Published in final edited form as:
J Fam Psychol. 2014 April ; 28(2): 125–137. doi:10.1037/a0036007.

Predictors of Parenting Stress in Lesbian, Gay, and Heterosexual Adoptive Parents During Early Parenthood

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Abstract

Little work has examined parenting stress in adoptive parents, particularly lesbian and gay adoptive parents. The current longitudinal study examined parent-reported child characteristics (measured post-placement) and parent and family characteristics (measured pre-placement) as predictors of post-placement parenting stress and change in parenting stress across three time points during the first 2 years of adoptive parenthood, among 148 couples (50 lesbian, 40 gay, and 58 heterosexual) who were first-time parents. Children in the sample were, on average, 5.61 months (*SD* = 10.26) when placed, and 2.49 years (*SD* = .85) at the 2 year post-placement follow-up. Findings revealed that parents who had been placed with older children, and parents who perceived severe emotional/behavioral problems in their children, reported more post-placement stress. In addition, parents who reported fewer depressive symptoms, more love for their partners, and more family and friend support during the pre-placement period, had less post-placement stress. Parenting stress decreased for parents who perceived severe emotional/behavioral problems in their children, while it increased somewhat for those who reported developmental problems in their children. Findings highlight vulnerabilities and resources that may shape adoptive parents' experiences of stress in early parenthood, and have implications for both researchers and professionals who wish to support adoptive family adjustment.

Keywords

adoption; gay; lesbian; longitudinal; parenting stress

Becoming a parent represents a major life transition that, even when desired, is typically not easy. As Cowan and Cowan (1995) note, "The transition to parenthood constitutes a period of stressful and sometimes maladaptive change for a significant proportion of new parents" (p. 412). Parenting stress refers to "both the expected and unexpected strains involved in the bearing and rearing of children" (Kline, Cowan, & Cowan, 1991, p. 287). Parenting stress is a complex construct that involves affective, cognitive, and behavioral components (Abidin, 1995) and can be conceptualized as encompassing child-related characteristics (e.g., demandingness) that may present difficulties for the parent, and parent-related characteristics (e.g., depression) that may similarly create stress in the family system (Crnic

& Acevedo, 1995). It is well-established that parenting stress can interfere with many family outcomes, including positive parenting practices (Greenley, Holmbeck, & Rose, 2006) and positive parent-child relationships (Deater-Deckard, 2004). Parenting stress has been implicated in a higher likelihood of child maltreatment (Holden & Banez, 1996), higher conflict between family members (Crnic & Acevedo, 1995), and negative outcomes for children (e.g., insecure attachment; Cummings, Davies, & Campbell, 2000).

Adoptive parents may be especially vulnerable to parenting stress, in that they often become parents suddenly (Goldberg, 2010a), and the children they are placed with may be older or have a history of adversity (Nickman et al., 2005). Some research has found higher parenting stress in adoptive parents than biological parents (McGlone, Santos, Kazama, Fong, & Mueller, 2002; Rijk, Hoksbergen, ter Laak, Dijkum, & Robbroeckx, 2006). Given the unique context of adoptive families, there is a need for research that explores what factors – particularly those in the pre-adoptive phase, which are amenable to prevention efforts – lead to stress in early parenthood.

Few studies have explored parenting stress in adoptive couples, as the main focus of the adoption literature has been on child outcomes (Goldberg, 2010a). Most studies of parenting stress in adoptive couples examine parents who adopted children from abroad, who often have a history of institutionalization (Rijk et al., 2006; Viana & Welsh, 2010). Also, research examining predictors of adoptive parents' parenting stress is largely cross-sectional (Farr, Forssell, & Patterson, 2010; Rijk et al.; Tornello, Farr, & Patterson, 2011) and focuses on heterosexual parents (but see Farr et al.; Tornello et al.), which is problematic in that sexual minorities are increasingly adopting (Gates, Badgett, Macomber, & Chambers, 2007). And, research on parenting stress in general, and on adoptive parents specifically, has tended to focus on child-related predictors of stress, as opposed to aspects of the pre-adoptive family context (Deater-Deckard, 2004).

To address these research gaps, this study examines predictors of parenting stress in 148 couples (50 lesbian, 40 gay, 58 heterosexual), all of whom were first-time parents, across the first two years of adoptive parenthood. Parents were assessed pre-adoptive placement (Time 1; T1), 3 months post-placement (T2), 1 year post-placement (T3), and 2 years post-placement (T4), permitting examination of how T1 and T2 factors predict initial (i.e., T2) stress and change in stress (T2 to T3 to T4). We examined the degree to which T1 and T2 factors predicted stress two years later (i.e., T4), in follow-up analyses. We limited our sample to parents whose children were 4 years or younger at placement, given that the experiences of parenting preschool-age versus school-age children are very different, and an older age at placement has been linked to more negative outcomes (Howard, Smith, & Ryan, 2004). The children were, on average, 5.61 months (*SD* = 10.26) at placement, and 2.49 years (*SD* = .85) at the 2 year post-placement follow-up.

Theoretical Framework

Ecological systems theory (Bronfenbrenner, 1988), Belsky's (1984) process model of the determinants of parenting, and family stress theory (McCubbin & Patterson, 1983) provide the theoretical underpinnings for this study. According to Bronfenbrenner, development

occurs within multiple interacting contexts, with influences ranging from distal settings (e.g., culture) to proximal settings (e.g., family). Personal characteristics thus interact with setting-level processes to shape adjustment. Belsky used this perspective to theorize about the transition to parenthood. He emphasized aspects of the child (e.g., demandingness), intrapersonal factors (e.g., parents' well-being), interpersonal factors (e.g., parents' relationship quality), and social-contextual factors (e.g., support), in studying new parents' adaptation. According to family stress theory (McCubbin & Patterson), parents' capacity to adapt to the demands of life transitions -- such as the transition to adoptive parenthood -- is shaped not only by the characteristics of that transition (e.g., whether they adopt an older child or an infant), but their pre-existing resources and vulnerabilities. Parents with significant vulnerabilities (e.g., depression, a conflictual relationship, few supports) may experience the transition as very stressful, whereas parents with notable resources (e.g., emotional stability, a healthy relationship, strong supports) may be at lower risk for stress. Adoptive parents' adjustment can be viewed as multiply determined by the intrapersonal, interpersonal, and social contextual strengths and vulnerabilities they bring to parenthood, knowledge of which can inform prevention efforts aimed at reducing adoptive parents' risk of parenting stress.

Thus, we examine the extent to which aspects of the child, parent, couple, and broader context predict parenting stress during the first two years of adoptive parenthood. Parent, couple, and contextual factors were assessed prior to the child's placement; child factors were assessed 3 months post-placement. We examine how pre-adoptive (T1) and post-adoptive (T2) characteristics shape stress at T2, as well as trajectories of parenting stress (T2 to T3 to T4). Next, we review the longitudinal research on parenting stress, and research on predictors of parenting stress.

Change in Parenting Stress

Studies of biological-parent families are conflicting regarding the trajectories of parenting stress in early childhood. Some have found that parenting stress tends to remain relatively constant (Lederberg & Golbach, 2002; Ostberg, Hagekull, & Hagelin, 2007), whereas others have documented declines in stress (Chang & Fine, 2007; Williford, Calkins, & Keane, 2007). For example, Williford et al. found that mothers' parenting stress declined across the preschool period; however, there was significant interindividual variability in patterns of stress, with maternal mental health and child behavior problems accounting for much of the variance in stress.

Few longitudinal studies of parenting stress in adoptive families exist. McGlone et al. (2002) assessed the parenting stress of 25 heterosexual adoptive-parent families at 4 months post-placement and one year later and found no change in stress. McCarty et al. (1999) studied 20 parents of adopted children at 3–5 months and 13–15 months post-placement and found declines in stress. Thus, research on parenting stress trajectories in early parenthood is conflicting, likely in part due to the variability in samples, timing of assessments, and methods of analyzing change.

Characteristics of the Child

Much of the research on predictors of parenting stress has focused on child factors (Deater-Deckard, 2004). For example, consistent with family stress theory (McCubbin & Patterson, 1983), children who are adopted at an older age, or who have behavioral or developmental problems, may demand more of their parents, which may contribute to stress.

Child Age

Research suggests that adopting an older child is related to greater parenting stress, in part because older children often have a history of multiple foster care placements, as well as a history of abuse and neglect (Nickman et al., 2005). For example, in a study of gay fathers, Tornello et al. (2011) found that child age at adoption was positively related to parenting stress. Yet in a study of heterosexual parents, Rijk et al. (2006) found no relationship between age at placement and parenting stress, perhaps because all parents had adopted children with a history of institutionalization, the effects of which may have neutralized any effects of age.

Child Emotional/Behavioral Problems

Research on heterosexual biological-parent families suggests that parents' perceptions of their children's emotional/behavioral problems are positively related to parenting stress (Farr et al., 2010; Ostberg et al., 2007). Likewise, cross-sectional research on adoptive families suggests a link between perceived behavior problems and stress, such that parents who report more problems exhibit higher levels of stress (Farr et al.; Miller, Chan, Tirella, & Perrin, 2009; Rijk et al., 2006). Longitudinal research on adoptive families has found similar relationships between child behavior problems and parenting stress (McCarty et al., 1999; Viana & Welsh, 2010).

Child Developmental Problems

Biological parents of children with cognitive and developmental problems have been found to report more parenting stress than biological parents of children without such problems (Gupta, 2007; Ostberg et al., 2007). Studies of adoptive families, though, are mixed. Miller et al. (2009), in a study of school-age internationally adopted children, found higher stress in parents of children with lower cognitive ability. Yet Viana and Welsh (2010), who studied parents of internationally adopted toddlers, found no link between developmental problems and stress, perhaps due to the significant effects of other child factors (e.g., behavior problems) that were considered.

Characteristics of the Pre-adoptive Context

In addition to examining aspects of the adopted child that may contribute to parenting stress, it is important to consider aspects of the pre-adoptive family context (i.e., parent, couple, and social contextual factors) that may contribute to stress. Such factors, which exist prior to the child's arrival in the home, may be most amenable to prevention and intervention efforts.

Intrapersonal (Parent) Characteristics

Parents' personal qualities may, according to family stress theory, be a key component of stress (McCubbin & Patterson, 1983). For example, parents' psychological resources may help them to avoid or cope effectively with challenges, leading to less stress (Crnic & Acevedo, 1995).

Parent mental health—Research on heterosexual biological parents suggests that parents with poor mental health (e.g., depression) are at risk for parenting stress. Studies have linked prenatal (Misri et al., 2010) and postnatal (Saisto, Salmela-Aro, Nurmi, & Halmesmaki, 2008) depression to parenting stress, and a longitudinal study by Chang and Fine (2007) found that mothers with high levels of depression were more likely to show increased stress in early childhood than those with low depression levels. A longitudinal study of adoptive mothers found that pre-adoption depression predicted post-placement parenting stress (Viana & Welsh, 2010).

Interpersonal (Dyadic) Characteristics

Less frequently studied as predictors of parenting stress are characteristics of the parental dyad. For example, resources developed at the couple level, such as closeness between partners, may protect against parenting stress (Crnic & Acevedo, 1995).

Relationship quality—Parents' relationship quality may act as a buffer to parenting stress, such that parents in strong and stable unions have been found to report less stress (Deater-Deckard & Scarr, 1996). Further, longitudinal studies (not with adoptive parents) have found that higher prenatal (Mulsow, Caldera, Pursley, Reifman, & Huston, 2003) and postnatal (Colpin, De Munter, Nys, & Vandemeulebroecke, 2000) relationship quality is related to less stress in early childhood.

Sexual orientation—Lesbians and gay men become parents in a societal context that stigmatizes them for their sexuality. Thus, when they become parents, they often find that their parenting is under scrutiny, which may contribute to stress (Goldberg, 2010b). Yet the limited research that has compared the parenting stress levels of lesbian, gay, and heterosexual parents has not found group differences in stress (Farr et al., 2010; Goldberg, 2010b).

Social-Contextual Characteristics

Resources developed not only within, but also outside of, the family may also impact parenting stress. Social support, for example, may protect against stress (Crnic & Acevedo, 1995).

Extra-dyadic support: Friends and family—Research on biological-parent families has found a negative relationship between social support and parenting stress (Mulsow et al., 2003; Smith, Oliver, & Innocenti, 2001). In fact, a longitudinal study by Saisto et al. (2008) found that general social support, measured during pregnancy, was related to parenting stress in mothers and fathers 2–3 years postpartum. Few studies have examined support and parenting stress in adoptive-parent families. In a study of gay adoptive fathers, Tornello et

al. (2011) found that social support from friends, but not family, was negatively related to parenting stress, after accounting for other key predictors (e.g., child characteristics). On the other hand, Viana and Welsh (2010) studied mothers who adopted internationally and found that general social support was unrelated to stress.

Hypotheses

Based on the literature, we pose the following hypotheses:

H1 Regarding child characteristics, we expect that an older age at placement (H1A), parent-reported child emotional/behavioral problems (H1B) and parent-reported developmental problems (H1C) will be related to higher post-placement (i.e., T2) stress.

H2 In terms of the pre-adoptive family context, we expect that higher levels of pre-placement (i.e., T1) depressive symptoms (H2A), lower levels of T1 love (H2B), and lower levels of T1 perceived support from friends and family (H2C) will be related to higher post-placement stress. Although we do not expect differences in stress by sexual orientation, we include it, and its interaction with gender, as predictors, given the limited work in this area, and the possibility that lesbian/gay parents experience vulnerabilities (such as stigma) that manifest via parenting stress.

Finally, although we do assess change in stress, there are not sufficient data to make predictions about the directionality or predictors of change in stress during the first two years of adoptive parenthood.

Method

Description of the Sample

Data were taken from a longitudinal study of the transition to adoptive parenthood. All 148 couples were adopting their first child; in all cases it was a single child. Descriptive data for the sample, by family type, are in Table 1. The sample is more affluent than national estimates for same-sex and different-sex adoptive parent families (whose average household incomes are $102,474 and $81,900; Gates et al., 2007), with a mean family income of $130,208 (*SD* = $79,605). ANOVA showed that income differed by family type, $F(2, 146) = 4.84$, $p = .009$, with gay couples averaging $170,703 (*SD* = $115,337, *Mdn* = $158,000), lesbian couples averaging $114,749 (*SD* = $58,706, *Mdn* = $98,000), and heterosexual couples averaging $126,230 (*SD* = $72,012, *Mdn* = $117,000). Gay couples made significantly more than lesbian couples, $p = .003$, and heterosexual couples, $p = .013$. Participants, on average, had at least a bachelor's degree ($M = 4.38$, $SD = .98$, where 4 = bachelor's, and 5 = master's). Thus, they were more educated than national estimates for adoptive parents, only 31% of whom have a bachelor's (Gates et al., 2007).

Participants had been in their relationships for an average of 8.10 years (*SD* = 3.88) when they were first interviewed. Most participants were White (91%), whereas their children were disproportionately (63%) of color (i.e., non-White, including biracial children). The parents in the sample were more likely to be White compared to national estimates for

adoptive parents (73%), whereas their children were less likely to be White compared to national estimates for adopted children (58%) (Gates et al., 2007). Fifty-one percent of parents adopted a girl, and 49% adopted a boy. The children in the sample were, on average, 5.61 months (*SD* = 10.26) when they were placed, and 2.49 years (*SD* = .85) at the 2 year post-placement follow-up. Seventy-three percent of the sample was under 6 months at placement, 10% was between 6 months to 1 year, 10% was between 1–2 years, and 7% was between 2–4 years. There were no differences in education level, relationship length, parent race, child race, child gender, or child age by family type.

Adoption route differed by family type, $\chi^2(4, 148) = 23.22$, $p < .001$. A total of 58% of lesbian couples, 85% of gay couples, and 50% of heterosexual couples pursued private domestic adoption; 24% of lesbian couples, 10% of gay couples, and 10% of heterosexual couples pursued public domestic adoption; and 18% of lesbian couples, 5% of gay couples, and 40% of heterosexual couples pursued international adoption. Follow-up chi squares revealed that lesbian couples were more likely to pursue public adoption than heterosexual couples, $\chi^2(1, 108) = 4.62$, $p = .032$; gay couples were more likely to pursue private domestic adoption than lesbian, $\chi^2(1, 88) = 7.71$, $p = .005$, and heterosexual couples, $\chi^2(1, 98) = 12.02$, $p = .001$; and heterosexual couples were more likely to pursue international adoption than lesbian, $\chi^2(1, 108) = 6.35$, $p = .012$, and gay couples, $\chi^2(1, 98) = 15.35$, $p < .001$. Among the heterosexual couples who adopted from abroad, 50% did so from China, 17% from Guatemala, 8% from Taiwan, and the remaining 25% from other countries (e.g., Vietnam, the Philippines). Among the lesbian couples who adopted internationally, 70% did so from Guatemala, 20% from Vietnam, and 10% from Nepal. Of the gay couples who adopted internationally, 67% did so from Guatemala and 33% from Vietnam.

Recruitment and Procedures

Inclusion criteria 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 they were waiting for a placement). Adoption agencies across the US were asked to provide study information to clients who had not yet adopted. U.S. census data were used to identify states with a high percentage of same-sex couples (Gates & Ost, 2004); effort was made to contact agencies in those states. Over 30 agencies provided information to clients, typically in the form of a brochure that invited them to participate in a study of the transition to adoptive parenthood. Couples were asked to contact the principal investigator for details. Because some same-sex couples may not be out to agencies about their sexual orientation, several national gay organizations also assisted in disseminating study information.

Participation entailed completion of a questionnaire packet and participation in a telephone interview while they were waiting to be placed with a child (Time 1; T1) and 3 months after they were placed with a child (T2). They completed a questionnaire packet 1 year post-placement (T3) and a questionnaire packet and a telephone interview 2 years post-placement (T4). Participants were interviewed separately from their partners. Interviews lasted 1–1.5 hours, on average.

Measures

Outcome

Parenting stress: The Parenting Stress Index-Short Form (PSI-SF) was used to assess the perceived stress that adoptive parents were experiencing specifically as a result of their parental roles (Abidin, 1995). Parents respond to 36 items on the PSI-SF along a 5-point scale, from 1 (*strongly agree*) to 5 (*strongly disagree*). The total stress score is obtained by adding all 36 items, such that higher scores reflect more stress (possible total scores range from 36–180; $M = 71.0$, $SD = 15.40$ for the total PSI score in a large sample of parents; Abidin, 1995). The total stress score reflects the stresses reported in the areas of personal parental distress (e.g., "I feel trapped by my responsibilities as a parent"), stresses derived from the parent's interaction with the child (e.g., "I expected to have closer and warmer feelings for my child than I do, and this bothers me"), and stresses that result from the child's behaviors (e.g., "My child seems to cry or fuss more than most other children"; Abidin, 1995). While these areas have sometimes been treated as separate subscales, recent work has not shown these to be consistent, discreet factors (Reitman, Currier, & Stickle, 2002). Thus, in line with other authors (Chang & Fine, 2007; Viana & Welsh, 2010), we utilize only the PSI-SF total stress score, which thus taps aspects of child difficulty, and difficult parent-child interactions, in addition to parent distress. We also, like other authors (Farr et al., 2010; Ostberg et al., 2007), utilize a measure of child problems to predict total stress, given that the PSI-SF total stress score captures multiple dimensions of stress, not just child difficulty.

Abidin (1995) reported excellent convergent validity with the PSI-SF's longer counterpart, the PSI. In the current sample, internal consistency for the PSI-SF was high. For lesbian mothers, alphas were .93, .93 and .91 at T2, T3, and T4, respectively. For gay fathers, alphas were .91, .90, and .90 at T2, T3, and T4, respectively. For heterosexual mothers, alphas were .93, .93, and .92, and for heterosexual fathers, alphas were .92, .93, and .90, at T2, T3, and T4, respectively.

Predictors

Child age at placement: Child age at placement, in months, was included as a predictor.

Perception of child emotional/behavioral problems: Three months post-placement, (T2), parents were asked, "Does your child have any emotional or behavioral problems? Explain." Eight percent of the sample reported a problem. Of this 8%, half ($n = 6$; 4%) were mild problems (e.g., separation anxiety, sleep problems, extreme shyness) and half ($n = 6$; 4%) were severe problems, i.e., problems that parents identified as "diagnoses" (e.g., attention deficit-hyperactivity disorder, oppositional defiant disorder, reactive attachment disorder). We do not know, however, whether such diagnoses were assigned by parents or professionals (e.g., pediatricians; early intervention specialists). Two dummy coded variables (mild problems versus not; severe problems versus not) were created. For the first, the perceived presence of a mild problem was coded as 1, and the absence of a minor problem was coded as 0. For the second, the perceived presence of a severe problem was coded as 1, and the absence of a severe problem was coded as 0. In this way, we could capture the independent effects of having a mild versus severe problem.

Perception of child developmental/cognitive problems: At T2, parents were asked, "Does your child have any cognitive, developmental, or language problems? Explain." Fifteen percent of the sample reported a developmental problem. Of this 15%, most (n = 19; 13%) were mild problems (e.g., speech impediment, sensory integration problems, language delays, gross motor delays); only 2% (n = 3) were severe problems, i.e., diagnoses (e.g., expressive language disorder; Down's syndrome). Again, we do not know who assigned these diagnoses. Given the small number of children with severe problems, we created one variable to capture the presence of developmental problems, such that the perceived presence of a problem was coded as 1, and the perceived absence of a problem was coded as 0.

Parent depressive symptoms: During the pre-placement phase (T1), depressive symptoms were assessed using the 20-item Center for Epidemiologic Studies Depression Scale (CES-D; Radloff, 1977). Using a 4-point scale ranging from 0 = *rarely/none of the time* to 3 = *most/all of the time*, participants considered the past week and estimated the frequency of feelings corresponding to statements like "I felt sad." Higher mean scores represent more depressive symptoms. The CES-D has established validity, and prior studies of lesbian/gay parents indicate good internal consistency (Goldberg & Smith, 2011). Alphas for lesbian, gay, heterosexual female, and heterosexual male participants were .90, .91, .91, and .86, respectively.

Relationship quality: Love was assessed at T1 using a 10-item scale (Personal Relationships Scale; Braiker & Kelley, 1979). Using a 9-point scale (1 = *not at all* to 9 = *very much*), parents responded to questions like, "To what extent do you have a sense of belonging with your partner?" Higher mean scores indicate more love. The measure shows good internal consistency in prior work with lesbian/gay parents (Goldberg & Smith, 2011). Alphas for lesbian, gay, heterosexual female, and heterosexual male parents were .82, .87, .80, and .84, respectively.

Sexual orientation: Sexual orientation (dummy coded: 1 = same-sex, 0 = heterosexual) was used as a predictor, given theoretical interest in its relationship to stress (Goldberg, 2010b).

Social support: Social support was assessed at T1 using the Perceived Social Support from Family/Friends scale (Procidano & Heller, 1983), which assesses support from friends (PSS-Fr, 20 items) and family (PSS-Fa, 20 items) and is answered on a 4-point scale (1 = *generally false* to 4 = *generally true*). One item is, "My (friends/family) give me the moral support that I need." Higher mean scores indicate more support. The scales have strong psychometric properties (Procidano & Heller, 1983). For the PSS-Fr, alphas for lesbian, gay, heterosexual female, and heterosexual male parents were .95, .96, .96, and .96. For the PSS-Fa, alphas for lesbian, gay, heterosexual female, and heterosexual male parents were .92, .91, .88, and .93.

Controls

Income: Family income was included as a control, as some studies have found negative relations between income and parenting stress (Smith et al., 2001; Whiteside-Mansell et al., 2007). Family income was divided by 10,000 to keep all variables on a similar scale.

Parent gender: Parent gender (dummy coded: 1 = female and 0 = male) was included as a control, as some studies have found higher parenting stress in mothers compared to fathers (Rijk et al., 2010; but see Deater-Deckard, 2004). We examine the interaction between gender and sexual orientation, as gender may operate differently in different relational contexts (Goldberg, 2010b).

Child gender: Child gender (dummy coded: 1 = female and 0 = male) was included as a control, given that some studies have found that parents of boys report more stress than parents of girls (Miller et al., 2009), although others have not (Mulsow et al., 2003; Viana & Welsh, 2010).

Health problems at birth: To tease apart the effect of health problems from developmental problems (e.g., developmental delays) that may result from health problems present at birth (e.g., prematurity; Censullo, 1994), we include health problems at birth as a control. At T2, parents were asked, “Did your child have any medical or health problems when s/he was born? What about currently? Explain.” Problems were reported by 15% of parents. One-third (n = 7; 5%) of these were minor problems (e.g., acid reflux, a hernia) and two-thirds (n = 15; 10%) were serious problems (e.g., prematurity; born drug addicted; fetal alcohol syndrome). Given that all problems in the minor problems category were likely to resolve soon after birth, we grouped parents who reported such problems with those who reported no problems. Thus, the perceived presence of a serious problem was coded as 1, and the absence of a serious problem was coded as 0.

Adoption route: Adoption route was included as a control in follow-up analyses, given our finding that this variable differed by group. To test for differences across adoption routes, we used three dummy codes, where 1 = private domestic and 0 = not private domestic; 1 = public domestic and 0 = not public domestic; and 1= international and 0 = not international.

Analytic Strategy

Multilevel modeling (MLM) was used to account for the shared variance in the outcomes of partners nested in couples and in repeated measures over time (Smith, Sayer, & Goldberg, 2013). In addition, dyad (couple) members are indistinguishable, i.e., there is no meaningful way to differentiate between members (e.g., male/female). To examine change over time in dyads in which gender is not a distinguishing feature (i.e., same-sex couples), we used Kashy et al.’s (2008) adaptation of the dyadic growth model, in which separate intercepts and slopes are modeled for each member, the two members’ intercepts are allowed to covary, and their change parameters are allowed to covary (Raudenbush et al., 1995). Due to the inability to distinguish between members, parameter estimates for the average intercept and average slope (fixed effects) are pooled across partners and dyads, while estimates of variance are constrained to be equal for both partners.

Similar to the distinguishable model, two redundant dummy variables, P1 and P2, are used to systematically differentiate between the two partners (i.e., P1 = 1 if the outcome score is from partner 1 and P1 = 0 otherwise, and P2 = 1 if the outcome score is from partner 2 and P2 = 0 otherwise). For our primary analyses, time is centered at the first post-adoption interview (i.e., 3 months post-placement; T2) and is measured in months; then, in follow-up analyses, time is centered at 2 years post-placement (T4). In describing our analytic procedure, we refer to the first set of analyses. Namely, at level 1 of the unconditional model (in which there are no predictors aside from Time), an intercept and slope for time for each partner is modeled:

$$Y_{ijk}=\beta_{01j}\,P1+\beta_{11j}P1*Time_{1jk}+\beta_{02j}\,P2+\beta_{12j}P2*Time_{2jk}+r_{ijk}$$

where Y_{ijk} represents the stress score of partner *i* in dyad *j* at time *k*, and *i* = 1, 2 for the two dyad members. In this equation, β_{01j} and β_{02j} represent the intercepts, and estimate parenting stress at 3 months after placement for partner 1 and 2 in couple *j*. Likewise, β_{11j} and β_{12j} are the slopes for Time, and estimate change in parenting stress over time for the two partners. As the partners are indistinguishable, the intercepts and slopes are then pooled in the following level-2 equations:

$$\beta_{0ij}=\gamma_{00}+u_{0ij} \quad \text{and} \quad \beta_{1ij}=\gamma_{10}+u_{1ij}$$

These two equations show that the intercepts are pooled both *within* and *between* dyads (i.e., across both *i* and *j*) to estimate the fixed effect, γ_{00}, which is the average intercept (or, average level of parenting stress), and similarly, the slopes for time are pooled both within and between dyads to estimate the average slope, γ_{10} (or, average rate of change in parenting stress over time).

The variances are also pooled within and between dyads. At level 2, the variance in the intercept, $Var(u_{0ij})$, represents the variability in stress at T2 (3 months post-placement), and the variance in the slopes, $Var(u_{1ij})$, represents the variability in how stress changes over time (T2 to T3 to T4). Finally, $Var(r_{ijk})$, is the variance of the level-1 residuals (i.e., the difference between the observed values of stress and the predicted values). This variance was constrained to be equal for both partners and across all time points.

In addition to the variances, dyadic growth models can include three key covariances. There is a covariance between the intercepts that models the degree to which partners are similar in the outcome (i.e., stress) score at the interview 3 months post-placement. There is also a covariance between the slopes that models the degree to which partners change over time in a similar fashion. Finally, there is a time-specific covariance that assesses similarity in the two partners' outcome scores at each time point after controlling for all of the predictors in the model.

For our main set of analyses, we fit unconditional models (in SPSS) estimating average stress (at 3 months post-placement; T2) and change in parenting stress (T2 to T3 to T4) across the sample. Next, we added the predictors, including the sexual orientation x gender

interaction. All continuous variables were grand mean-centered, and dichotomous variables were dummy coded (0, 1). Effect sizes are presented as the proportional reduction in variance; however, these figures must be viewed with caution, as MLM estimates of variance may not be reliable when examining dyadic data (Raudenbush, 2008; Smith et al., 2013). They, are however, more reliable when examining longitudinal models, given the additional number of assessments (Smith et al.). MLM was also used to examine mean differences by family type on the continuous predictors for which there was more than one report per couple (i.e., depression, love, friend support, family support). Several follow-up analyses were also conducted, to clarify certain patterns in the data.

Of the participants in the larger study whose child was under 4 years at placement, 6 (3 lesbian, 2 gay, 1 heterosexual) were dropped due to missing data on the predictors. They did not differ from the final sample on the other predictors or outcome variables. In all models, there were 296 partners nested within 148 couples. Of the 96 lesbian participants (n = 48 couples), 12 (4 couples, 4 individuals) were missing data on the outcome at T4 (i.e., T4 PSI-SF; 12.5% of lesbians); 4 (2 couples) were missing T3 PSI data (4%); and 2 (1 couple) was missing T2 PSI data (2%). Of the 116 heterosexual participants (n = 58 couples), 12 (4 couples, 3 women, 1 man) were missing T4 PSI data (10% of heterosexuals); and 2 (1 woman, 1 man) were missing T3 PSI data (3.5%). Of the 80 gay couples, 11 (5 couples, 1 individual) were missing T4 PSI data (14% of gay men). Those missing data on the outcome only were retained for the MLM analyses.

Results

Descriptive Statistics

Means—Sample means for predictor, control, and outcome variables appear in Table 1.

Group differences—We examined the distribution of the dichotomous variables (severe behavior problems, minor behavior problems, developmental problems, and health problems) by group (lesbian, gay, heterosexual female, heterosexual male) using chi-square analysis. Severe behavioral problems differed by group, $\chi^2(3, 296) = 11.24$, $p = .01$. Follow-up chi squares revealed that lesbians were more likely to report severe problems than gay men, $\chi^2(1, 180) = 7.68$, $p = .006$, and heterosexual men, $\chi^2(1, 158) = 4.51$, $p = .034$. Health problems also differed by group, $\chi^2(3, 296) = 7.88$, $p = .049$. Gay men were marginally less likely to report child health problems than lesbians, $\chi^2(1, 180) = 3.43$, $p = .064$, and heterosexual men, $\chi^2(1, 138) = -3.26$, $p = .071$.

Group differences in continuous variables were assessed using multilevel models, in which gender, sexual orientation, and their interaction were entered as predictors. Analyses using MLM showed no differences by gender, sexual orientation, or their interaction on the outcome (i.e., PSI-SF total score) or most of the predictors. A significant effect of gender on friend support emerged, $\gamma = .11$, $SE = .02$, $t(266) = 4.43$, $p < .001$: Women reported higher levels of support. There was also a significant effect of sexual orientation on friend support, $\gamma = .09$, $SE = .03$, $t(176) = 3.15$, $p = .002$: Persons in same-sex unions reported more support. These main effects must be interpreted in the context of the significant gender x sexual orientation interaction, $\gamma = -.43$, $SE = .10$, $t(266) = -4.17$, $p < .001$. Follow-up

analyses revealed that heterosexual men reported less friend support than lesbians, $\gamma = -.13$, $SE = .02$, $t(117) = -5.48$, $p < .001$, gay men, $\gamma = -.20$, $SE = .04$, $t(105) = -4.83$, $p < .001$, and heterosexual women, $\gamma = -.44$, $SE = .06$, $t(64) = -6.98$, $p < .001$.

There was also a significant effect of gender on income, $\gamma = -18{,}198.72$, $SE = 4{,}197.01$, $t(168) = -4.34$, $p < .001$: Women had lower family incomes. This main effect must be interpreted in the context of the significant gender x sexual orientation interaction, $\gamma = -18{,}711.99$, $SE = 4{,}197.91$, $t(168) = -4.46$, $p < .001$. As reported, gay couples earned more than other couple types.

Correlations between partner reports—The intraclass correlations (ICC) (the correlations between partners' reports) for stress at T2, T3, and T4 were .39, .55, and .38. The ICCs for depression, family support, friend support, and love were .28, .16, .11, and .40. For behavioral, developmental, and health problems, we determined intracouple agreement by calculating the percentage of couples in which both partners agreed upon the presence of a problem. The percentages of couples with convergent reports for severe behavior problems, minor behavior problems, developmental problems, and health problems, were 95%, 95%, 95%, and 91%.

Intercorrelations—Intercorrelations among predictor and outcome variables are in Table 2. As the matrix shows, there were strong relationships among stress across the three time points.

Predicting Total Parenting Stress at 3 Months Post-Placement and Over Time

Average trajectories—According to the unconditional model, at 3 months post-placement, parents' mean stress score was 63.50, $SE = 1.04$, $t(243) = 60.74$, $p < .001$. There was a significant effect of time on stress, $\gamma = 2.01$, $SE = .49$, $t(285) = 4.05$, $p < .001$, indicating that stress was increasing significantly, at a rate of 2.01 units per year. Partner's reports of initial stress were highly correlated, $r = .47$, $p < .001$, while partners' trajectories of changes over time were not.

Next, predictors and control variables were entered. Characteristics of the child (age at placement; parent-reported behavior problems and developmental problems) and the pre-adoptive context (parent depression; relationship quality; sexual orientation; support from friends/family) were included as main effect predictors, as was the interaction of gender and sexual orientation. Income, parent gender, child gender, and health problems were included as controls (Table 2).

Child characteristics predicting level of stress—Child age and parent-reported severe behavior problems were positively related to post-placement stress (i.e., model intercept; T2). That is, parents of older children, $\beta = .41$, $SE = .10$, $t(227) = 4.05$, $p < .001$ (H1a) and parents who reported severe problems, $\beta = 16.88$, $SE = 4.35$, $t(308) = 3.87$, $p < .001$ (H1b) had higher stress.

Pre-adoptive family context predicting level of stress—T1 depression, T1 love, and T1 perceived support from friends and family also predicted post-placement stress.

Namely, parents who reported more depressive symptoms, $\beta = 11.00$, $SE = 2.22$, $t(316) = 5.10$, $p < .001$ (H2a), less love, $\beta = -3.35$, $SE = 1.14$, $t(315) = -2.95$, $p = .004$ (H2b), and lower perceived support from friends, $\beta = -6.94$, $SE = 1.90$, $t(320) = -3.64$, $p < .001$, and family, $\beta = -2.07$, $SE = 1.09$, $t(312) = -1.90$, $p = .059$ (H2c), reported higher post-placement stress.

Predictors of change in stress—The effect of time on stress was no longer significant after the predictors were added. Severe behavior problems were negatively related to change in stress: Stress decreased for parents who reported problems, $\beta = -8.26$, $SE = 3.01$, $t(231) = -2.75$, $p = .007$. Developmental problems were positively related to change in stress, at the level of a trend, such that stress increased for parents who reported problems, $\beta = 3.59$, $SE = 1.96$, $t(220) = 1.83$, $p = .069$. No other characteristics were significant predictors of change in stress.

Effect sizes—The proportional reduction in variance in post-placement stress accounted for by child age, severe behavior problems, depression, love, friend support, and family support was 2%, 1%, 5%, 8%, 14.5%, and 3%, respectively. Proportional reduction in variance in change in stress accounted for by severe behavior problems and developmental problems was 8% and 12%. These estimates must be viewed with some caution, as the variance estimates produced by MLM with dyadic data are not necessarily reliable (Smith et al., 2013).

Follow-Up Analyses

We conducted a series of follow-up analyses, in order to help us to better understand certain patterns in our data, and their possible effects on parenting stress.

Predicting Time 4 (2 year post-placement) stress—Our primary interest was predicting post-placement stress, since this is a key time for intervention (Brodzinsky, 2008). But, we were also interested in whether the factors that predicted parenting stress during the early adjustment period would also predict stress two years later. We therefore recentered the data on the third post-placement interview (i.e., T4). Due to missing data at the final interview, however, there was insufficient variance to estimate random variance in the slope for change (Singer & Willett, 2003).

We found that child age, depression, love, and family support continued to be significantly related to stress, two years post-placement. The effects of friend support and severe behavior problems were no longer significant. Developmental problems emerged as significant ($p = .01$). Severe behavior problems and developmental problems continued to predict change in stress, while aspects of the pre-adoptive context remained nonsignificant as predictors of change.

Clarifying the role of behavior problems, developmental problems, and health problems—Parent-reported behavior problems, developmental problems, and health problems, were highly interrelated. Within the group of children with developmental problems (15% of the sample), 35% also had behavior problems and 15% had health problems, while 15% of children with behavior problems also had health problems. To

understand the effect of the collinearity, we refit the model with and without each of these variables. When severe behavior problems was removed, the effect of developmental problems on post-placement stress became marginally significant, $\beta = 5.18$, $SE = 2.80$, $t(259) = 1.85$, $p = .068$. When developmental problems was alone in the model, it was marginally significant in predicting post-placement stress, $\beta = 5.28$, $SE = 2.72$, $t(261) = 1.91$, $p = .058$. Thus, developmental problems may only increase initial stress when accompanied by severe behavioral problems, and once the behavioral problems are controlled for, developmental problems are unrelated to elevated stress.

The role of child age—Attachment theory posits that infants need to develop relationships with at least one primary caregiver for normal socioemotional development to occur; and, consistency in caregivers is especially important between 6 months and 2 to 3 years (Bowlby, 1969). Consistent with this theory, some research has found that children adopted under 6 months show poorer adjustment outcomes than children adopted after 6 months (Howard et al., 2004). Thus, we conducted exploratory follow-up analyses where we refit separate models on parents of infants (children placed before 6 months; 73% of the sample) and parents who adopted young non-infants (children placed between 6 months-4 years; Table 3). For parents of infants, we found a similar pattern of findings: depression, love, friend support, and family support predicted initial level of stress. Severe behavior problems were no longer significant in predicting level of stress, likely because only one child under 6 months reportedly had severe problems. Age was also no longer significant, likely because we severely constrained age. Health problems emerged as a significant predictor of stress. Neither behavior problems nor developmental problems predicted change, likely because of the low rates of problems in this age group ($n = 1$, $n = 4$, respectively).

A somewhat different set of predictors emerged as significant in the model fit on the small sample of parents of young non-infant children (Table 3). Child age, severe behavior problems, depression, and friend support were significant predictors of stress. Mild behavior problems also emerged as significant. Thus, the parents of children who had been adopted after 6 months seemed to have been driving the effects of age and behavior problems. While love and family support lost significance, effects were in the same direction as in the infant model. The effects of severe and mild behavior problems on change in stress were marginally significant, suggesting again that behavior problems was a more salient issue for parents of young non-infant children.

Based on the different patterns in the direction of magnitude of certain parameter estimates for infants versus young non-infants, we tested interactions between child age and all predictors, and found that (a) the interaction between age and severe behavior problems was significant at the level of a trend, indicating that parents whose children were older, and had parent-reported problems, had particularly high levels of post-placement stress, $\beta = .63$, $SE = .19$, $t(260) = 3.15$, $p = .072$; and (b) the interaction between age and parent gender was significant, such that mothers of older children had particularly high levels of post-placement stress, $\beta = .54$, $SE = .11$, $t(280) = 4.85$, $p = .002$. Thus, we added these interactions to a final model with the full sample (Table 3); in this final model, the interaction between age and behavior problems became nonsignificant.

Adoption route—Given that adoption route differed by family type, and is often related to child age (Goldberg, 2010a), we refit the original model with route (private domestic, public domestic, international) added as a control. The default group was changed to test for differences between groups. The effects were not significant, and the findings did not change.

Discussion

This represents one of the first studies to examine parenting stress during early childhood among lesbian, gay, and heterosexual adoptive parents (Farr et al., 2010), and the first to examine parenting stress in this population over time. Our study thus contributes to our understanding of adoptive parents' adaptation during the initial transition period, in a diverse sample of families.

The average PSI-SF scores in our sample (M = 63.50, SD = 16.75) are similar to those in some prior studies of adoptive parents (M of 60.42, SD = 13.78; Farr et al., 2010) but lower than others (M = 68.34, SD = 15.38; Viana & Welsh, 2010), which may reflect the presence of protective resources (e.g., education) in our sample. Although the overall stress levels in our sample were somewhat low, they increased in early parenthood, in contrast to some studies of adoptive parents (McCarty et al., 1999; McGlone et al., 2002). Our use of sophisticated modeling techniques, and a larger sample than prior studies, may help to account for the different patterns.

This study examined how resources and vulnerabilities in various contexts may shape levels and trajectories of parenting stress, and our findings have the potential to inform prevention efforts with new adoptive parents. Regarding child characteristics, we found that age at placement was related to higher stress, consistent with some prior work (Tornello et al., 2011). This is notable insofar as most children in the sample were adopted at a relatively young age (73% before 6 months, all before 4 years). Future work should attempt to better understand what aspects of child age are related to increased stress, by considering characteristics of older children's pre-adoptive experience (e.g., experiences of adversity) in relation to stress.

Parents who reported the presence of a severe emotional/behavioral problem in their child reported higher post-placement stress, consistent with research showing a positive link between behavior problems and parenting stress in biological-parent (Ostberg et al., 2007) and adoptive-parent (Farr et al., 2010) samples. Our finding that parent-reported behavior problems were related to lesser increases in stress over time is consistent with Williford et al.'s (2007) finding that declines in stress across early childhood were steeper for mothers of children who displayed externalizing behaviors than mothers whose children did not display these behaviors. The effects of parent-reported behavioral problems on change in stress should be considered in light of the fact that parents of children with perceived problems reported higher levels of initial stress, suggesting that the initial relationship between behavior problems and stress that was observed at the post-placement assessment declines over time. It appears likely that the early problems that the sample was reporting either resolved themselves, or, parents adjusted to them; this interpretation is supported by the fact

that perceived behavior problems were no longer related to stress at two years post-placement. It is important to keep in mind, however, that the findings only show a correlation between perceived problems and reported stress, not causality; parents experiencing stress may simply attribute this stress to their child's behavior. Further, given the limitations of single-item measures, our findings related to behavior problems should be viewed with caution.

Prior studies have found that developmental problems are linked to higher stress (Gupta, 2007; Miller et al., 2009). In our primary analyses, we found that perceived developmental problems were not a predictor of initial stress when severe behavioral problems were controlled for. This suggests that perhaps the early stress parents experience related to child developmental problems can be attributed to perceived behavioral issues. Further, we found that perceived developmental problems were related to greater increases in stress – in contrast to the finding that initial perceptions of behavior problems were related to *lesser* increases in stress over time. While we should be cautious about interpretation, given the marginally significant nature of this effect, perhaps early concerns about developmental issues may forecast a more challenging road ahead than early concerns about behavioral problems (which might show a higher rate of "false positives"). This interpretation is bolstered by our finding that parent-reported developmental problems were related to parenting stress two years post-placement. In that early developmental delays (e.g., detected before age 4) have been linked to motor and cognitive outcomes in school-age children (Piek, Dawson, Smith, & Gasson, 2008), parents' early detection or perception of developmental issues may represent key "data" that can inform early intervention efforts.

Aspects of the pre-adoptive context predicted initial parenting stress levels, but not change in stress over time. Namely, parents' well-being, measured pre-placement, was related to post-placement stress, echoing Viana and Welsh's (2010) finding that pre-adoptive depression was related to post-adoption stress among mothers who had adopted from abroad. These findings suggest the importance of careful mental health assessments with pre-adoptive parents, to identify those at risk for parenting stress, as well as those with significant emotional resources, who may be particularly equipped to handle children with more severe special needs (Perry & Henry, 2009).

Love, measured pre-placement, was negatively related to post-placement stress, consistent with work on heterosexual biological parents (Colpin et al., 2000; Mulsow et al., 2003). Thus, parents' relationship quality before the adoption can be viewed as a protective factor against stress. A loving relationship may help to mitigate the challenges of new adoptive parenthood by offering parents supportive respite from the demands of parenting, or equipping parents with good communication skills that will aid them in talking about their daily parenting struggles (Goldberg, 2010a). Professionals should assess prospective adopters' relationship health to determine whether it may be viewed as a resource or vulnerability for stress. Notably, the other dyadic characteristic that we examined, sexual orientation, was unrelated to stress, consistent with prior work showing few differences in psychological outcomes by parent sexual orientation (Goldberg, 2010b).

Turning to the broader social context, pre-placement support from friends and family predicted post-placement stress. This is consistent with prior work showing that perceived support from friends (Tornello et al., 2011) and family (Smith et al., 2001) are related to lower parenting stress. Professionals can support pre-adoptive parents by helping them to inventory their support resources, and, if necessary, taking steps to address support deficiencies. Notably, only family support was related to stress 2 years post-placement. Perhaps parents find that, over time, their friends are less significant than family in providing the type of practical support (e.g., babysitting) that can be so important in minimizing stress (Crnic & Acevado, 1995). Thus, preserving or enhancing family support resources may be most important in promoting long-term adjustment.

In considering our findings, it is important to consider that the sample consisted mostly of parents who adopted infants. Exploratory analyses indicated that some effects may vary depending on the age of the child at adoption. Namely, the effect of parent gender appeared to vary by age at placement, with mothers of young non-infants exhibiting especially high levels of stress. In that women are centrally defined by their role as parent, perhaps mothers of children adopted after early infancy encounter frustrated expectations surrounding their parenting role, since they have been socialized to imagine the early experience of parenthood as involving an infant (Cowan & Cowan, 1995). Also, parents who adopted young non-infant children, who also perceived them as having behavior problems, reported high stress. This suggests that adopting a non-infant does not inevitably create stress; rather stress arises as a function of managing perceived difficult child behaviors, which may be quite challenging in the context of non-infants. Of note is that our examination of these interactions was exploratory; these findings may be specific to our sample.

Limitations

A key limitation of our study is the reliability of certain measures. Our measurement of behavioral, developmental, and health problems was crude, in that we did not ask parents whether their children's presentation met certain diagnostic criteria; rather, we relied on parents' subjective reports. We also do not know whether parents' reports of their children's problems reflect professional input. Yet, examining parents' subjective perceptions of their children's problems has significant value. Social cognitive models of parenting (Sacco & Murray, 2003) propose a bidirectional interactional process whereby parental perceptions of their children are shaped by both negative child behaviors and their own cognitive processes, which serve to perpetuate their own negative mental constructions of their children's characteristics. Thus, even if a child's behavioral problems are relatively mild, if the parent – particularly a stressed parent – views them as severe, this will likely lead to negative parental behaviors (e.g., criticism) that serve to adversely affect the child's behavior, which in turn reinforce the parent's negative perception of and reaction to the child, as well as ratcheting up their own experience of stress (Sacco & Murray).

We relied on one-item measures, with unknown psychometric properties, to assess behavioral, developmental, and health problems. Such complex and multidimensional phenomena may not be adequately captured via a single-item measure. Future work should (a) utilize multi-item measures to assess emotional and health functioning, and (b) examine

the items we utilized alongside established measures to determine their validity. And, to the extent that perceptions of child difficultness are one of the constructs that are tapped by the PSI-SF, there may have been some overlap between our measure of behavioral problems and our measure of parenting stress.

The low frequency of parent-reported behavioral and developmental problems – especially developmental problems – among infants under 6 months is likely reflective of the fact that the major developmental milestones (e.g., walking, talking) tend to occur later than six months; thus, it is unsurprising that parents of younger infants are less likely to report developmental issues (Newman, 2012). Further, many parents are not trained to recognize indicators of developmental risk (Newman) – although, again, parents' perceptions of such problems may be more important to their subjective experience of stress than whether they objectively "exist."

Our sample was more likely to be White, and had more resources, than adoptive parents in the general population (Gates et al., 2007), limiting the generalizability of our findings. Indeed, we observed relatively low levels of parenting stress; adoptive parents as a whole possess less income and education, which may increase stress (Gates et al., 2007). Also, the fact that participants were mostly White and affluent could have reduced the variability in stress, thus limiting our ability to detect significant effects in stress related to certain factors (e.g., sexual orientation). Finally, most participants adopted infants. Given our finding that predictors of stress may vary based on age, future work should probe the relationship between child age and stress.

Conclusions

The findings of our study, together with prior research, suggest that parenting stress does not appear to be influenced by sexual orientation. Rather, aspects of the pre-adoptive context, and characteristics of the adopted child, predicted stress. Our findings hold implications for professionals who work with adoptive parents in the pre- and post-adoptive phases, and support the need for researchers to examine the varied contexts that shape parenting stress in adoptive parents specifically and parents as a whole.

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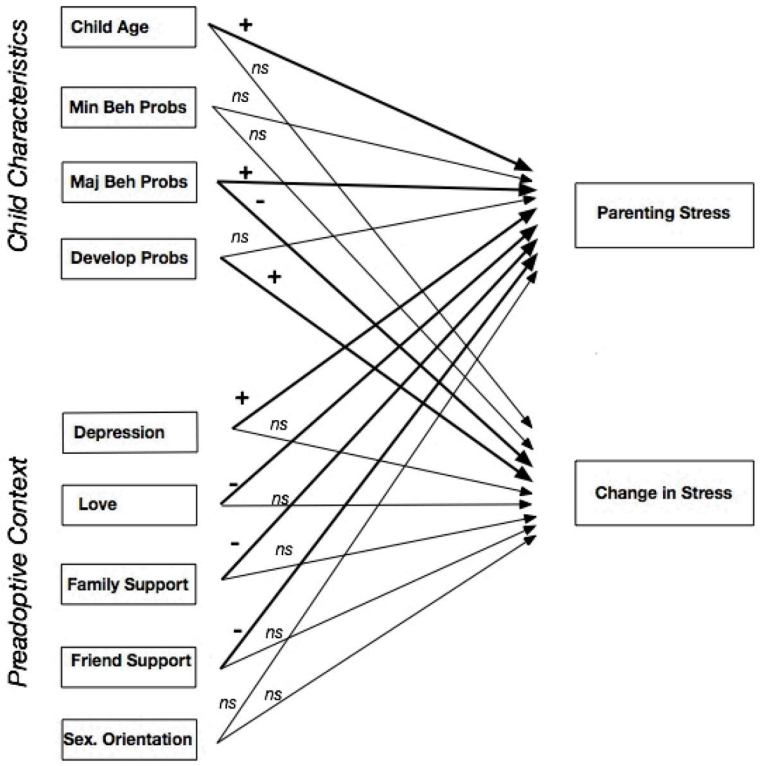

Figure 1.

Table 1

Demographic, control, predictor, and outcome variables, by family type

	Full Sample (*n* = 148 families) *M (SD)* or %	Lesbian Couples (*n* = 50 families) *M (SD)* or %	Gay Couples (*n* = 40 families) *M (SD)* or %	Heterosexual Couples (*n* = 58 families) *M (SD)* or %
Demographics and Controls				
Family Income	$130,208 ($79,605)	$114,749 ($58,706)	$170,703 ($115,337)	$126,230 ($72,012)
Relationship Duration (yrs)	8.10 (3.88)	7.63 (3.70)	7.60 (3.69)	8.67 (4.04)
Education (range of 1–6)	4.38 (.98)	4.42 (.99)	4.38 (.99)	4.37 (.98)
Current Child Age (yrs)	2.49 (.85)	2.50 (.99)	2.35 (.75)	2.56 (.77)
Parent Race				
White	91%	93%	90%	89%
Of Color	9%	7%	10%	11%
Child Race				
White	37%	30%	45%	39%
Of Color	63%	70%	55%	51%
Child Gender				
Boy	49%	47%	58%	43%
Girl	51%	53%	42%	57%
Adoption Route				
Public Domestic	16%	24%	10%	10%
Private Domestic	62%	58%	85%	50%
International	22%	18%	5%	40%
Health Problems (% Yes)	15%	12%	7%	24%
Predictors (*M, SD*, Range)				
Child Age at Placement (mos)	5.61 (10.26), 0–53	6.50 (12.67), 0–53	3.14 (9.11), 0–46	6.71 (8.60), 0–30
Behavior Prob (% Yes)	8%	12%	3%	8%
Developmental Prob (% Yes)	15%	17%	8%	18%
Depression	.49 (.41), .00–2.40	.50 (.43), 0.00–2.10	.51 (.43), 0.00–1.80	.46 (.37), 0.00–2.40
Love	7.78 (.84), 3.11–9.00	7.88 (.75), 4.60–8.90	7.70 (.99), 3.11–9.00	7.77 (.82), 3.80–8.90
Family Support	2.96 (.70), 1.05–4.00	2.89 (.70), 1.15–4.00	2.98 (.71), 1.05–4.00	3.02 (.70), 1.25–4.00
Friend Support	3.26 (.48), 1.85–4.00	3.36 (.45), 2.35–4.00	3.31 (.43), 2.55–4.00	3.16 (.52), 1.85–5.00
Outcomes (*M, SD*, Range)				
PSI-SF Total	63.50 (16.75), 37.00–131.40	65.06 (17.32), 39.00–131.00	62.64 (17.18), 37.00–131.40	64.22 (15.97), 37.00–114.00

Table 2

Intercorrelations among predictor and outcome variables

	T2 Total PSI	T3 Total PSI	T4 Total PSI	Child Age	Beh Probs Min	Beh Probs Maj	Dev Probs	Depr	Love	SS Par	Fiend Supp	Fam Supp	Fam Inc	Fem Par	Fem Ch	Hlth Probs
T2 Total PSI	--															
T3 Total PSI	.75	--														
T4 Total PSI	.57	.70	--													
Ch Age-Placement	.37	.41	.36	--												
Behav Probs Minor	.03	.03	−.03	.02	--											
Behav Probs Major	.35	.40	.32	.51	−.05	--										
Depression	.28	.27	.26	−.13	.003	−.02	−.09	--								
Love	−.22	−.23	−.18	.04	−.002	−.01	−.02	−.20	--							
Same-Sex Parent	.004	−.07	.02	.18	−.05	.06	−.09	−.09	.10	--						
Friend Support	−.27	−.21	−.17	−.07	−.05	−.03	−.03	−.18	.19	.18	--					
Family Support	−.23	−.22	−.28	−.09	−.003	−.04	.003	−.19	.19	−.08	.13	--				
Family Income	−.09	−.06	−.07	−.12	−.09	−.07	−.13	−.05	.03	.09	.12	−.002	--			
Female Parent	.07	.04	.04	.09	.02	.16	.11	−.02	.11	.01	.27	.02	−.18	--		
Female Child	−.06	−.08	−.03	.06	.06	.03	.03	−.13	−.002	−.07	.01	−.10	.06	.05	--	
Health Problems	.07	.07	.02	.008	.05	.06	.08	−.03	.07	−.17	−.03	.09	−.12	.05	−.08	--

Table 3

Multilevel models predicting level and change in parenting stress (PS)

	PS, T2 (*n* = 148) (γ, SE)	PS, T2, < 6 mos (*n* = 108) (γ, SE)	PS, T2, > 6 mos (*n* = 40) (γ, SE)	PS, T2, w/Interactions (*n* = 148) (γ, SE)	PS, T4 (*n* = 148) (γ, SE)
Intercept	60.19 (2.13)***	60.47 (2.59)***	61.00 (2.33)***	60.01 (2.10)***	64.18 (2.34)***
Child Age at Placement	.41 (.10)***	.97 (.64)	.70 (.15)***	.10 (.65)	.36 (.12)**
Severe Behavior Probs	16.88 (4.35)***	2.39 (11.87)	13.38 (5.00)**	9.69 (5.89)+	1.21 (4.94)
Minor Behavior Probs	4.46 (3.92)	−.92 (5.41)	12.30 (5.83)*	4.41 (3.89)	.006 (4.34)
Developmental Probs	2.22 (2.81)	4.26 (4.97)	3.68 (3.59)	2.80 (2.70)	9.44 (3.22)**
Depression	11.00 (2.22)***	9.07 (2.43)***	11.00 (5.51)*	10.45 (2.19)***	11.16 (2.45)***
Love	−3.35 (1.14)**	−3.27 (1.29)*	−1.72 (2.41)	−3.46 (1.12)**	−2.85 (1.29)*
Sexual Orientation	−.29 (2.73)	−1.72 (3.08)	−4.69 (7.24)	−1.12 (2.70)	−1.56 (3.03)
Friend Support	−6.94 (1.90)***	−7.69 (2.21)**	−9.24 (3.84)*	−7.60 (1.88)***	−3.44 (2.09)
Family Support	−2.07 (1.09)+	−3.32 (1.40)*	−1.26 (1.75)	−2.24 (1.07)*	−3.83 (1.21)**
Family Income	.15 (.11)	.11 (.12)	.27 (.29)	.11 (.11)	.10 (.12)
Parent Gender	1.54 (2.11)	.97 (2.57)	3.80 (3.18)	2.13 (2.07)	1.28 (2.28)
Child Gender	−1.82 (1.68)	−1.58 (2.07)	−.88 (3.20)	−2.04 (1.66)	.46 (1.87)
Child Health Probs	2.87 (1.83)	4.77 (2.19)*	−1.39 (3.62)	3.12 (1.83)+	.26 (2.05)
Gender x Sexual Or	2.75 (3.26)	.94 (3.74)	11.36 (7.66)	3.38 (3.25)	1.84 (3.61)
Ch Age x Severe Probs				.24 (.21)	
Ch Age x Par Gender				.47 (.12)***	
Change	2.19 (1.42)	−3.26 (2.77)	7.17 (3.30)*	2.13 (1.42)	2.17 (1.28)+
Child Age at Placement	−.02 (.07)	−.54 (.39)	−.02 (.12)	−.01 (.06)	−.02 (.06)
Severe Behavior Probs	−8.26 (3.01)**	−.99 (4.09)	−7.67 (3.99)+	−8.80 (3.00)**	−9.01 (2.73)**
Minor Behavior Probs	−2.97 (2.73)	−.67 (3.26)	−9.16 (5.31)+	−2.95 (2.74)	−2.36 (2.44)
Developmental Probs	3.59 (1.96)+	4.02 (3.26)	3.21 (3.08)	3.55 (1.96)+	4.21 (1.75)*
Depression	−.74 (1.43)	.17 (1.38)	4.02 (5.43)	−.66 (1.43)	.14 (1.29)
Love	−.06 (.77)	−.99 (.75)	1.79 (2.24)	−.09 (.77)	.32 (.71)

	PS, T2 (*n* = 148) (γ, SE)	PS, T2, < 6 mos (*n* = 108) (γ, SE)	PS, T2, > 6 mos (*n* = 40) (γ, SE)	PS, T2, w/Interactions (*n* = 148) (γ, SE)	PS, T4 (*n* = 148) (γ, SE)
Sexual Orientation	−.61 (2.15)	1.60 (1.75)	−9.51 (6.74)	−.69 (1.81)	−.75 (1.62)
Friend Support	1.89 (1.25)	1.84 (1.30)	2.64 (3.38)	1.94 (1.25)	2.01 (1.26)
Family Support	−.92 (.74)	.22 (.82)	−2.39 (1.64)	−.88 (.74)	−1.05 (.67)
Family Income	−.02 (.08)	−.04 (.07)	−.06 (.24)	−.02 (.08)	−.01 (.07)
Parent Gender	.11 (1.37)	.33 (1.50)	.11 (3.35)	.18 (.36)	−.18 (1.28)
Child Gender	1.27 (1.13)	1.68 (1.14)	−.22 (2.52)	1.30 (1.13)	1.20 (.99)
Child Health Probs	−1.36 (1.22)	−1.40 (1.20)	−2.34 (2.91)	−1.37 (1.22)	−1.51 (1.09)
Gender x Sexual Or	−.61 (2.14)	−.50 (2.14)	1.94 (7.17)	−.70 (2.14)	−.22 (1.96)

$^{+}p < .10$.

$^{*}p < .05$.

$^{**}p < .01$.

$^{***}p < .001$.