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Same-sex and different-sex parent households and child health outcomes: findings from the National Survey of Children's Health

HM Bos¹, J Knox², L van Rijn-van Gelderen¹, and NK Gartrell³

1. Research Institute of Child Development and Education, University of Amsterdam, Amsterdam, the Netherlands 2. Department of Epidemiology, Columbia University, New York, NY 3. Williams Institute, UCLA School of Law, Los Angeles, CA.

Abstract

Purpose: Using the 2011–2012 National Survey of Children's Health dataset, we compared spouse/partner relationships and parent-child relationships (family relationships), parenting stress, and children's general health, emotional difficulties, coping behavior, and learning behavior (child outcomes) in households of same-sex (female) versus different-sex continuously coupled parents with biological offspring. We assessed whether associations among family relationships, parenting stress, and child outcomes were different in the two household types.

Methods: Parental and child characteristics were matched for 95 female same-sex parent and 95 different-sex parent households with children 6–17 years old. One parent per household was interviewed by telephone. Multivariate analyses of variance and multiple linear regressions were conducted.

Results: No differences were observed between household types on family relationships or any child outcomes. Same-sex parent households scored higher on parenting stress (95% confidence interval = 2.03–2.30) than different-sex parent households (95% confidence interval = 1.76–2.03), $p = .006$. No significant interactions between household type and family relationships, or household type and parenting stress, were found for any child outcomes.

Conclusions: Children with female same-sex parents and different-sex parents demonstrated no differences in outcomes, despite female same-sex parents reporting more parenting stress. Future studies may reveal the sources of this parenting stress.

Keywords

National Survey of Children's Health; same-sex parents; family relationships; parenting stress; child outcomes

Based on the 2013 National Health Interview Survey (NHIS), it is estimated that there are 690,000 same-sex couples living in the U.S., and that 19% of such couples and lesbian/gay/bisexual individuals are raising children under the age of 18.¹ As the number of children growing up in same-sex parent households increases, there remains ongoing debate about the impact of varied family forms on children's well-being.² The debate focuses on whether

children's psychological adjustment is affected more by the quality of family relationships than by family structure (i.e., same-sex parent versus different-sex parent household).²

A substantial body of research has been conducted on same-sex parent families.^{2–10} The phenomenon known as the “lesbian baby boom” began in the 1980s when sperm banks first opened their doors to lesbians.^{2,6} As same-sex parent adoption became legalized, increasing numbers of gay men became fathers, resulting in the “gay baby boom.”^{2,6} Since the lesbian baby boom preceded the gay baby boom by nearly two decades, female same-sex parent families have been studied most extensively. These investigations found that children reared in female same-sex parent families were comparable in well-being and problem behavior to those reared in heterosexual parent households, and that children's psychosocial adjustment was associated more with the quality of parenting than with parental sexual orientation.^{2–10} A majority of these studies relied on convenience samples^{2,4,6,7} and/or fertility clinic recruitment.^{2,5–7}

Using nationally representative data from the 1994–5 National Longitudinal Study of Adolescent Health, Wainright conducted the first study in which matched groups of adolescents with same- and different-sex parents were compared. The findings revealed that regardless of family type, adolescents were functioning well and those who were closer to their parents had better school outcomes.⁸ In more recent population-based studies focused on different family forms, parental relationship (in)stability or (dis)continuity, and family transitions (including foster care and adoption) have been considered because of their strong associations with child health outcomes.^{11–16} For example, using U.S. Census data, Rosenfeld reported that residentially stable children of same-sex and different-sex parents showed comparable progress through school.^{11,12} Likewise, using data from the U.S. Early Childhood Longitudinal Study, when family transitions were taken into account, Potter found no significant differences in academic achievement between children of same-sex parent and different-sex parent families.¹³ In contrast, Sullins reported higher rates of emotional problems in children of same-sex parents, based on aggregate 1997–2013 data drawn from the NHIS.^{15,16} However, there have been concerns about the validity of Sullins' findings because they either altogether failed to account for family stability,^{14,15} or conflated home ownership (a measure of socioeconomic status; SES) with family stability.^{14,16}

The present study uses data drawn from a nationally representative survey—the National Survey of Children's Health (NSCH).¹⁷ The NSCH included questions that made it possible to identify continuously coupled, same-sex and different-sex parents who were raising their own offspring.¹⁷ In order to account for the potential impact of instability, discontinuity, and transitions,¹⁴ the current study will focus only on two-parent families in which the offspring were reared since birth by parents who neither broke up nor divorced. For families with children between 6 and 17 years old, the NSCH also contained questions about family relationships, parenting stress, and child outcomes¹⁷ that made it possible to assess different predictors and outcomes than were used in Wainright and other matching studies,^{8,11,12} and thus determine whether the findings would be consistent. As such, the NSCH dataset provided a unique opportunity to investigate the following questions: (1) comparing same-sex two-parent to different-sex two-parent households with a biological target child, are there differences in family relationships (spouse/partner relationships and parent-child

relationships), parenting stress, or child outcomes (general health, emotional difficulties, coping behavior, and learning behavior)?; and (2) are the associations among family relationships, parenting stress, and child outcomes different between the two household types?

METHODS

Study Population and Procedures

The 2011–2012 NSCH was designed as a random-digit-dial telephone survey of 847,881 U.S. households to identify those with children under 18 years old. Of the 187,422 qualifying households, 95,677 respondents (68.6% mothers, 24.2% fathers, and 7.2% other relatives/guardians) completed interviews. If the household contained multiple children under 18 years old, one was randomly selected to be the sample child (SC) for the survey.¹⁸ More information about the 2011–2012 NSCH, including the design, data collection procedure, questionnaire content and sampling weight, can be found at: <http://www.cdc.gov/nchs/slaits/nsch.htm>.¹⁹ Questions related to parent-child relationship, children's emotional difficulties, coping behavior, and learning behavior were only asked of responding households with a child between a specified age interval—6–17 years old.¹⁷

Same-sex parent households containing 6–17-year-old children were identified as those in which the respondent and co-habiting partner had the same gender, and both identified as parents of the SC.¹⁷ Initial analyses revealed 139 female and 17 male same-sex parent households, but families were excluded from further analyses if the SC had ever experienced parental divorce or separation, or if the SC had been born in another family (i.e., experienced a family transition). After excluding these families, 106 same-sex parent households remained (68% of NSCH same-sex parent households with 6–17-year-old children), in all of which the parents were continuously coupled. Due to the small number ($n=8$) of male same-sex parent households within this group, only female same-sex parent households were included in the present study.

Matching was used to minimize any potential confounding effect²⁰ on the relationship between growing up in a same-sex parent household and family relationships, parenting stress, child general health, emotional difficulties, coping behavior, and learning behavior. For 95 of the 98 continuously coupled female same-sex parent households it was possible to conduct one-to-one matching (i.e., random sampling, without replacement),²¹ with 95 continuously coupled different-sex parent households based on parent characteristics (age, education, U.S. birth status, and current geographic location) and SC characteristics (age, gender, race/ethnicity, and U.S. birth status). Because the NSCH confidentiality policy prohibits analyzing or reporting on cell sizes smaller than five, information is not available about the three same-sex parent households that could not be matched on all eight characteristics.²² The matching procedure required restricted NSCH variables (i.e., not publicly available)²² that were accessed through the National Center for Health Statistics (NCHS) of the Centers for Disease Control and Prevention (CDC). Restricted variables included questions that were used to identify same-sex and different-sex parent households, those indicating whether the participating parent and SC were born in the U.S., and those used to verify that the SC had not been born in another family.

Table 1 provides the demographic characteristics of the matched sample. The parents were, on average, 48 years old. Most were high school graduates, had been born in the U.S., and lived in urban areas. The children (44.2% girls and 55.8% boys) were, on average, 11 years old; most were born in the U.S. and were identified as white-non Hispanic.

Measures

Family Relationships and Parenting Stress¹⁷—A single question assessed spouse/partner relationship: “Would you say that your relationship is completely happy, very happy, fairly happy, or not too happy?” In the present study, the answers were reversed so that they ranged from “not too happy” (1) to “completely happy” (4). A single item assessed the parent-child relationship: “How well can you and [SC] share ideas or talk about things that really matter?” (reversed coding: “1=not well at all” – “4=very well”). The average score on three items was used to assess the stress of parenting the SC: “During the past month, how often have you felt... (1) [SC] is much harder to care for than most children [his/her] age?”; (2) [he/she] does things that really bother you a lot?; (3) angry with him/her?” (“1=never” – “5=always”). Cronbach’s alpha for this scale was .62.

Children’s General Health, Emotional Difficulties, Coping Behavior, and Learning Behavior¹⁷—One item was used to assess health status: “In general, how would you describe [SC]’s health?” (reversed coding: “1=poor” – “5=excellent”). For children’s emotional difficulties, parents were asked to specify how often during the past month the SC was unhappy, sad, or depressed (“1=never” – “5=always”). Children’s coping behavior was measured by a single item that inquired whether the SC stayed calm and in control when faced with a challenge (“1=never” – “5=always”). A scale was constructed by taking the mean scores of the four items assessing children’s learning behavior (e.g., “He/She does all required homework”; “1=never” – “5=always”); Cronbach’s alpha was .75.

Analyses

To assess differences between same-sex and different-sex parent households on family relationships (spouse/partner relationship and parent-child relationship) and parenting stress, a 2×2 multivariate analysis of variance (MANOVA) was conducted, with household type and child gender as independent factors. Another 2 × 2 MANOVA was conducted with children’s general health, emotional difficulties, coping behavior, and learning behavior as dependent variables. When Wilks’s λ showed a significant household, gender, or interaction effect, univariate analyses of variance (ANOVAs) were conducted to clarify the multivariate findings.

To investigate associations among family relationships, parenting stress, and each child outcome variable, and to assess whether these relations differed by household type, multiple linear regression analyses were conducted. In these analyses, household type, spouse/partner relationship, parent-child relationship, and parenting stress, as well as household type × spouse/partner relationship, household type × parent-child relationship, and household type × parenting stress were entered as simultaneous predictors. Continuously scaled predictor variables were mean-centered prior to forming interaction terms, and dichotomous predictors were dummy-coded. If an interaction between household type and a predictor

(spouse/partner relationship, parent-child relationship, or parenting stress) was significant, this was an indication that the association between the predictor and this variable differed by household type. SAS version 9.2 was used for the analyses.

Ethics Approval

The CDC/NCHS Research Ethics Review Board approved the data collection procedures. Data were gathered as a module of the State and Local Area Integrated Telephone Survey under contract with National Opinion Research Center at the University of Chicago.¹⁸ Strict confidentiality and privacy regulations apply to all contract and federal project staff for all data (for more information about the NCHS confidentiality policy: www.cdc.gov/nchs/about/policy/confidentiality.htm).²³ The project proposal for the current study was approved by the CDC/NCHS.

RESULTS

Family Relationships and Parenting Stress

MANOVA showed a significant main effect for household type, Wilks's $\lambda = .95$, $F(3, 181) = 2.94$, $p = .035$. No main effect was found for child gender, Wilks's $\lambda = .98$, $F(3, 181) = 1.58$, $p = .196$. The interaction of household type \times child gender was not significant, Wilks's $\lambda = .99$, $F(3, 181) = .70$, $p = .552$. Follow-up univariate ANOVAs revealed that the observed effect for household type was only significant for parenting stress, $F(1, 181) = 7.76$, $p = .006$, $\eta^2 = .04$, meaning that same-sex parents reported significantly more stress than did different-sex parents. Table 2 shows mean scores, standard deviations (SD), and 95% confidence intervals (CI) for family relationships and parenting stress.

General Health, Emotional Difficulties, Coping Behavior, and Learning Behavior

MANOVA showed no significant main effect for child outcome variables based on household type, Wilks's $\lambda = .97$, $F(4, 183) = 1.56$, $p = .187$, however there was a significant main effect for child gender, Wilks's $\lambda = .93$, $F(4, 183) = 3.40$, $p = .010$, though the interaction of household type \times child gender was not significant, Wilks's $\lambda = .97$, $F(4, 183) = 1.45$, $p = .219$. Univariate ANOVAs showed significance only for learning behavior, $F(1, 181) = 5.18$, $p = .024$, $\eta^2 = .03$, with higher scores for girls than boys, suggesting that girls showed more interest in doing well in school. Mean scores, SDs, and 95% CIs for child outcome variables are shown in Table 3.

Associations Among Family Relationships, Parenting Stress, and Child Outcome Variables

A series of multiple regression analyses were conducted to investigate the associations between the predictors family relationships and parenting stress, and whether these relationships differed across household type. These regression analyses showed a significant R^2 for all child outcome variables (see Table 4). Reporting a more positive parent-child relationship was associated with higher levels of children's general health. Children's emotional difficulties were negatively associated with the predictors family relationships (spouse/partner relationship and parent-child relationship) and positively with the predictor parenting stress. Moreover, children experienced fewer emotional difficulties when the parents reported a more positive relationship with one another, a more positive relationship

with the child, and lower levels of parenting stress. Coping behavior and learning behavior were positively associated with parent-child relationship and negatively with parenting stress. Finally, the quality of parent-child relationship emerged as the sole predictor of both coping behavior and learning behavior, such that more positive relationships were associated with more effective coping and learning behavior. None of the interactions included in the equations were significant for any child outcomes (see Table 4), meaning that the significant associations among family relationships, parenting stress, and child outcomes did not significantly differ across same-sex and different-sex parent households.

DISCUSSION

This study used a population-based sample to explore family relationships, parenting stress, and children's general health, emotional difficulties, coping behavior, and learning behavior among households consisting of female same-sex continuously coupled parents with biological offspring and a matched sample of different-sex continuously coupled parents with biological offspring. With the exception of parenting stress, no significant differences were found between the two household types on family relationships and child outcomes. Across household types, regression analyses revealed that the predictor parent-child relationship was positively associated with children's general health, coping, and learning behavior; predictors family relationships (spouse/partner relationship and parent-child relationship) were negatively related to children's emotional difficulties; and the predictor parenting stress was positively associated with children's emotional difficulties, and negatively associated with their coping and learning behavior.

Despite higher levels of parenting stress for same-sex parents, their offspring did not differ in general health, emotional difficulties, coping behavior, or learning behavior when compared to the offspring of different-sex parents. This suggests that other factors may have mitigated the negative effects of parenting stress on child outcomes.²⁴ In the U.S. National Longitudinal Lesbian Family Study (NLLFS), a community-based survey initiated in 1986 to provide prospective data on a cohort of lesbian parent families, 41% of adolescent offspring described experiences of stigmatization associated with their mothers' sexual orientation.⁴ Although these experiences were associated with more problem behavior, adolescents who had close, positive relationships with their mothers demonstrated more resilience in response to stigmatization.²⁴ Studies have also shown that lesbian mothers have concerns about rearing their children in a homophobic society,⁴ and feel more pressure to justify the quality of their parenting than their heterosexual counterparts.⁷ As a result, lesbian mothers use support systems such as parenting groups and counseling services in their efforts to foster healthy child development.²⁵ Since the NSCH¹⁷ did not contain specific questions about stigmatization based on household type, future investigations might explore whether the cultural spotlight on child outcomes in same-sex parent families is associated with increased parenting stress.^{2,6}

It should be noted that the effect size for differences in parenting stress for same- and different-sex parents in the current study was modest.²⁶ G*Power version 3.1.9.1 (Faul, Erdfelder, Buchner, & Lang, 2009) was used to conduct post hoc power analyses ($\alpha = .05$). Analyses revealed adequate power ($1 - \beta$ error probability = 0.715) to detect a moderate

effect size for a MANOVA comparison of the two groups on the family relationships and parenting stress variables. However, the statistical power for the MANOVA assessing differences between the two household types on the four child outcome variables was low ($1 - \beta$ error probability = 0.492), which may have contributed to the nonsignificant findings. Power analyses for the four regression analyses also showed an adequate power ($1 - \beta$ error probability is between 0.890 and 1.000).

The findings on the child outcomes are in line with the results of other population-based studies^{8,11–13} comparing children with same-sex and different-sex parents that, like the present investigation, either matched the two groups^{8,11,12} or accounted for family stability.¹³ The observed similarity in child outcomes by household type is also consistent with numerous studies of lesbian- and gay-parent families using convenience- and/or fertility clinic-based samples,^{2,5–7} although the convenience-based U.S. National Longitudinal Lesbian Family Study (NLLFS) found that adolescents reared by lesbian mothers demonstrated more competencies and fewer behavioral problems than the normative sample of same-age youth,⁴ and the Dutch Longitudinal Lesbian Family Study that adolescent offspring of lesbian mothers had higher self-esteem than peers in different-sex parent families.²⁷ The current study contributes to the mounting evidence that children reared by same-sex parents fare at least as well as those reared by different-sex parents on a variety of measures used to assess psychological adjustment.^{2,6,8}

The NSCH¹⁷ did not collect information about the source of the sperm used for conceiving the children of same-sex mothers. It is conceivable that there might be differences in family relationships, parenting stress, or child outcomes associated with whether the sperm donor was known (i.e., a friend, acquaintance, or relative of the mother) or unknown (either open-identity, meaning that donor information will be available once the offspring reaches the age of 18, or unknown/anonymous). Yet, no differences in psychological adjustment or quality of life were found when 17-year-old NLLFS adolescents with known and unknown donors were compared.^{4,28} In addition, the NLLFS mothers' satisfaction with the type of donor chosen (known, open-identity, or unknown) was unrelated to psychological health problems in the adolescent offspring.²⁸

It is noteworthy that 68% of NSCH same-sex parents with 6–17-year-old children were continuously coupled. By the time the NLLFS offspring had reached the age of 10 (comparable to the mean age of children in the current study), no significant differences were found in relationship duration when separated NLLFS mothers were compared to their own heterosexual sisters who were divorced and also parents.²⁵ Longitudinal, population-based studies are needed to explore parental relationship (dis)continuity in same-sex and different-sex parent households during the time that the children are living at home.

A strength of the current investigation is that the data were drawn from a population-based survey on children's health that was not described to participants as a study of same-sex parent families,¹⁷ thus minimizing potential bias. In addition, there are also limitations. First, face-to-face interviews with multiple sources would have provided more comprehensive family assessments. Second, the small number of male same-sex co-parents in the NSCH precluded our including them in the analysis. Future studies that collect larger

sample sizes will allow more comprehensive analytic techniques (e.g., structural equations modeling). A third limitation was that income data were missing for nearly all continuously coupled same-sex co-parents in the NSCH; thus, parental education, which is highly correlated with income,²⁹ was the principal measure of SES. Further, as is often the case in large-scale surveys,³⁰ most studied topics could only be assessed through single-item NSCH questions that were narrowly construed.¹⁷ Reliability may have been increased if all dependent measures had consisted of multiple-item questions. In addition, the NSCH contained no questions about the sexual orientation of the respondent. A limitation of population-based surveys in general is that they yield extremely small numbers of non-heterosexual individuals,³¹ often because sexual orientation questions are not asked.

Despite these limitations, this NSCH-based study makes a unique contribution to the literature through a comparison of family relationships, parenting stress, and children's general health, emotional difficulties, coping behavior, and learning behavior in a sample of female continuously coupled same-sex parents with biological offspring matched to continuously coupled different-sex parents with biological offspring. Our analyses reveal that even though female same-sex parents acknowledge more parenting stress, their children demonstrate no differences in general health, emotional difficulties, coping behavior, and learning behavior from children reared in different-sex parent households. These findings are relevant to clinicians, public policy analysts, litigators, and legislators who are consulted on matters pertaining to same-sex parent families.

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Table 1

Demographic Characteristics of the Studied Sample

	Household type	
	Different-sex parent	Same-sex parent
Number of families	95	95
<i>Parent characteristics</i>		
Parent age in years (M, SD) ¹	47.41 (6.29)	47.80 (6.64)
Parent education		
High school or less	04.2%	04.2%
More than high school	95.8%	95.8%
Born in U.S.		
No	11.6%	11.6%
Yes	88.4%	88.4%
Family residence		
Urban	84.2%	84.2%
Rural	15.8%	15.8%
<i>Child characteristics</i>		
Child age in years (M, SD) ²	10.94 (3.20)	10.39 (3.36)
Child gender		
Female	44.2%	44.2%
Male	55.8%	55.8%
Child race/ethnicity		
Hispanic	11.6%	11.6%
White-non Hispanic	65.3%	65.3%
Black-non Hispanic	10.5%	10.5%
Multi-racial, other, non-Hispanic	12.6%	12.6%
Born in U.S.		
No	02.1%	02.1%
Yes	97.9%	97.9%

Note: NCHS confidentiality policy prohibits analyzing or reporting cell sizes <5, therefore percentages are used in this table.²²

¹ $F = 1.32, p = .252$

² $F = 0.17, p = .679$

Table 2

Family Relationships and Parenting Stress: Different-sex Parent versus Same-sex Parent Households

	M (SD)	95% Confidence Intervals (CI)		Cohen's <i>d</i>
		Lower CI	Upper CI	
Spouse/partner Relationship¹				
<i>Household type</i>				
Different-sex parent	3.12 (0.73)	2.98	3.26	.06
Same-sex parent	3.16 (0.65)	3.02	3.30	
<i>Child gender</i>				
Girl	3.10 (0.73)	2.95	3.25	.12
Boy	3.18 (0.66)	3.05	3.32	
<i>Household type × Child gender</i>				
Girl:				
Different-sex parent	3.15 (0.79)	2.93	3.36	.14
Same-sex parent	3.05 (0.66)	2.84	3.26	
Boy:				
Different-sex parent	3.09 (0.69)	2.91	3.28	.27
Same-sex parent	3.27 (0.63)	3.08	3.47	
Parent-child Relationship²				
<i>Household type</i>				
Different-sex parent	3.71 (0.54)	3.60	3.82	.04
Same-sex parent	3.69 (0.57)	3.58	3.80	
<i>Child gender</i>				
Girl	3.76 (0.55)	3.64	3.88	.22
Boy	3.64 (0.56)	3.53	3.75	
<i>Household type × Child gender</i>				
Girl:				
Different-sex parent	3.76 (0.48)	3.61	3.91	.00
Same-sex parent	3.76 (0.62)	3.57	3.95	
Boy:				
Different-sex parent	3.66 (0.59)	3.50	3.82	.07
Same-sex parent	3.62 (0.53)	3.48	3.76	
Parenting Stress³				
<i>Household type⁴</i>				
Different-sex parent	1.89 (0.52)	1.76	2.03	.41
Same-sex parent	2.16 (0.78)	2.03	2.30	
<i>Child gender</i>				
Girl	2.07 (0.70)	1.92	2.21	.12
Boy	1.99 (0.65)	1.86	2.11	
<i>Household type × Child gender</i>				

	95% Confidence Intervals (CI)			Cohen's $ d $
	M (SD)	Lower CI	Upper CI	
Girl:				.46
Different-sex parent	1.91 (0.51)	1.71	2.11	
Same-sex parent	2.22 (0.83)	2.02	2.42	
Boy:				.36
Different-sex parent	1.87 (0.54)	1.69	2.05	
Same-sex parent	2.10 (0.74)	1.92	2.28	

Note: Post hoc power analyses. Household type: $1 - \beta$ error probability = 0.715, $f^2 = 0.049$ ($N = 190$, $p < .05$). Child gender: $1 - \beta$ error = 0.430, $f^2 = 0.0262$ ($N = 190$, $p < .05$). Household type * Child gender: $1 - \beta$ error probability = 0.293, $f^2 = 0.012$ ($N = 190$, $p < .05$).

¹ 1 = "not too happy" – 4 = "completely happy"

² 1 = "not well at all" – 4 = "very well"

³ 1 = "never" – 5 = "always"

⁴ $p = .006$

Table 3

Children's General Health, Emotional Difficulties, Coping Behavior, and Learning Behavior: Different-sex Parent versus Same-sex Parent Households

	95% Confidence Intervals (CI)			Cohen's <i>d</i>
	M (SD)	Lower CI	Upper CI	
General Health¹				
<i>Household type</i>				
Different-sex parent	4.58 (0.72)	4.44	4.72	.07
Same-sex parent	4.63 (0.64)	4.49	4.77	
<i>Child gender</i>				
Girl	4.58 (0.66)	4.44	4.73	.07
Boy	4.63 (0.69)	4.50	4.76	
<i>Household type × Child gender</i>				
Girl:				
Different-sex parent	4.52 (0.67)	4.32	4.73	.18
Same-sex parent	4.64 (0.66)	4.43	4.85	
Boy:				
Different-sex parent	4.64 (0.76)	4.46	4.83	.03
Same-sex parent	4.62 (0.63)	4.44	4.81	
Emotional Difficulties²				
<i>Household type</i>				
Different-sex parent	1.93 (0.78)	1.78	2.09	.05
Same-sex parent	1.97 (0.73)	1.82	2.12	
<i>Child gender</i>				
Girl	2.05 (0.73)	1.89	2.21	.26
Boy	1.86 (0.76)	1.71	2.00	
<i>Household type × Child gender</i>				
Girl:				
Different-sex parent	2.00 (0.66)	1.77	2.23	.14
Same-sex parent	2.10 (0.79)	1.87	2.32	
Boy:				
Different-sex parent	1.87 (0.86)	1.66	2.07	.03
Same-sex parent	1.85 (0.66)	1.65	2.05	
Coping Behavior²				
<i>Household type</i>				
Different-sex parent	3.93 (0.82)	3.77	4.09	.34
Same-sex parent	3.66 (0.78)	3.50	3.82	
<i>Child gender</i>				
Girl	3.85 (0.81)	3.67	4.02	.12
Boy	3.75 (0.81)	3.59	3.90	

	95% Confidence Intervals (CI)			Cohen's $ d $
	M (SD)	Lower CI	Upper CI	
<i>Household type × Child gender</i>				
Girl:				.58
Different-sex parent	4.07 (0.71)	3.83	4.31	
Same-sex parent	3.62 (0.85)	3.38	3.86	
Boy:				.11
Different-sex parent	3.79 (0.88)	3.58	4.01	
Same-sex parent	3.70 (0.72)	3.48	3.91	
Learning Behavior²				
<i>Household type</i>				
Different-sex parent	4.33 (0.61)	4.21	4.45	.13
Same-sex parent	4.25 (0.60)	4.13	4.37	
<i>Child gender³</i>				
Girl	4.39 (0.58)	4.26	4.52	.34
Boy	4.19 (0.61)	4.08	4.31	
<i>Household type × Child gender</i>				
Girl:				.43
Different-sex parent	4.51 (0.35)	4.33	4.69	
Same-sex parent	4.27 (0.72)	4.09	4.45	
Boy:				.15
Different-sex parent	4.15 (0.71)	3.99	4.31	
Same-sex parent	4.24 (0.49)	4.08	4.40	

Note: Post hoc power analyses. Household type: $1 - \beta$ error probability = 0.492, $f^2 = 0.034$ ($N = 190$, $p < .05$); Child gender: $1 - \beta$ error = 0.860, $f^2 = 0.074$ ($N = 190$, $p < .05$); Household type * Child gender: $1 - \beta$ error probability = 0.676, $f^2 = 0.032$ ($N = 190$, $p < .05$).

¹ 1 = "poor" – 5 = "excellent"

² 1 = "never" – 5 = "always"

³ $p = .024$

Linear Regression of Household Type¹, Family Relationships, and Parenting Stress vis-à-vis Children's General Health, Emotional Difficulties, Coping Behavior and Learning Behavior

Table 4

	B	SE	95% Confidence Intervals (CI)			F	p	R ²
			Lower CI	Upper CI	p			
General Health²						2.63	.013	.09
Household type ¹	0.02	0.05	-.08	.12	.725			
Spouse/partner relationship ³	0.02	0.07	-.12	.16	.773			
Parent-child relationship ⁴	0.31	0.09	.12	.50	.001			
Parenting stress ⁵	-.01	0.09	-.17	.16	.946			
Household type × Spouse/partner relationship	0.11	0.07	-.03	.25	.139			
Household type × Parent-child relationship	-.06	0.09	-.25	.13	.533			
Household type × Parenting stress	-.10	0.09	-.27	.07	.248			
Emotional Difficulties⁵						4.68	<.0001	.15
Household type ¹	-.02	0.05	-.12	.09	.749			
Spouse/partner relationship ³	-.16	0.08	-.31	-.01	.032			
Parent-child relationship ⁴	-.28	0.10	-.48	-.08	.006			
Parenting stress ⁵	0.24	0.09	.07	.42	.008			
Household type × Spouse/partner relationship	-.02	0.08	-.17	.13	.793			
Household type × Parent-child relationship	-.10	0.10	-.30	.10	.321			
Household type × Parenting stress	-.01	0.09	-.19	.17	.936			
Coping Behavior⁵						7.27	<.0001	.22
Household type ¹	-.06	0.06	-.17	.05	.293			
Spouse/partner relationship ³	0.04	0.08	-.12	.19	.637			
Parent-child relationship ⁴	0.24	0.10	.03	.44	.024			
Parenting stress ⁵	-.43	0.09	-.62	-.25	<.0001			

	B	SE	95% Confidence Intervals (CI)		F	p	R ²
			Lower CI	Upper CI			
Household type × Spouse/partner relationship	-0.02	0.08	-.18	.13	.752		
Household type × Parent-child relationship	0.03	0.10	-.18	.23	.796		
Household type × Parenting stress	-0.00	0.09	-.19	.18	.965		
Learning Behavior⁵					7.35	<.0001	.22
Household type ¹	0.01	0.04	-.07	.09	.765		
Spouse/partner relationship ³	0.04	0.06	-.08	.16	.507		
Parent-child relationship ⁴	0.19	0.08	.04	.35	.014		
Parenting stress ⁵	-0.31	0.07	-.45	-.17	<.0001		
Household type × Spouse/partner relationship	-0.03	0.06	-.14	.09	.624		
Household type × Parent-child relationship	-0.01	0.08	-.17	.14	.857		
Household type × Parenting stress	-0.07	0.07	-.20	.07	.348		

Note: Post hoc power analyses. General health: 1 - β error probability = 0.890, $f^2 = 0.099$ (N = 187, $p < .05$); Emotional difficulties: 1 - β error probability = 0.999, $f^2 = 0.210$ (N = 187, $p < .05$); Coping behavior: 1 - β error probability = 1.000, $f^2 = 0.331$ (N = 187, $p < .05$); Learning behavior: 1 - β error probability = 1.000, $f^2 = 0.378$ (N = 187, $p < .05$).

¹ -1 = different-sex parent household, +1 = same-sex parent household

² 1 = "poor" - 5 = "excellent"

³ 1 = "not too happy" - 4 = "completely happy"

⁴ 1 = "not well at all" - 4 = "very well"

⁵ 1 = "never" - 5 = "always"