality variables and internalizing behavioral/emotional problems. Offspring with lower scores on connectedness and those with lower scores on having warm/close relationships with their parents had higher scores on internalizing behavioral/emotional problems. Similarly, those with high scores on disagreements with their parents had high scores on both internalizing and externalizing behavioral/emotional problems, as did offspring with lower scores on parental support of their autonomy.

Regarding features unique to the offspring of sexual minority parents, a significant correlation was found between homophobic stigmatization experienced during emerging adulthood, and internalizing as well as externalizing behavioral/emotional problems assessed through the ASR. However, the level of stress associated with homophobic stigmatization was not significantly associated with either grouping of behavioral/emotional problems.

Discussion

This is the first report on predictors of mental health in emerging adult offspring followed since birth in planned lesbian families. Because the NLLFS was initiated in the 1980s when donor insemination became available to lesbians, the offspring have only recently entered the emerging adult age range. Important findings of the current cross-sectional study are that these 25-year-olds had similar social determinants of psychological health (namely, education level, and type and quality of relationships) as was found in research on the general population of emerging adults (e.g. Arnett, 2015; Settersten et al., 2010). Although there is considerable discussion in the literature about outcomes for offspring of single lesbian or single heterosexual parents (including those for whom single parenthood is a choice and those for whom it is not; e.g., Golombok, 2015, pp. 143–160), in the current study, being raised in a single versus two-parent family, and having separated or continuously coupled parents, did not correlate with behavioral/emotional problems. However, offspring who reported stigmatization associated with their lesbian parentage had more behavioral/emotional problems.

In the total sample of study offspring, a higher educational level was correlated with fewer externalizing and internalizing behavioral/emotional problems. This finding is consistent with the established literature on the social determinants of health, wherein educational attainment has been broadly linked to health (e.g., Braveman et al., 2011; Viner et al., 2012). Some studies (e.g., Kestila et al., 2005) have found that education is independently related to better self-reported mental health and less psychological distress.

In addition to educational level, other social determinants of health in the study offspring were largely the same as have been found generally in emerging adults. For example, offspring who did not have an important intimate relationship or those who were still living in the parental home demonstrated more internalizing behavioral/emotional problems. In contrast, offspring with better social relationships had higher mental health scores. Feeling connected to other people was an important correlate of well-being, as it was significantly associated with three out of four mental health variables (i.e., satisfaction with life, meaning in life, and internalizing behavioral/emotional problems). Specifically, a warm and close relationship with parents was associated with meaning in life and fewer internalizing behavioral/emotional problems, disagreements with parents with more internalizing and externalizing behavioral/emotional problems, and parental support of offspring independence with fewer such problems.

These findings are consistent with research on emerging adults generally, wherein positive close relationships correlate with happiness (e.g., Barry, Madsen, & DeGrace, 2015). A study examining the role of multiple close relationships (mother, father, best friend, intimate partner, if any) showed that, for emerging adults with an intimate partner, their relationships with their mothers and intimate partners predicted happiness, while the quality of father and friend relationships was not predictive of happiness (Barry, Madsen, Nelson, Carroll, & Badger, 2009; Demir, 2010). For emerging adults without an intimate partner, only the quality of mother and friend relationships predicted happiness (Demir, 2010).

The number of parents and parental relationship continuity were not related to behavioral/emotional problems in the study offspring. In emerging adults generally, the presence of parental and family conflict (whether parents are separated or coupled) and the economic disadvantages associated with single parenthood had a greater impact on the psychological health of offspring than did the number of parents in the household (e.g., Amato & Afifi, 2006; Cohen, Kasen, Chen, Hartmark, & Gordon 2003; Kestila et al., 2005).

Regarding factors that are unique to sexual minority parent families, homophobic stigmatization was positively correlated with behavioral/

emotional problems. The finding of more behavioral/emotional problems among offspring living with their parents could be mediated by factors common to any emerging adult offspring living at home and/or to factors specific to offspring of sexual minority parents, such as: (1) experiencing economic hardship (e.g., Kestila et al., 2005; Nelson & Luster, 2015; Sandberg-Thoma, Snyder & Jang, 2015); (2) being in transition or uncertainty pertaining to an intimate relationship, employment, or education (e.g., Nelson & Luster, 2015); (3) being in a family or culture that favors extended family cohabitation (e.g., Arnett, 2015); (4) being emotionally attached to or dependent upon the parents (e.g., Arnett, 2000; Nelson & Luster, 2015; Seiffge-Krenke, 2009); or (5) experiencing stigmatization associated with living in a sexual minority parent household (e.g., Lick et al., 2012). Theoretically, these emerging adult offspring could choose to come out or selectively disclose their parentage in more accepting milieus in efforts to decrease stigmatizing reactions.

In Wave 5, half of the 17-year-old offspring had experienced stigmatization due to their sexual minority parentage. Although the total teenage sample had lower levels of externalizing behavioral/emotional problems than matched adolescents in a normative national sample (Gartrell & Bos, 2010), stigmatized teens in the longitudinal study demonstrated more internalizing behavioral/emotional problems than their non-stigmatized peers. The finding of fewer overall problems in the total teenage sample—despite the stigmatization experienced by many—may have been due to these adolescents' coping strategies (Gartrell & Bos, 2010) and/or protective factors in the family and environment. These included having close family relations, having openly lesbian-identified parents, attending lesbian-, gay-, bisexual-, and transgender-affirmative (LGBT) schools, and living in communities with other sexual minority parent families (Bos et al., 2008). A difference in the associative stigmatization experiences longitudinally is its correlation only with internalizing behavioral/emotional problems in the 17-year-olds (Wave 5), versus with both internalizing and externalizing problems in the 25-year-olds (Wave 6). One explanation could be that externalizing behavioral/emotional problems peak in all U.S. young adults between the ages of 18 and 29 (e.g., Park, Mulye, Adams, Brindis, & Irwin, 2006), so they would be expected to be more common in Wave 6 than 5. Another explanation could be that the protective factors provided by living in a supportive household and a welcoming social and school environment as selected and created by the study parents weaken in emerging adulthood for those who leave the family home and move into more diverse and potentially less tolerant environments.

Strengths and limitations

A strength of the current investigation is that it is derived from the only study to follow the offspring of sexual minority parents longitudinally from birth to emerging adulthood. Also, due to the prospective nature and high (92%) retention rate of the longitudinal study, the present findings are not biased by overrepresentation of offspring who volunteered because they were high-functioning. The longitudinal study began when donor insemination for lesbians was just becoming available, thus the current investigation includes some of the first wave of emerging adult offspring from planned lesbian families. In addition, the Wave 6 data were collected through confidential online self-reports, increasing the likelihood of unvarnished responses to sensitive questions about interpersonal relations, behavioral/emotional problems, life satisfaction, and stigma.

The current study has several limitations. First, it is a convenience sample. Because of the long history of discrimination against sexual minority people, it was not possible to recruit a representative sample of prospective lesbian mothers when the longitudinal study began in 1986. Secondly, while standardized scales were used where possible, the mental health predictors and characteristics were compiled from self-reports. The data could be strengthened through the use of multiple sources. Thirdly, most of the offspring are White and well-educated. In LGBT-parent families, the challenges to non-White offspring who do not have opportunities for higher education are likely different from those faced by the cohort in this study. Finally, we caution that even though correlations were found between participant characteristics and mental health, causation is not implied.

Summary

This study contributes to the literature on emerging adults by adding new information about the offspring of sexual minority parents. Our findings on 25-year-olds born into planned lesbian families did not differ from reports on emerging adults generally in these predictors of mental health: education; having an intimate relationship; or quality of relationships with intimate partner, friends, and parents. However, offspring affected by associative homophobic stigma had higher rates of behavioral/emotional problems. Additional research is needed to determine which interventions can reduce homophobic stigmatization and its negative sequelae. Studies are needed to determine whether these findings will be replicated in larger representative samples of emerging adult offspring in sexual minority families. As society becomes more accepting of different family forms, future investigations will reveal whether and how associative homophobic stigma and its health sequelae change.

The U.S. National Longitudinal Lesbian Family Study is a longitudinal cohort study started in 1986 and designed to follow lesbian families and their planned offspring from conception into adulthood. This study describes aspects from the most recent (sixth) wave of data collection from parents and their children. Reports on Waves 1 through 5 have been previously published. A report on offspring at Wave 6 has been published in *The New England Journal of Medicine* but does not cover this article's focus on predictors of mental health.

Conflicts of interest

The authors report no conflicts of interest.

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Appendix

Appendix 1. Frequencies on homophobic stigmatization items.

	Never	Rarely	Sometimes	Often	Very frequently
Made negative comments	46 (59.7%)	23 (29.9%)	8 (10.4%)	0 (0.0%)	0 (0.0%)
Asked annoying questions	21 (27.3%)	30 (39.0%)	17 (22.1%)	5 (6.5%)	4 (5.2%)
Made jokes	32 (41.6%)	29 (37.7%)	10 (13.0%)	4 (5.2%)	2 (2.6%)
Gossiped about your parent(s)	50 (64.9%)	20 (26.0%)	6 (7.8%)	1 (1.3%)	0 (0.0%)
Excluded you from activities	69 (89.6%)	6 (7.8%)	2 (2.6%)	0 (0.0%)	0 (0.0%)
Denied you opportunities	69 (89.6%)	7 (9.1%)	1 (1.3%)	0 (0.0%)	0 (0.0%)