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Gender-Typed Behavior Over Time in Children with Lesbian, Gay, and Heterosexual Parents

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Abstract

The current longitudinal study examined patterns and predictors of parent-reported gender-typed play behavior in adopted boys and girls in lesbian, gay, and heterosexual two-parent families, across early childhood (*M*age = 2.82 to 6.06 years). Specifically, using a sample of 181 couples (56 lesbian couples, 48 gay male couples, and 77 heterosexual couples), we examined parent reports of children's gender-typed play behavior on the Pre-School Activities Inventory (PSAI; Golombok & Rust, 1993) at three time points (mean age = 2.82 years at T1, 3.93 years at T2, and 6.06 years at T3). Family structure variables (i.e., parents' gender and sexual orientation; children's gender and sibling status) were included as predictors. At T1, according to parent reports, children in lesbian-parent families had less gender-differentiated behavior (boys were less masculine, girls were less feminine) than children in heterosexual- and gay-parent families, whereas the degree of gender differentiation did not differ between heterosexual- versus gay-parent families. Findings from a Common Fate Growth Model (Ledermann & Macho, 2014) revealed that, regardless of family type, the parent-reported gender-typed behavior of boys, but not girls, significantly changed over time (i.e., boys' behavior became more masculine). Our findings have implications for researchers who study gender development in children and adolescents, particularly those who are being raised by two mothers or two fathers.

Keywords

children; gay; gender development; lesbian; multilevel modeling; play; siblings

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The aim of the current study was to examine predictors of, and changes in, parent-reported gender-typed play behavior across early childhood, in a sample of adopted children in lesbian-, gay-(LG), and heterosexual-parent families. This research is particularly timely in that (a) LG parent-families are becoming more common and visible in society (Goldberg & Gartrell, 2014); and (b) adult gender roles have undergone major changes over the past few decades, prompting recognition by scholars that engaging in rigidly gendered behaviors and activities is not necessarily beneficial to children, but may in fact limit and restrict their development (Blakemore, Berenbaum, & Liben, 2009). Developing a more balanced, less

differentiated repertoire of behaviors and activities may actually enhance children's ability to succeed and thrive in a range of contexts (Blakemore et al., 2009).

By examining data from LG and heterosexual parents who all became parents via adoption, this study avoids confounds related to biological parent-child relationships, in that gender-typed behavior may be hormonally and genetically mediated (Iervolino, Hines, Golombok, Rust, & Plomin, 2005). By including parents who became parents via the same route, this study overcomes limitations of prior work, which has often compared children born to lesbian mothers via donor insemination (and thus had a biological relationship to one parent) to children born to heterosexual parents (who were biologically related to both parents; Bos & Sandfort, 2010; MacCallum & Golombok, 2004). Finally, the longitudinal design represents a methodological advancement over prior cross-sectional work on the gender-typed play of children with LG and heterosexual parents (Farr, Forssell, & Patterson, 2010; Goldberg, Smith, & Kashy, 2012; Golombok et al., 2003), and can shed insight into how the gender development of children with LG parents unfolds across the life course.

Next, we present two theoretical frameworks that can inform hypotheses about the gender-typed play of children in LG- and heterosexual-parent families. Then, we discuss the literature.

Theoretical Framework

Both social constructionist and social learning theories suggest that the gender-typed play and activities of children raised in LG two-parent households may differ from that of children raised in heterosexual two-parent households. Social constructionist theories point to the ways in which LG parents, in part because of their own tendency to hold less gender-stereotyped beliefs and behaviors than heterosexual parents (Fulcher, Sutfin, & Patterson, 2008), may create different home environments for their children, thus cultivating different types of play behaviors. LG parents may be less likely to purchase toys, clothing, and room furnishings based on gender, and to select activities such as sports for their sons and dance class for their daughters (Sutfin, Fulcher, Bowles, & Patterson, 2008). Further, they may be more likely to steer their children away from traditional gender scripts, thus encouraging them to develop less gender-stereotyped behavioral repertoires (Berkowitz & Ryan, 2011), although this tendency may be most salient for lesbians, who, as women and sexual minorities, may be especially motivated to resist oppressive gender norms (Averett, 2015). At the same time, social constructionist theories could be leveraged to argue for few differences across family type, as they emphasize the many social contexts beyond the family (e.g., peers) that shape children's constructions of gender (Blakemore et al., 2009).

In contrast to social constructionism, which allows us to speculate at a general level about how LG parents may create an environment that encourages gender flexibility, social learning theory pushes us to consider how the presence or absence of a same-gender parent in the home may impact gender-typed behavior. According to this theory, parents (as well as other important socializing agents, including peers, teachers, and grandparents) participate in children's gender socialization by differentially reinforcing their behavior (e.g., rewarding gender-stereotyped behavior; punishing gender-atypical behavior; Bussey & Bandura, 1999).

Indeed, empirical work has found that boys whose parents respond more positively to their masculine behavior and less positively to their feminine behavior tend to show more masculine and less feminine behavior; parallel findings have been documented for girls (Eisenberg, Wolchik, Fernandez, & Pasternack, 1985; Hsu, 2005). If, as research suggests, LG parents value gender conformity in children less than heterosexual parents do (Sutfin et al., 2008), they may be less likely to engage in differential reinforcement, facilitating less gender-typed play.

Social learning theory also emphasizes the significance of a same-gender parent, whereby gender socialization is in part accomplished via parental modeling (Bussey & Bandura, 1999), as well as imitation of other key socializing agents, such as peers and siblings (Blakemore et al., 2009). Thus, boys with lesbian mothers may show less gender-typed play than boys with gay fathers or a heterosexual father; and, girls with gay fathers may show less gender-typed play than girls with lesbian mothers or a heterosexual mother. In turn, this theory also suggests that children who grow up with two parents of the same gender may show different gender role behaviors than those with two parents of different genders. It further suggests that this effect may be moderated by child gender, such that children who grow up in homes without a parent of their gender may be less gender-typed because they lack a same-gender model to emulate (Bussey & Bandura, 1999).

In this study, we seek to examine the effect not only of parent gender composition (male-female, male-male, female-female) but also sibling gender composition. With sibling pairs, there are four possible compositions: both male, both female, older female and younger male, and older male and younger female. According to social learning theory, siblings may, like parents, act as agents of gender socialization, such that the presence of a same-gender sibling may enhance gender-typed play through the dual functions of modeling and reinforcement (Blakemore et al., 2009). For example, even in the absence of a same-gender parent, observing and participating in the gender-typed play of a sibling may have similar instructional and reinforcing effects (McHale, Kim, Whiteman, & Crouter, 2004). Thus, sibling gender may interact with child gender to shape gender-typed play. Notably, our investigation of sibling gender is exploratory, insomuch as all of the adopted children in the study with siblings had younger, but not older, brothers and sisters. Thus, this study provides a unique opportunity to investigate the potential role of younger siblings on gender socialization, but precludes an investigation all possible sibling configurations.

Research on Children’s Gender-Typed Behavior in Heterosexual-Parent Families

Extensive research has explored children’s gender-typed behavior. This work shows that children demonstrate gender-stereotyped toy and activity choices as early as 18 months, with boys choosing masculine stereotyped toys and play activities and girls choosing feminine stereotyped toys and play activities (Alexander, Wilcox, & Woods, 2009; Golombok et al., 2008; Jadva, Hines, & Golombok, 2010). These patterns are fairly well established by the age of three (Golombok & Rust, 1993; Golombok et al., 2008). Preschool-aged boys tend to play more with toy vehicles (e.g., trucks), tool sets, balls, swords, and toy guns, whereas

girls tend to play more with dolls, domestic items (e.g., tea sets), art, and dressing up (Servin, Bohlin, & Berlin, 1999; Zosuls et al., 2009).

Gender-stereotyped play and behaviors appear to become more rigid among both girls and boys in early childhood, intensifying in particular during the preschool years (e.g., age 3-5; Halim, Ruble, Tamis-Lamonda, & Shrout, 2013; Servin et al., 1999), although boys have been found to show greater rigidity in gender-typed preferences and activities than girls during this period (Cherney et al., 2003; Servin et al., 1999). By age 5, children's toy and activity preferences tend to be distinctly gendered but with boys being more likely to avoid cross-gendered toys than girls during this time (Blakemore et al., 2009). As children enter middle childhood, gendered differences in play behavior are sustained (Antill, Cotton, Russell, & Goodnow, 1996).

Conclusions about the continuity of gender differences in play behavior are largely based on comparing cross-sectional studies of different age groups. Few studies have examined children's gender-typed behavior across childhood, although longitudinal studies are generally consistent in showing that gender-typed behaviors in early childhood remain relatively stable or increase (Halim et al., 2013; McBride-Chang & Jacklin, 1993), and are related to gender identity in early adolescence (Golombok et al., 2008). One study – which was unique in examining several dimensions of gender-typed behavior – found that although gender-typed behaviors became more rigid between ages 3-5, this rigidity was most pronounced between ages 3-4, and children showed increasing gender flexibility in some areas (e.g., appearance) between age 4-5 (Halim et al., 2013).

Research on Children's Gender-Typed Behavior in LG-Parent Families

Social constructionist and social learning theories suggest that children's gender-related behaviors may vary as a function of family structure. Yet research is conflicting on this point. Golombok et al. (2003) used a modified version of the Pre-School Activities Inventory (PSAI; Golombok & Rust, 1993) to examine the gender-typed activities of school-aged children (mean age = 7 years) in 39 lesbian-mother, 60 single-mother, and 74 heterosexual two-parent families and found no differences in behavior by family type. Farr et al. (2010) used the PSAI to examine the gender-typed play of preschool-aged children (mean age = 3 years) in 27 lesbian-, 29 gay-, and 50 heterosexual-parent families and also found no differences in behavior by family type. Finally, a prior cross-sectional study that used a subsample of the current sample and the PSAI to examine the gender-typed play of preschool children (mean age = 2.5 years) in 44 lesbian-, 34 gay-, and 48 heterosexual-parent families found that sons of lesbian mothers were less masculine in their play than sons of both gay fathers and heterosexual parents (Goldberg et al., 2012).

Studies of older children in LG and heterosexual parent families have documented some differences in gender-related behaviors and attitudes according to family structure. MacCallum and Golombok (2004) studied school-aged children (mean age = 12 years) in single-mother families, lesbian two-mother families, and heterosexual two-parent families, and found that boys in "father-absent families" (single- and lesbian-mother families) demonstrated higher levels of self-reported feminine behaviors than boys in "father-present

families" (heterosexual-parent families), but did not differ in their reports of masculine-typed behaviors. Similarly, school-aged children of lesbian mothers have been found to have less gender-stereotyped attitudes than children of heterosexual parents (Bos & Sandfort, 2010) and to be more tolerant of gender role-related transgressions (e.g., a boy wearing nail polish) than children of heterosexual parents (Sutfin et al., 2008).

In sum, although theory suggests differences in young children's gender-related behaviors as a function of family type, the research is somewhat mixed. Notably, existing studies have been limited with regard to their use of cross-sectional designs (Goldberg et al., 2012; Farr et al., 2010) and the complexity of family structures represented (e.g., Golombok et al., 2003). The current study is longitudinal, and focuses only on families who adopted their children, thus controlling for family building route. It builds on a prior cross-sectional study (Goldberg et al., 2012) that explored gender-typed behavior in LG- and heterosexual-parent families, but goes beyond it to (a) assess gender-typed play across early childhood, using three time points, (b) use an underutilized but important technique that is perfectly suited for modeling parents' reports of children's gendered play over time, and (c) examine the role of younger siblings in predicting children's gender-typed behavior.

Sibling Gender Composition

Like parent gender composition, sibling gender composition may shape children's gender development. Research has generally found that same-gender sibling dyads (brother-brother, sister-sister) are the most gender-typed in their play, likely in part due to the intensive mirroring and modeling of behaviors of others who share the same gender (Rust et al., 2000). Male sibling dyads tend to engage in more male-gender-typed activities than other dyad types, whereas female sibling dyads show more female-gender-typed play than other dyad types (Rust et al., 2000).

In addition, girls with brothers, especially older brothers, have been found to have more masculine (less feminine) interests than other girls (i.e., girls with no siblings, and especially girls with sisters; Rust et al., 2000; Wagner, Schubert, & Schubert, 1993). Boys with sisters, especially older sisters, tend to have more feminine (less masculine) interests than boys with brothers and boys without siblings (Rust et al., 2000; Wagner et al., 1993). The least gender-typed activities in which children take part tend to be those that they engage in with their different gender siblings; and, there is evidence that children who engage in more cross-gender activities when they are young tend to maintain less gender stereotyped interests over time (McHale et al., 2004). Thus, having a different-gender older sibling may have implications for gender development.

In this study, all of the adopted children were their parents' first children; any siblings that they had were adopted after them, and in all cases were younger than them. Theory (Bussey & Bandura, 1999) and research (Farkas & Leaper, 2014; McHale, Updegraff, Helms-Erikson, & Crouter, 2001) suggest that older siblings have stronger effects on younger children's gender development than the reverse, as older siblings are more likely to be role models and to offer opportunities for siblings to practice behaviors via shared play. Younger siblings may exert some effect on gender development, but the mechanisms of influence

may be more complex and less straightforward. McHale et al. (2001) found evidence of gender "de-identification" in the case of firstborn girls' gender role attitudes, whereby older girls with younger brothers had less traditional attitudes, which may reflect "girls' reaction against the potential for a younger brother to be granted special privileges by virtue of his being male" (p. 123).

The Current Study

This longitudinal study utilizes a sample of 181 couples, all of whom had been placed with their adopted child two years prior, and thus had been parents for just over two years, at the time of the first assessment (T1). Of note is that the prior cross-sectional study that utilized a subsample of the current sample used data only from T1, when children were preschool-aged (Goldberg et al., 2012). All of the children (*M*age = 2.82 years at T1) were adopted. We aimed to examine, using parent report, whether the degree of conformity to gendered norms with regards to play behavior, and changes in masculine/feminine play behavior over time, differs by parent variables (i.e., family type [lesbian-, gay-, or heterosexual-parent family]) and child variables (i.e., child gender and sibling composition). That is, in addition to examining level of conformity to gendered norms in play behavior as a function of family type and other factors, we examined the stability of these patterns across early childhood (*Mage* = 2.82 years to 3.93 years to 6.06 years), as well as predictors of change in masculine/feminine play behavior.

We used the Common Fate Growth Model (CFGM; Ledermann & Macho, 2014) to model children's gender-typed play over time, using both parents' reports of their child's behavior. The Common Fate Model (CFM) treats the two partners' scores in a dyad (e.g., parents' reports of their child's behavior) as indicators of a latent construct (e.g., children's gender-typed behavior; Ledermann & Kenny, 2012). Although the CFM is useful for modeling all constructs operating at the dyadic level of analysis, or level two, it has been underutilized relative to other dyadic models, such as the Actor-Partner Interdependence Model (APIM; Ledermann & Kenny, 2012). The CFM has an advantage over the APIM when actor and partner variables are highly correlated between dyad members (as in the current study; see description of the PSAI in the Measures section) and when the construct is conceptually at the dyadic level—such as when two parents report on a child—because estimation issues due to multicollinearity are avoided, measurement error is removed, and the construct is investigated at the appropriate level of analysis. In the current study, parents reported on their child's behavior at three points in time, and we used the CFGM to estimate the level and change in children's behavior. Further, we also tested predictors of the level and change in behavior over time.

Social constructionist theory suggests that daughters of both lesbian mothers and gay fathers may show less gender-typed play (more feminine, less masculine) than daughters of heterosexual parents; and sons of lesbian mothers and gay fathers may show less gender-typed play than sons of heterosexual parents; although, it is possible that the children of lesbian mothers will show the least gender-typed behavior, due to their mothers' identities as both female and sexual minorities. Contrastingly, social learning theory suggests that children who lack a same-gender parental role model (boys with lesbian mothers; girls with

gay fathers) may show less gender-typed behavior. Social learning theory also suggests that children with different-gender siblings may show less gender-typed play behavior than those with same-gender siblings or no siblings—although these processes may be attenuated when the sibling is younger.

Based on prior work (e.g., Halim et al., 2013), we expect that the behavior of boys and girls should become more gender-typed over time (i.e., girls should become more feminine and boys more masculine), although again, there may be differences according to family structure. Less theoretical work has outlined differences in changes in gendered behavior by family type—thus, we consider these analyses to be exploratory.

Method

Data from 181 couples (346 individuals) were analyzed. In 16 of the 181 couples, data from only one parent were available, and utilized (i.e., 4 lesbian, 5 gay, and 7 heterosexual individuals—1 woman, 6 men—did not provide data); thus, data for at least 1 time point were present for both members of 52 lesbian, 43 gay and 70 heterosexual couples. At the first assessment, the adopted children were, on average, 2.82 years (71.3% of the sample was under 3 at the 1st time point, 24.3% was between 3-6, and 4.4% was between 6-11).

Description of the Sample

Descriptive data for the sample, by family type, is in Table 1. An ANOVA revealed that 2 years post-adoption, the average family incomes for lesbian, gay, and heterosexual couples did not differ significantly, $F(2, 154) = 2.16$, $p = .118$. To examine differences in levels of education across the three groups it was necessary to use multilevel modeling (MLM), as one parent's scores could not be treated as independent from the other parent's. MLM analyses revealed no differences in levels of education across the three groups, $p = .877$.

Fifty-two percent of lesbian couples, 75% of gay couples, and 58% of heterosexual couples had adopted via private domestic adoption; 34% of lesbian couples, 19% of gay couples, and 9% of heterosexual couples had adopted through public domestic adoption (i.e., the child welfare system); and 14% of lesbian couples, 6% of gay couples, and 33% of heterosexual couples had adopted through private international adoption. These distributions of adoption type were significantly different across family type, $\chi^2(4) = 25.11$, $p < .001$. Forty-five percent of lesbian couples, 40% of gay couples, and 49% of heterosexual couples adopted a girl; likewise, 55% of lesbian couples, 60% of gay couples, and 51% of heterosexual couples adopted a boy. The distribution of child gender did not significantly differ by family type, $\chi^2(2) = 1.15$, $p = .562$.

The mean age of children at placement was 10.40 months ($Mdn = 0.50$ months, $SD = 21.07$ months); thus, at the time of the 2 year post-placement follow-up (T1), children were on average 33.52 months, or about 2.79 years old ($Mdn = 24.00$ months, $SD = 18.40$ months). At T1, the children of lesbian, gay, and heterosexual couples were 35.84 months ($SD = 20.71$), 34.67 months ($SD = 23.51$) and 31.12 months ($SD = 11.79$), respectively. An ANOVA indicated that child age at placement did not differ significantly by family type, $F(2, 177) = 0.05$, $p = .954$. A minority of the children acquired siblings over the course of

the three time points: 30.4% of lesbian couples, 41.7% of gay couples, and 19.0% of heterosexual couples adopted a second child (in all cases, they were younger than the target child). There were statistically significant differences in sibling status by family type, $\chi^2(2) = 11.18$, $p = .025$, with a larger percentage of children in gay male parent families having siblings. For lesbian couples, 58.9% of their second children were adopted before T1, 23.5% before T2, and 17.6% before T3; for gay male couples, 47.4% of their children were adopted before T1, 21.1% before T2, and 31.6% before T3; for heterosexual couples, 35.7% of their second children were adopted before T1, 14.3% before T2, and 50.0% before T3.

The adoptive parents in the sample were mostly White/European-American (91.1% of lesbians, 79.2% of gay men, and 89.9% of heterosexuals). Chi-square analyses indicated that there were no differences in parent race by group, $\chi^2(2) = 0.12$, $p = .163$. The children that couples adopted were racially diverse: 31.7% were White/European-American, 10.9% were Black/African-American, 10.9% were Asian/Asian-American, 15.3% were Latino(a)/Hispanic, 19.1% were multiracial, and 12.0% were missing information on race. Child race (White/European-American versus Of Color) did not significantly differ as a function of family type, $\chi^2(2) = 4.60$, $p = .100$.

Recruitment and Procedures

Inclusion criteria for the original study were: (a) couples must be adopting their first child; and (b) both partners must be becoming parents for the first time. Participants were originally recruited during the pre-adoptive period (i.e., while couples were waiting for a child placement). Adoption agencies throughout the US were asked to provide study information to clients who had not yet adopted. U.S. census data were utilized to identify states with a high percentage of same-gender couples (Gates & Ost, 2004) and effort was made to contact agencies in those states. Over 30 agencies provided study information to clients, and interested couples were asked to contact the principal investigator for details about participation. Both heterosexual and same-gender couples were targeted through these agencies to facilitate similarity on geographical location.

Participation in the original study of the transition to adoptive parenthood entailed completion of a questionnaire packet and participation in a telephone interview while participants were waiting to be placed with their first child, and then again three months after. Two years after they were placed with a child, parents were re-contacted to complete follow-up questionnaire packets and individual interviews (T1). Then, three years after they adopted (T2), and five years after they adopted (T3), participants were asked to complete questionnaire packets. The data we draw on in this study come from the T1, T2, and T3 assessment points.

Measures

Outcome: Parents' reports of children's play behavior—The Pre-School Activities Inventory (PSAI) was administered 2 years post-adoptive placement (or when the children were about 2.8 years), 3 years post-placement (when the children were about 4 years), and 5 years post-placement (when the children were about 6 years). The PSAI is a psychometrically constructed instrument designed for use with parents or caretakers of

children aged 3-7 that assesses children's gendered play behaviors (Golombok & Rust, 1993). Stability coefficients demonstrate high stability over time among both boys and girls (Golombok et al., 2008), and the responses of parents and teachers on this measure are highly correlated (Golombok & Rust, 1993).

The PSAI consists of 24 items addressing three aspects of play behavior: toys (7 items; e.g., tea set; tool set), activities (11 items; e.g., playing at taking care of babies; climbing), and characteristics (6 items; e.g., avoids getting dirty; enjoys rough and tumble play). Parents use a 5-point scale (1 = *never*, 5 = *very often*) to rate how often their child plays with the toy, engages in the activity, and demonstrates the characteristic. These items, which assess feminine or masculine play, are used to create masculine (12 items) and feminine (12 items) scales. The feminine scale is subtracted from the masculine scale to create a composite measure (Golombok & Rust, 1993).

The scoring system of the PSAI was designed to overcome various sources of bias. For example, use of a composite measure (as opposed to separate masculine/feminine scales) ensures that the number of toys available to the child does not artificially inflate their score. A higher score on this composite measure represents more masculine behavior, and a lower score represents more feminine behavior; the PSAI is designed to "discriminate both within and between the sexes so that variation among as well as between boys and girls can be assessed" (Golombok & Rust, 1993, p. 132). Scores are then standardized according to age for direct comparison purposes (Golombok & Rust, 1993); however, in using PSAI scores as outcomes in age homogenous samples, such as in this study, it is advisable not to age standardize (Rust, personal communication). Thus, in this study, the PSAI scores at the 3 time points were not standardized according to age. (See Table 2 for a breakdown of PSAI scores for boys and girls by family type.) Alphas for the feminine scale were .84, .84, and .87 for lesbian, gay, and heterosexual parents, respectively; alphas for the masculine scale were .74, .71, and .70 for lesbian, gay, and heterosexual parents, respectively.

In the standardization sample (Golombok & Rust, 1993), the mean composite PSAI score for all children was 51.10; the mean composite PSAI score for boys was 61.66 (N = 1166, SD = 9.40); and the mean composite PSAI score for girls was 38.72 (N = 926, SD = 9.66). The age standardized PSAI scores for boys and girls were similar in the current sample. Namely, the mean PSAI scores for girls were 37.99 (SD = 11.30) at T1 (when children were about 2.8 years old), 32.13 (SD = 10.13) at T2 (when children were about 3.9 years old), and 27.92 (SD = 11.31) at T3 (when children were about 6 years old). For boys, the mean PSAI score were 58.88 (SD = 8.06) at T1, 57.94 (SD = 12.63) at T2, and 55.51 (SD = 11.90) at T3. The intraclass correlations (ICC) for the PSAI were .79, .82, and .86 at T1, T2, and T3, respectively. These ICCs are high, providing an empirical justification for use of the Common Fate Model instead of the APIM.

Predictors

Family type—Family type was included in the model as two dummy variables (lesbian-mother family dummy variable, and heterosexual-parent family dummy variable). To test for differences between lesbian-mother families and heterosexual-parent families, the heterosexual dummy variable was swapped out for the gay-father dummy variable.

Child gender—Child gender was effects coded 1 for male and -1 for female.

Child sibling status—The target child was the couple's first child; in turn, sibling status —target child has a sister, target child has no sibling, or target child has a brother—was included as a predictor with two dummy variables (i.e., a younger sister and a younger brother dummy).

Controls

Parent education—Parent educational level (1-6 where 1 = *less than high school education*, 2 = *high school diploma*, 3 = *associate's degree/some college*, 4 = *bachelor's degree*, 5 = *master's degree*, and 6 = *PhD/MD/JD*) was averaged across the two parents and included as a control.

Family income—Family income (i.e., partners' combined income), in tens of thousands of dollars, was included as a control.

Analysis Strategy: Common Fate Model

The CFM is useful for testing models with processes occurring at the dyadic level of analyses (Griffin & Gonzalez, 1995; Kenny & La Voie, 1985). If we are interested in constructs for the dyad, or family, as opposed to constructs that are separate for the two persons, the CFM is more appropriate than the APIM (Kenny, Kashy, & Cook, 2006). In this study, we were interested in the gendered behavior of the child, as reported by the two dyad members. The CFM treats the two members' reports of the child's play as indictors of the child's behavior, a construct at the family level. Structural Equation Modeling is used to estimate parent-reported gendered play as a latent variable. Further, we wish to investigate changes in the parent-reported gendered play of children across three time points. To estimate the change over time (slope) and level (intercept) of parent-reported gendered play behavior, we used Amos 21 and Full Information Maximum Likelihood Estimation (FIML) to estimate a CFGM (see Figure 1; Ledermann & Macho, 2014).

All factor loadings were fixed to 1, the intercepts of the indicators as well as factors were fixed to 0, and the error variances of the indicators were fixed to be equal across dyad members, but free to vary across time. Ledermann and Macho (2014) refer to this model as the *strong factorial invariance model*. The CFGM estimates within-person error covariances across time points. In our model, the error covariances for each pair of time points were fixed to be equal across dyad members because our dyads are indistinguishable (Ledermann & Macho, 2014). Factor error variances for the three common fate factors were free to vary across time. Time 1 was treated as the intercept, and time was assumed to be constant across time points. Lastly, the error covariance between the latent intercept and slope was estimated.

Results

Model Selection

Variables of interest—family type (included as two dummy variables), child gender (effects coded: 1 = boy, −1 = girl), and sibling composition (included as two dummy variables)—are included as predictors of the intercept and slope of children's gendered behavior. In addition, we included in our analyses the two-way interaction of child gender and sibling composition.

The final model included the main effects of all predictors, the interaction of family type and child gender, and the interaction of child gender and sibling composition (Figure 2). In this final model, the CFGM latent child gendered behavior variable at T3 was fixed to zero because the original estimate was negative. Path estimates from this model are in Table 3. Because our dyads are indistinguishable (same-gender as well as heterosexual couples), we calculated the fit of our SEM model as described in Olsen and Kenny (2006). The model was a good fit to the data, $\chi^2(13) = 17.76$, $p = .167$, $CFI = 0.996$, $TLI = 0.973$, $RMSEA = 0.045$.

Due to the number of parameters needed (an additional 16 paths: 8 for the intercept and 8 for the slope) to test if the interactions of child gender and sibling status differed by family type, the sample size precluded tests of these three-way interactions.

Predictors of Level of Parent-Reported Gendered Play Behavior

The overall intercept (T1) of parent-reported gendered play behavior for children did not differ between lesbian-parent families and gay male-parent families, $b = -1.64$, $SE = 1.58$, $p = .298$, between gay male-parent and heterosexual-parent families, $b = -0.67$, $SE = 1.49$, $p = .650$, or between lesbian-parent families and heterosexual-parent families, $b = 0.98$, $SE = 1.37$, $p = .474$. Note that all intercept estimates refer to families with no siblings.

We also estimated the effects of (a) child gender, (b) family type and (c) the interaction between child gender and family type (lesbian parent, gay male parent, and heterosexual parent) on the level of parent-reported gendered behavior at Time 1 (T1; intercept) (*M*age = 2.82 years). As expected, there was a statistically significant effect of child gender on the level of gendered behavior at T1, such that, according to parent reports, boys had more masculine play than girls in both heterosexual-parent families, $b = 9.86$, $SE = 0.91$, $p < .001$, and gay male-parent families, $b = 8.37$, $SE = 1.28$, $p < .001$. This was also true in lesbian-parent families ($b = 4.88$, $SE = 1.11$, $p < .001$), but to a significantly lesser degree; that is, the degree of gender differentiation was significantly less pronounced in lesbian-parent families as compared to gay male-parent families: $b = -3.49$, $SE = 1.56$, $p = .025$, and in lesbian-parent families as compared to heterosexual-parent families: $b = -4.98$, $SE = 1.36$, $p < .001$, while there was no significant difference in the degree of gender differentiation between heterosexual- and gay male-parent families, $b = 1.50$, $SE = 1.48$, $p = .310$. The finding, that children were, according to parent reports, less gender differentiated in their play behavior in lesbian-parent families than in other family types was largely a function of (a) boys' significantly less masculine play behavior in lesbian-parent families as compared to both heterosexual- and gay male-parent families ($b = -5.92$, $SE = 1.87$, $p = .002$, and $b =$

−5.12, *SE* = 2.03, *p* = .012), as well as, to a lesser extent, (b) girls' less feminine (more masculine) behavior in lesbian-parent families as compared to heterosexual-parent families but not gay male-parent families (*b* = 4.04, *SE* = 1.99, *p* = .042, and *b* = 1.85, *SE* = 2.38, *p* = .439).

Regarding the effect of sibling composition, we found that there was no statistically significant difference in the level of parent-reported gendered play behavior at T1 between children with younger sisters and those without siblings, *b* = −0.78, *SE* = 1.84, *p* = .674, and nor was there a significant difference if the child had a younger brother versus no sibling at T1, *b* = 0.302, *SE* = 1.72, *p* = .861. The effect of having a younger sister on the intercept did not differ by the child's gender, *b* = 1.24, *SE* = 1.83, *p* = .501, and there was no significant interaction between having a younger brother and child gender on the intercept, *b* = 0.97, *SE* = 1.70, *p* = .569. These findings are unsurprising in that only about half of the children with siblings had acquired these siblings by T1.

Predictors of Change in Parent-Reported Gendered Play Behavior

Regarding change in parent-reported gendered play behavior across early childhood, there was an overall positive, but non-significant, slope for gay male-parent families (*b* = 4.13, *SE* = 3.08, *p* = .179), heterosexual-parent families (*b* = 3.25, *SE* = 2.91, *p* = .264), and lesbian-parent families (*b* = 2.00, *SE* = 3.02, *p* = .508), indicating that the play of children in these families—regardless of children's gender—became more masculine over time, although not significantly so. Note that these slope estimates refer to families with no siblings. The slope of children's gendered play was lower in lesbian- and heterosexual-parent families than in gay male-parent families (*b* = −2.11, *SE* = 1.27, *p* = .097, and *b* = −0.89, *SE* = 1.20, *p* = .462, respectively), but not significantly so (i.e., the effect was at the level of a trend for lesbian-parent families, and it was nonsignificant for heterosexual-parent families). In sum, there were few overall differences in change in parent-reported gendered play across family types, when not taking into consideration child gender.

As with level, we also estimated the effects of (a) child's gender, (b) family type, and (c) and the interaction between child gender and family type on the slope of children's gendered play over time. Regarding the effect of child gender on change in parent-reported gendered play behavior, there was, as with level, a statistically significant difference between boys' and girls' rate of change—with boys demonstrating more of an increase in parent-reported masculine-typed play over time (steeper slope) than girls—in gay male-parent families, *b* = 2.89, *SE* = 1.04, *p* = .005, heterosexual-parent families, *b* = 2.38, *SE* = 0.74, *p* = .001, and lesbian-parent families, *b* = 2.52, *SE* = 0.90, *p* = .005 (Figure 3). The difference is such that the parent-reported play of boys became significantly more masculine over the three time points, *b* = 7.02, *SE* = 3.07, *p* = .022, whereas there was no statistically significant change for girls, *b* = 1.24, *SE* = 3.41, *p* = .717 (i.e., girls' play behavior, as measured by parent reports, did not become significantly more feminine over time). This rate of change difference between boys and girls was not significantly different across family type (*p* ranged from .675 to .904). In sum, regardless of family type, boys' masculine-typed behavior increased over time, whereas girls' behavior remained stable.

Regarding sibling composition, there were no overall differences between children with younger sisters and those without siblings in the rate of change of parent-reported gendered play behavior (slope), $b = -0.53$, $SE = 1.49$, $p = .723$; there were also no differences between children with brothers and those without siblings, $b = -0.85$, $SE = 1.39$, $p = .543$. There was no significant interaction between the brother dummy variable and child gender on change in parent-reported gendered play behavior over time (slope), $b = -1.70$, $SE = 1.38$, $p = .216$. However, probing this exploratory interaction (as it was the largest of the sibling composition effects), we find that while the effect of having a younger brother on a boy's slope was negative, $b = -2.55$, $SE = 1.66$, $p = .126$--having a younger brother was associated with a flatter (lesser) change in masculine play behavior--the effect of having a younger brother on a girl's slope was positive, $b = 0.86$, $SE = 2.21$, $p = .698$—having a younger brother was associated with a greater increase in masculine behavior over time—although neither simple effect reaches statistical significance.

Discussion

This study builds on prior work in several ways. First, it is one of only a few studies to longitudinally assess aspects of children's gendered behavior across early childhood (Golombok et al., 2008; Halim et al., 2013; McBride-Chang & Jacklin, 1993). Second, it assesses parent-reported children's gender-typed behavior in several family contexts that are uniquely distinguished by the gender composition of the parental unit, and are understudied in the larger literature on child gender development (McHale, Crouter, & Whiteman, 2003). Third, all target children were the oldest children in the household, offering a unique opportunity to examine the role of younger siblings in gender development; most studies have examined the role of older siblings in child gender development (Blakemore et al., 2009). Fourth, all children were also adopted, enabling us to assess the role of different childrearing contexts in gender development without the confounding factors of biogenetic relatedness between the child and one or both parents. And, this is one of the first studies to utilize the Common Fate Growth Model (Ledermann & Macho, 2014), illustrating the utility of this approach for examining children's behavior over time as reported by two parents.

With regard to parent-reported gender-typed play behavior during toddlerhood, we found that boys with lesbian parents were significantly less masculine in their play than boys with heterosexual parents and boys with gay male parents. To a lesser extent, girls with lesbian parents were significantly less feminine in their play than girls with heterosexual parents (but not as compared to girls with gay male parents). In other words, the parent-reported play behavior of children with lesbian parents was the least gender-stereotyped of all family types. This is somewhat consistent with a prior study using a subsample of this sample, which found that sons of lesbian mothers were more feminine in their play behavior than sons of gay fathers and sons of heterosexual parents (Goldberg et al., 2012), although the current study also found that toddler-aged girls were less feminine in lesbian-parent families than heterosexual-parent families. It is also somewhat consistent with MacCallum and Golombok's (2004) finding that sons in lesbian-mother families reported more feminine behaviors and attitudes than sons in heterosexual-parent families.

That boys and girls (but particularly boys) in lesbian-mother families showed less gender-typed play behavior (according to parent report) than children in other family types might reflect, as a social constructionist perspective might suggest, children's upbringing in an especially liberal social environment, whereby lesbian mothers (by virtue of both their female gender and sexual minority status) are particularly likely to tolerate or even encourage cross-gendered play behavior (Berkowitz & Ryan, 2011). That children in gay male-parent families do not also show less gender-typed play may reflect, as qualitative work suggests, gay fathers' lesser interest in challenging gendered norms, as compared to lesbian mothers (Averett, 2015; Kane, 2006). Gay fathers, as parents who deviate from both gender and sexual orientation related norms (Goldberg & Gartrell, 2014), may feel pressure to parent in ways that encourage their children to conform to gendered norms (e.g., they may be less likely to initiate, and reinforce, cross-gendered play, as compared to lesbian mothers; Averett, 2015). Also, the finding that boys with lesbian mothers showed the least gender-typed play (according to parent report) may reflect, as social learning theory might suggest, the influence of having two mothers and no father, whereby boys in lesbian-mother families develop different play styles and interests than boys in heterosexual-parent families or gay male-parent families, who are exposed to higher levels of "rough-and-tumble play" that are typically initiated by fathers (McBride-Chang & Jacklin, 1993). And, in that (heterosexual) fathers have been found to be less tolerant than mothers of cross-gender play, particularly in sons (Kane, 2006), boys with lesbian mothers may be less likely to face negative reinforcement for playing with "feminine" toys, and positive reinforcement for playing with "masculine" toys. And although there were no significant differences by family type in patterns of change in parent-reported play over time (boys' rate of change was marginally lower in lesbian-parent families than in gay male-parent families), there is relative stability within families (i.e., boys with lesbian mothers are less masculine than boys in other family types at T1, T2, and T3; Figure 3).

Turning to the findings for sibling status, unsurprisingly, we found no effects of sibling gender on the level of parent-reported play behavior at 2 years post-placement. Because all siblings were younger, and only half of children with siblings had acquired these siblings by T1, the sibling may not have yet had an effect of the target child's play behavior at the first time point.

Regarding change over time, there was no significant change in parent-reported play behavior of girls across early childhood, whereas boys' parent-reported play became increasingly masculine over time. This pattern, which held up across family types, is somewhat consistent with prior work, which has found that although gender-typed play tends to become more rigid among both boys and girls during the preschool years, boys tend to show greater rigidity (e.g., they are more likely to avoid cross-gendered toys; Blakemore et al., 2009; Cherney et al., 2003; Servin et al., 1999). This finding held up across family types, suggesting the possibility that, as they grow older, boys face stronger – and increasingly intense – pressure to conform to gender norms, regardless of family structure. Some prior work has assessed gender development in a variety of ways, examining appearance (Halim et al., 2013), play (Halim et al., 2013), attitudes (Halpern & Perry-Jenkins, 2015), and career aspirations (Williams, Radin, & Allegro, 1992). This work has found that patterns of stability and change may vary by domain (Halim et al., 2013),

suggesting that a multidimensional measure of gender-typed behavior (e.g., that assesses play, attitudes, and peer group preferences) may have detected changes in girls' gender-typed behavior as well.

We found no significant effects of having a younger sister or having a younger brother on change in parent-reported play behavior for boys and girls. Exploratory simple effects tests found that having a younger brother was associated (although not significantly so) with less of an increase in parent-reported masculine play for boys, and more of an increase in parent-reported masculine play for girls. This is somewhat consistent with prior work showing that girls with brothers tend to show more masculine (less feminine) interests compared to girls with no siblings and girls with sisters (Rust et al., 2000; Wagner et al., 1993). Further, McHale et al. (2001) observed evidence of gender "de-identification" in the case of firstborn girls, such that girls with younger brothers had less traditional attitudes, perhaps because they sensed that identifying with stereotypically masculine activities was associated with a more privileged status in society. The introduction of a male sibling may not only create more opportunities for cross-gender play, but also reinforcement of that type of play (Bussey & Bandura, 1999). The relative lack of findings for effects of the younger sibling's gender are consistent with research that suggests that older siblings may have a greater impact on gender socialization (Farkas & Leaper, 2014; McHale et al., 2001).

Limitations and Conclusions

A primary limitation of the study is that our measure of gender-typed play was based on parents' reports only – and, additionally, the alphas for our measure of masculine gendered play behavior only met minimal acceptable criteria, suggesting that findings should be viewed with some caution. Children themselves, as well as teachers and non-parent caregivers (e.g., babysitters, grandparents) may have provided different ratings of play behavior. Indeed, research that examines both parent and child reports of gender development in particular is important, as children may provide different ratings of their interests and activity preferences than their parents, particularly as they grow older (Golombok et al., 2008). We also did not collect observational data on gendered behavior, which can provide unique insight into the nature and processes of gender development (LoBue & DeLoach, 2011). In the absence of observational data, our interpretations regarding the pattern of findings must be viewed with caution. For example, our finding that boys with lesbian mothers are described by their parents as enacting less masculine play behavior than are boys with gay male parents and boys with heterosexual parents might reflect reporting biases. Perhaps lesbian mothers are not as willing as other parents to report highly masculine behavior among their sons (e.g., because they view such behavior as undesirable). This possibility could be answered by observational data, which we unfortunately did not collect.

We also did not measure parents' parenting behaviors or gender-related beliefs, and thus some of our interpretations are somewhat speculative and need to be tested in future studies. Another limitation is we only looked at a single gender development outcome: play. Other studies have examined gender-related attitudes, appearance, and career aspirations (e.g., Halim et al., 2013; Halpern & Perry-Jenkins, 2015); children may show different patterns

over time depending upon which domain(s) are assessed. Additionally, our sample is quite rarified with respect to parent income and education. These parents' financial and social resources may have implications for their gender ideologies, role modeling, and the range and types of activities that they offer to their children, all of which could impact gender development (Blakemore et al., 2009).

Our study is limited by the fact that the sample size did not afford enough power to detect and analyze all possible higher order interactions; in particular, given the especially small numbers of children with younger sisters ($N = 23$) and brothers ($N = 29$), we were unable to examine how the effects of sibling gender might differ across family type. Due to these small sample sizes, our findings for sibling composition should be viewed as exploratory and with caution. We also did not assess the exact timing of when siblings joined the family as a predictor, which limits our ability to draw firm conclusions about the role of younger sibling gender in predicting gender-typed behavior. Finally, although a strength of the study was our inclusion of three types of families, across three time points, we were only able to track change in parent-reported play across early childhood; unknown is how patterns continue to unfold during the school years.

Despite these limitations, this study makes several contributions. First, we used the Common Fate Growth Model, which is innovative and represents a methodological contribution. We urge others to utilize this model to a great extent in future research, particularly in family research where two informants are reporting one outcome—e.g., a parent and child reporting on the child's externalizing behavior, parents both reporting on global family functioning, and a parent and caregiver reporting a child's development. Second, this study adds to a small but growing body of work on the gender development of children with LG parents, and sheds light on trajectories of change in gender-typed behavior over time, alongside important familial factors such as sibling composition and parents' gender composition. Our findings suggest that the gender development of children with LG parents is quite similar to that of children with heterosexual parents. That children in lesbian-mother families show slightly less gender-typed behavior than children in other family constellations should not be viewed as a sign of dysfunction; indeed, there is increasing recognition among scholars that a balanced, less gender-differentiated repertoire of interests, activities, and behaviors may actually benefit children, enhancing their capacity to thrive in a range of settings (Blakemore et al., 2009). Furthermore, as other data from this study show (see Goldberg & Smith, 2013), the children in lesbian- and gay-parent families do not differ from their counterparts in heterosexual-parent families in terms of overall psychological adjustment—a finding that has been documented in other studies as well (e.g., Farr et al., 2010). Future work should build on our findings to (a) examine the role of older as well as younger siblings in the gender development of children with LG and heterosexual parents; (b) utilize multidimensional measures of gender-typed behavior; (c) gather self-, teacher-, and parent-report data; and (d) follow families over a longer period of time.

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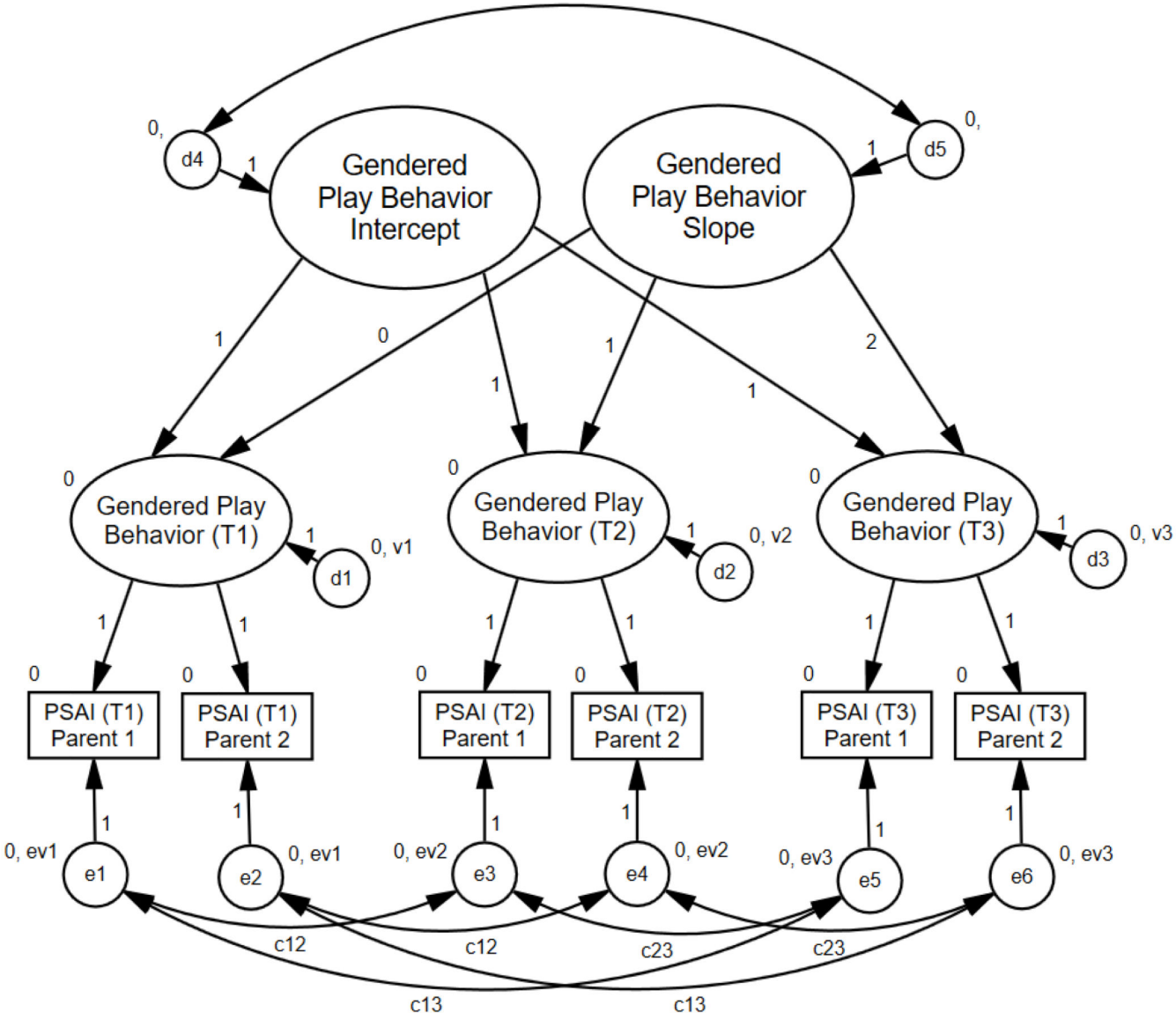

Figure 1.
This figure depicts the Common Fate Growth model with strong factorial invariance.

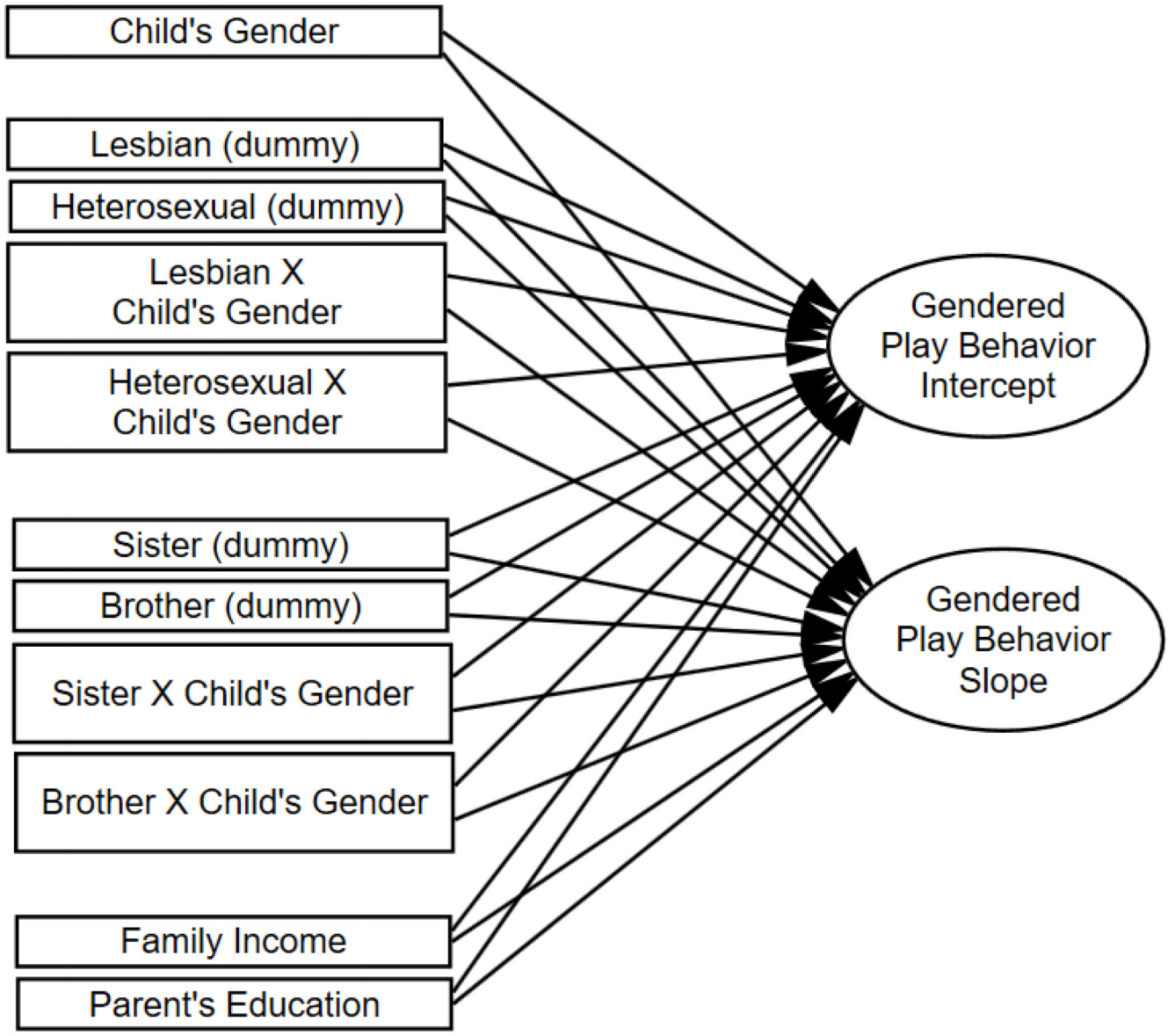

Figure 2.
This figure depicts the final Common Fate Growth model with predictors of change and level.

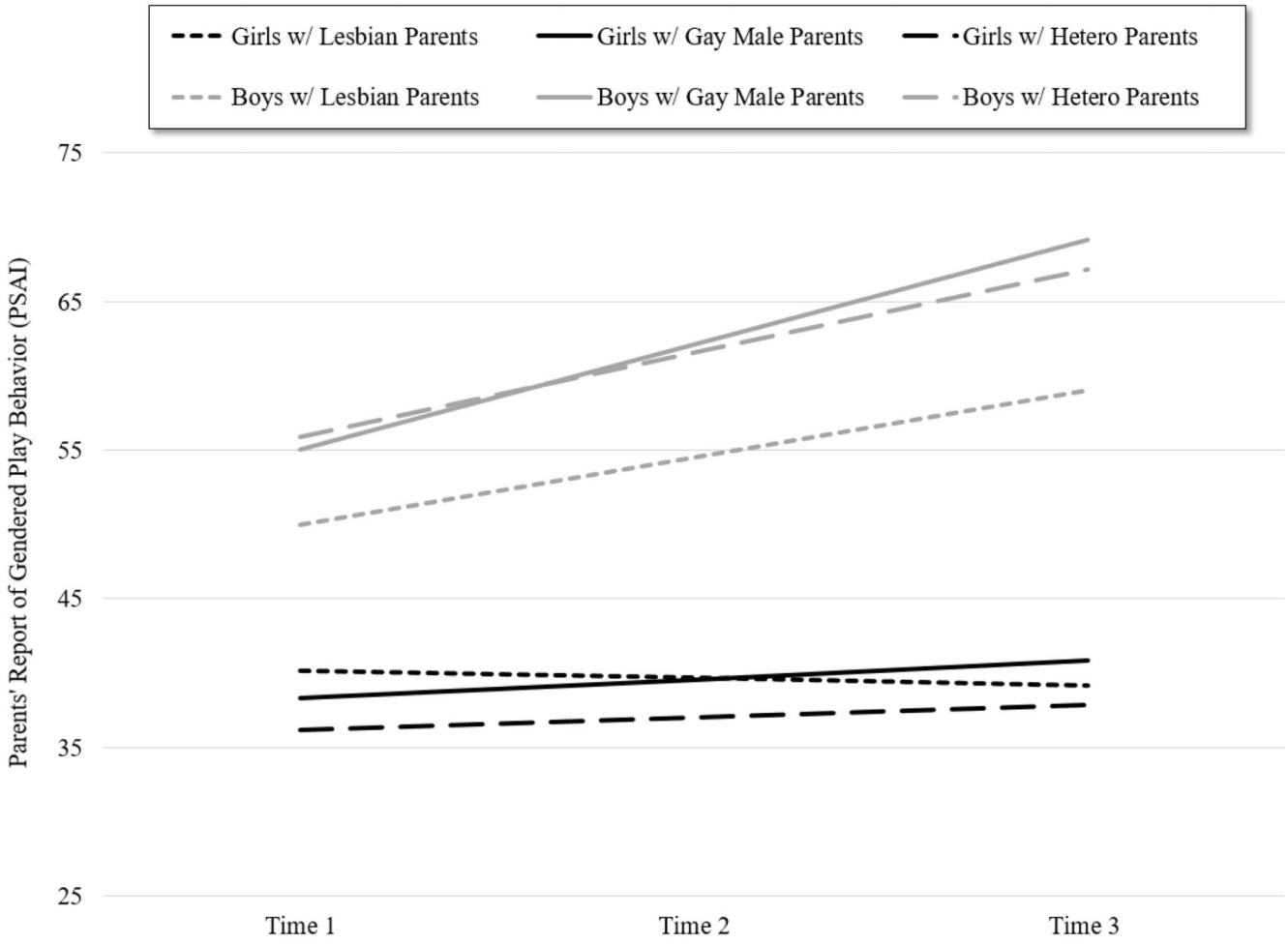

Figure 3.

This figure depicts the difference between girls and boys in change in gendered play behavior over time by family type. The slopes for boys' play behavior (gray lines) were not different across family type (p ranged from .132 to .481), nor were the slopes for girls' play behavior (black lines) across family type (p ranged from .366 to .834). Boys' play behavior was significantly less feminine in lesbian-parent families than in gay male- and heterosexual-parent families at all three time points (p ranged <.001 to .011), but not different between heterosexual-parent families and gay male-parent families at any time point (p ranged from .548 to .795). Girls' play behavior was only less feminine in lesbian-parent families than in heterosexual-parent families (p = .042) at T1; no other differences in girls' play behavior across family type were found at any other time point (p ranged from . 233 to .970).

Table 1

Descriptive Data by Family Type

		Lesbian Parents (N = 56)	Gay Parents (N = 48)	Heterosexual Parents (N = 77)	Test Statistic
		M(SD)	M(SD)	M(SD)	F, χ^2
Child Gender (percent girl)		45.5%	39.6%	48.1%	0.86
Child Age (years)	T1	2.99 (1.73)	2.89 (1.96)	2.59 (0.98)	1.20
	T2	4.14 (2.17)	4.10 (2.23)	3.57 (1.07)	1.78
	T3	6.11 (1.92)	6.20 (2.22)	5.92 (1.09)	0.29
Child Race (percent white)		26.9%	48.7%	35.7%	
Parent Race (percent white)		91.0%	82.8%	90.1%	
Family Income		$110,075.19 ($53,746.12)	$192,991.49 ($126,391.93)	$130,130.26 ($68,213.93)	2.16
Parents' Education		4.56 (0.76)	4.54 (0.89)	4.48 (0.68)	0.21
Sibling Composition					
Did not adopt after		69.6%	58.3%	80.5%	10.68*
Adopted a girl after		14.3%	12.5%	11.7%	
Adopted a boy after		16.1%	29.2%	7.8%	

Note: *M* = Mean; *SD* = Standard Deviation. Education was measured on a scale of 1-6 (1 = less than high school, 2 = high school diploma, 3 = associate's degree/some college, 4 = bachelor's degree, 5 = master's degree, and 6 = PhD/MD/JD).

Table 2
Means and Standard Deviations for the Composite PSAI Score

			Lesbian Parents (N = 56)	Gay Parents (N = 48)	Heterosexual Parents (N = 79)	Test Statistic
			M(SD)	M(SD)	M(SD)	*F*
PSAI	Girls[a]	T1	42.57 (9.83)	40.75 (9.01)	38.75 (9.67)	1.21
		T2	38.66 (9.78)	36.70 (9.86)	35.84 (8.29)	0.58
		T3	37.86 (11.43)	39.38 (11.70)	34.80 (9.24)	0.97
	Boys	T1[b]	53.15 (6.50)	57.56 (6.14)	58.66 (5.68)	7.51**
		T2[c]	52.85 (8.68)	62.73 (13.64)	59.06 (10.20)	5.27**
		T3[d]	56.47 (11.76)	62.42 (11.92)	64.49 (9.32)	3.02+

Note:

** $p < .01$,

+ $p < .10$. PSAI = Pre-School Activity Inventory; M = Mean; SD = Standard Deviation.

[a] No significant differences across family type for each time point.

[b] At T1, lesbians parents' sons' behavior was significantly different from heterosexual parents' sons' behavior, $p = .001$, and from gay male parents sons' behavior, $p = .018$. Gay male parents' sons' behavior was not significantly different from heterosexual parents' sons' behavior, $p = .744$.

[c] At T2, lesbians parents' sons' behavior was significantly different from gay male parents' sons' behavior, $p = .005$ and marginally different from heterosexual parents' son's behavior, $p = .075$. Gay male parents' sons behavior was not significantly different from heterosexual parents' sons' behavior, $p = .397$.

[d] Sons' behavior was marginally different across family typ at T3, with lesbians parents' sons' behavior being marginally different from heterosexual parents' sons' behavior, $p = .051$, but not significantly different from gay male parents' sons' behavior, $p = .234$. Gay male parents' sons behavior was not significantly different from heterosexual parents' sons' behavior, $p = .826$, at T3. Note that these comparisons were all made directly with ANOVA and Tukey post-hoc tests without the addition of the covariates included in the CFGM.

Table 3
Path Estimates from the Common Fate Growth Model

	Intercept			Slope		
	Estimate	*S.E.*	*p*	*Estimate*	*S.E.*	*p*
Intercept	46.72	3.80	<.001	4.13	3.08	.179
Child's Gender	8.37	1.28	<.001	2.89	1.04	.005
Lesbian Dummy	−1.64	1.58	.298	−2.11	1.27	.097
Heterosexual Dummy	−0.67	1.49	.650	−0.89	1.20	.462
Lesbian × Child's Gender	−3.49	1.56	.025	−0.37	1.26	.772
Hetero × Child's Gender	1.50	1.48	.310	−0.50	1.20	.675
Sister Dummy	−0.78	1.84	.674	−0.53	1.49	.723
Brother Dummy	0.30	1.72	.861	−0.85	1.39	.543
Sister × Child's Gender	1.24	1.83	.501	−0.83	1.48	.578
Brother × Child's Gender	0.97	1.70	.569	−1.70	1.38	.216
Family Income ($10,000's)	−0.01	0.04	.885	0.00	0.03	.904
Parents' Education	0.54	0.78	.485	−0.58	0.63	.361

Note. The reference group is gay male parents, and children with no siblings.