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Same-sex parenting and children's outcomes: A closer examination of the American psychological association's brief on lesbian and gay parenting

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ABSTRACT

In 2005, the American Psychological Association (APA) issued an official brief on lesbian and gay parenting. This brief included the assertion: "Not a single study has found children of lesbian or gay parents to be disadvantaged in any significant respect relative to children of heterosexual parents" (p. 15). The present article closely examines this assertion and the 59 published studies cited by the APA to support it. Seven central questions address: (1) homogeneous sampling, (2) absence of comparison groups, (3) comparison group characteristics, (4) contradictory data, (5) the limited scope of children's outcomes studied, (6) paucity of long-term outcome data, and (7) lack of APA-urged statistical power. The conclusion is that strong assertions, including those made by the APA, were not empirically warranted. Recommendations for future research are offered.

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1. Introduction

Over the past few decades, differences have been observed between outcomes of children in marriage-based intact families and children in cohabiting, divorced, step, and single-parent families in large, representative samples.¹ Based on four nationally representative longitudinal studies with more than 20,000 total participants, McLanahan and Sandefur conclude:

Children who grow up in a household with only one biological parent are worse off, on average, than children who grow up in a household with both of their biological parents. . . regardless of whether the resident parent remarries.²

Differences have recurred in connection with myriad issues of societal-level concern including: (a) health,³ mortality,⁴ and suicide risks,⁵ (b) drug and alcohol abuse,⁶ (c) criminality and incarceration,⁷ (d) intergenerational poverty,⁸ (e) education and/or labor force contribution,⁹ (f) early sexual activity and early childbearing,¹⁰ and (g) divorce rates as adults.¹¹ These outcomes represent important impact variables that influence the well-being of children and families, as well as the national economy.

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¹ See Table 2; McLanahan and Sandefur (1994) and Wilcox et al. (2005).

² McLanahan and Sandefur (1994), p. 1 (emphasis in original).

³ Waite (1995).

⁴ Gaudino et al. (1999) and Siegel et al. (1996).

⁵ Wilcox et al. (2005, p. 28) and Cutler et al. (2000).

⁶ Bachman et al. (1997), Flewelling and Bauman (1990), Horwitz et al. (1996), Johnson et al. (1996), Simon (2002), Waite and Gallagher (2000), Weitoff et al. (2003), and Wilcox et al. (2005).

⁷ Blackmon et al. (2005), Harper and McLanahan (2004), Kamark and Galston (1990, pp. 14–15), Manning and Lamb (2003), and Margolin (1992, p. 546).

⁸ Akerlof (1998), Blackmon et al. (2005), Brown (2004), Oliver and Shapiro (1997), Rank and Hirschl (1999).

⁹ Amato (2005), Battle (1998), Cherlin et al. (1998), Heiss (1996), Lansford (2009), Manning and Lamb (2003), McLanahan and Sandefur (1994), Phillips and Asbury (1993), and Teachman et al. (1998).

¹⁰ Amato (2005), Amato and Booth (2000), Ellis et al. (2003), and McLanahan and Sandefur (1994).

¹¹ Cherlin et al. (1995) and Wolfinger (2005).

By way of comparison, social science research with small convenience samples has repeatedly reported no significant differences between children from gay/lesbian households and heterosexual households. These recurring findings of no significant differences have led some researchers and professional organizations to formalize related claims. Perhaps none of these claims has been more influential than the following from the 2005 American Psychological Association (APA) Brief on “Lesbian and Gay Parenting”.^{12,13}

Not a single study has found children of lesbian or gay parents to be disadvantaged in any significant respect relative to children of heterosexual parents.

Are we witnessing the emergence of a new family form that provides a context for children that is equivalent to the traditional marriage-based family? Many proponents of same-sex marriage contend that the answer is yes. Others are skeptical and wonder—given that other departures from the traditional marriage-based family form have been correlated with more negative long-term child outcomes—do children in same-sex families demonstrably avoid being “disadvantaged in any significant respect relative to children of heterosexual parents” as the APA Brief asserts? This is a question with important implications, particularly since the 2005 APA Brief on “Lesbian and Gay Parenting” has been repeatedly invoked in the current same-sex marriage debate.

2. Statement of purpose

The overarching question of this paper is: *Are the conclusions presented in the 2005 APA Brief on “Lesbian and Gay Parenting” valid and precise, based on the cited scientific evidence?*¹⁴ In the present paper, seven questions relating to the cited scientific evidence are posed, examined, and addressed.¹⁵

Two portions of the APA Brief are of particular concern to us in connection with these questions: (a) the “Summary of Research Findings” (pp. 5–22), and (b) the first and largest section of the annotated bibliography, entitled “Empirical Studies Specifically Related to Lesbian and Gay Parents and Their Children” (pp. 23–45). In the latter section (pp. 23–45), the APA references 67 manuscripts. Eight of these studies are “unpublished dissertations”.¹⁶ The 59 published studies are listed in Table 1 of this paper, providing clear parameters from which to formulate responses to the seven outlined questions, next.

2.1. Question 1: how representative and culturally, ethnically, and economically diverse were the gay/lesbian households in the published literature behind the APA brief?

In response to question 1, more than three-fourths (77%) of the studies cited by the APA brief are based on small, non-representative, convenience samples of fewer than 100 participants. Many of the non-representative samples contain far fewer than 100 participants, including one study with five participants (Wright, 1998; see Table 1). As Strasser (2008) notes:

Members of the LGBT community... vary greatly in their attitudes and practices. For this reason, it would be misleading to cite a study of gay men in urban southern California as if they would represent gay men nationally (p. 37).

By extension, it seems that influential claims by national organizations should be based, at least partly, on research that is nationally representative.

Lack of representativeness often entails lack of diversity as well.¹⁷ A closer examination of the APA-cited literature from the “Empirical Studies” (pp. 23–45) section of the APA Brief reveals a tendency towards not only non-representative but racially homogeneous samples. For example:

¹² The APA Brief’s stated objective was primarily to influence family law. The preface states that “the focus of the publication... [is] to serve the needs of psychologists, lawyers, and parties in family law cases. ... Although comprehensive, the research summary is focused on those issues that often arise in family law cases involving lesbian mothers or gay fathers” (APA Brief, 2005, p. 3). Redding (2008) reports that “leading professional organizations including the American Psychological Association” have issued statements and that “advocates have used these research conclusions to bolster support for lesbian parenting and marriage rights, and the research is now frequently cited in public policy debates and judicial opinions” (p. 136).

¹³ Patterson, p. 15 (from APA Brief, 2005).

¹⁴ Kuhn (1970/1996) has stated that there is an “insufficiency of methodological directives, by themselves, to dictate a unique substantive conclusion to many sorts of scientific questions” (p. 3). To draw substantive conclusions, a socially and historically influenced paradigm is needed. Research is then “directed to the articulation of those phenomena and theories that the paradigm already supplies” (p. 24). Indeed, paradigmatic biases, and other influences, can make us vulnerable to “discrepancies between warranted and stated conclusions in the social sciences” (Glenn, 1989, p. 119; see also Glenn, 1997).

¹⁵ Kuhn (1970/1996) has noted that “when scientists disagree about whether the fundamental problems of their field have been solved, the search for rules gains a function that it does not ordinarily possess” (p. 48).

¹⁶ These unpublished dissertations include Hand (1991), McPherson (1993), Osterweil (1991), Paul (1986), Puryear (1983), Rees (1979), Sbordone (1993), and Steckel (1985). An adapted portion of one of these dissertations (Steckel, 1985) was eventually published (Steckel, 1987) and is included in the present examination; the other unpublished work is not included in Table 1 of this paper.

¹⁷ Of the 59 published “Empirical Studies Specifically Related to Lesbian and Gay Parents and Their Children”, no studies mention African-American, Hispanic, or Asian-American families in either their titles or subtitles. The reference list in the APA Brief’s “Summary of Research Findings” (pp. 15–22) is also void of any studies focusing on African-American, Hispanic, or Asian-American families. None of the “Empirical Studies Specifically Related to Lesbian and Gay Parents and Their Children” (pp. 23–45) holds, as its focus, any of these minorities. (Note: Three years after the 2005 APA Brief, Moore (2008) published a small but pioneering study on African-American lesbians.)

Table 1
Publications Cited in APA brief on lesbian and gay parenting (pp. 23–45).

Author and year	GayLes N	Hetero N	Stat used	Cohen N	Stat power	Outcome studied	Hetero compar group
Bailey et al. (1995)	55par; 82chl	0	T-test/Chi	393	N/A	Sexual orientation	None
Barrett and Tasker (2001)	101	0	T-test/Chi	393	N/A	Child responses to a gay parent	None
Bigner and Jacobsen (1989a)	33	33	T-test	393	No	Parents reports of values of children	Fathers
Bigner and Jacobsen (1989b)	33	33	T-test	393	No	Parent reports of parent behavior	Fathers
Bos et al. (2003)	100	100	MANOVA	393	No	Parental motives and desires	Families
Bos et al. (2004)	100	100	MANOVA	393	No	Parent reports of couple relations	Families
Bozett (1980)	18	0	Qualitative	N/A	N/A	Father disclosure of homosexuality	None
Brewaeyts et al. (1997)	30	68	ANOVA	393	No	Emotional/gender development	DI/Non-DI Couples
Chan et al. (1998a)	30	16	Various	393	No	Division of labor/child adjustment	DI Couples
Chan et al. (1998b)	55	25	Various	393	Reported	Psychosocial adjustment	DI Couples
Ciano-Boyce and Shelley-Sireci (2002)	67	44	ANOVA	393	No	Division of child care	Adoptive Parents
Crawford et al. (1999)	0	0	MANOVA	393	N/A	388 Psychologists' attitudes	N/A
Flaks et al. (1995)	15	15	MANOVA	393	No	Cognitive/behavioral/parenting	Married Couples
Fulcher et al. (2002)	55	25	T-test/Chi	393	Reported	DI/adult-child relationships	Parents
Gartrell et al. (1996)	154	0	Descript.	N/A	N/A	Prospective Parent Reports	None
Gartrell et al. (1999)	156	0	Descript.	N/A	N/A	Reports on parenting issues	None
Gartrell et al. (2000)	150	0	Descript.	N/A	N/A	Reports on parenting issues	None
Gartrell et al. (2005)	74	0	Descript.	N/A	N/A	Health, school/education	None
Gershon et al. (1999)	76	0	Reg.	390	N/A	Adolescent coping	None
Golombok et al. (1983)	27	27	T-test/Chi	393	No	Psychosexual development	Single mother families
Golombok et al. (2003)	39	134	Various	393	No	Socioemotional dev./relations	Couples & singles
Golombok and Rust (1993)	N/A	N/A	N/A	N/A	N/A	Reliability testing of a pre-school gender inventory	
Golombok and Tasker (1996)	25	21	Pearson	783	Reported	Sexual orientation	Children of single mothers
Golombok et al. (1997)	30	83	MANOVA	393	No.	Parent-child interactions	Couples & singles
Green (1978)	37	0	Descript.	N/A	N/A	Sexual identity	None
Green et al. (1986)	50par; 56chl	40par; 48chl	Various	390	No	Sexual identity/social relations	Single mothers
Harris and Turner (1986)	23	16	ANOVA/Chi	393	No	Sex roles/relationship with child	Single moth. & fath.
Hoeffler (1981)	20	20	ANOVA	393	No	Sex-role behavior	Single mothers
Huggins (1989)	18	18	T-test	393	No	Self-esteem of adolescent children	Divorced mothers
Johnson and O'Connor (2002)	415	0	Various	N/A	No	Parenting beliefs/division of labor/etc.	None
King and Black (1999)	N/A	N/A	F	393	N/A	338 College students' perceptions	N/A
Kirkpatrick et al. (1981)	20	20	Descript.	N/A	No	Gender development	Single mothers
Koepke et al. (1992)	47 couples	0	MANOVA	N/A	N/A	Relationship quality	None
Kweskin and Cook, 1982	22	22	Chi-Sqr	785	No	Sex-role behavior	Single mothers
Lewis, 1980	21	0	Qualitative	N/A	N/A	Child response to m. disclosure	None
Lott-Whitehead and Tully, 1993	45	0	Descriptive	N/A	N/A	Adult reports of impacts on children	None
Lyons, 1983	43	37	Descriptive	N/A	No	Adult self-reports	Divorced mothers
McLeod et al., 1999	0	0	Mult. regr.	N/A	No	151 College student reports	N/A
Miller, 1979	54	0	Qualitative	N/A	N/A	Father behavior & f-child bond	None
Miller et al., 1981	34	47	Chi-Sqr	785	No	Mother role/home environment	Mothers
Morris et al., 2002	2431	0	MANCOVA	N/A	N/A	Adult reports on "coming out"	None
Mucklow and Phelan, 1979	34	47	Chi-Sqr	785	No	Behavior and self-concept	Married mothers
O'Connell, 1993	11	0	Qualitative	N/A	N/A	Social and sexual identity	None
Pagelow, 1980	20	23	Qual/Descr.	N/A	N/A	Problems and coping	Single mothers
Patterson (1994)	66	0	T-test	393	No	Social/behavioral/sexual identity	Available norms
Patterson (1995)	52	0	T-test/Chi/F	393	No	Division of labor/child adjustment	None

(continued on next page)

Table 1 (continued)

Author and year	GayLes N	Hetero N	Stat used	Cohen N	Stat power	Outcome studied	Hetero compar group
Patterson (2001)	66	0	Various	393	No	Maternal mental health/child adjustment	None
Patterson et al., 1998	66	0	Various	393	No	Contact w/grandparents & adults	None
Rand et al. (1982)	25	0	Correlations	783	No	Mothers' psychological health	None
Sarantakos, 1996	58	116	F-test	393	N/A	Children's educational/social outcomes	Married/non-married Mothers
Siegenthaler and Bigner, 2000	25	26	T-test	393	No	Mothers' value of children	Mothers
Steckel (1987)	(Review)	N/A	N/A	N/A	No	Psychosocial development of children	None
Sullivan, 1996	34 couples	0	Qualitative	N/A	N/A	Division of labor	None
Tasker and Golombok, 1995	25	21	Pearson/T	783	No	Psychosocial/sexual orientation	Single mothers
Tasker and Golombok (1997)	27	27	Various	393	Reported	Psychological outcomes/family rel.	Single mothers
Tasker and Golombok (1998)	15	84	ANCOVA/Chi	785	N/A	Work and family life	DI & NC couples
Vanfraussen et al. (2003)	24	24	ANOVA	393	No	Donor insemination/family funct.	Families
Wainwright et al. (2004)	44	44	Various	393	No	Psychosocial/school/romantic	Couples
Wright (1998)	5	0	Qualitative	N/A	N/A	Family issues/processes/meaning	None

N/A = Not applicable (e.g., In connection with statistical power, qualitative studies and studies without heterosexual comparison groups are coded as N/A).

1. "All of [the fathers in the sample] were Caucasian" (Bozett, 1980, p. 173).
2. "Sixty parents, all of whom were White" comprised the sample (Flaks et al., 1995, p. 107).
3. "[All 40] mothers. . . were white" (Hoeffler, 1981, p. 537).
4. "All the children, mothers, and fathers in the sample were Caucasian" (Huggins, 1989, p. 126).
5. "The 25 women were all white" (Rand et al., 1982, p. 29).
6. "All of the women. . . [were] Caucasian" (Siegenthaler and Bigner, 2000, p. 82).
7. "All of the birth mothers and co-mothers were white" (Tasker and Golombok, 1998, p. 52).
8. "All [48] parents were Caucasian" (Vanfraussen et al., 2003, p. 81).

Many of the other studies do not explicitly acknowledge all-White samples, but also do not mention or identify a single minority participant—while a dozen others report "almost" all-white samples.¹⁸ Same-sex family researchers Lott-Whitehead and Tully (1993) cautiously added in the discussion of their APA Brief-cited study:

Results from this study must be interpreted cautiously due to several factors. First, the study sample was small ($N = 45$) and biased toward well-educated, white women with high incomes. These factors have plagued other [same-sex parenting] studies, and remain a concern of researchers in this field (p. 275).

Similarly, in connection with this bias, Patterson (1992), who would later serve as sole author of the 2005 APA Brief's "Summary of Research Findings on Lesbian and Gay Families", reported¹⁹:

Despite the diversity of gay and lesbian communities, both in the United States and abroad, samples of children [and parents] have been relatively homogeneous. . . . Samples for which demographic information was reported have been described as predominantly Caucasian, well-educated, and middle to upper class.

In spite of the privileged and homogeneous nature of the non-representative samples employed in the studies at that time, Patterson's (1992) conclusion was as follows²⁰:

Despite shortcomings [in the studies], however, results of existing research comparing children of gay or lesbian parents with those of heterosexual parents are *extraordinarily clear*, and they merit attention. . . . There is no evidence to suggest that psychosocial development among children of gay men or lesbians is compromised *in any respect* relative to that among offspring of heterosexual parents.

¹⁸ Examples of explicit or implicitly all-White (or nearly all-White) samples include, but are not limited to: Bigner and Jacobsen (1989a,b), Bozett (1980), Flaks et al. (1995), Green (1978), Green et al. (1986), Hoeffler (1981), Huggins (1989), Koepke et al. (1992), Rand et al. (1982), Siegenthaler and Bigner (2000), Tasker and Golombok (1995, 1998), Vanfraussen et al. (2003).

¹⁹ Patterson (1992, p. 1029).

²⁰ Patterson (1992, p. 1036) (emphasis added).

Patterson's conclusion in a 2000 review was essentially the same²¹:

[C]entral results of existing research on lesbian and gay couples and families with children are *exceptionally clear*. ... [The] home environments provided by lesbian and gay parents are just as likely as those provided by heterosexual parents to enable psychosocial growth among family members.

Although eight years had passed, in this second review, Patterson (2000) reported the continuing tendency of same-sex parenting researchers to select privileged lesbian samples. Specifically, she summarized, "Much of the research [still] involved small samples that are predominantly White, well-educated [and] middle-class" (p. 1064).²² Given the privileged, homogeneous, and non-representative samples of lesbian mothers employed in "much of the research", it seems warranted to propose that Patterson was empirically premature to conclude that comparisons between "gay or lesbian parents" and "heterosexual parents" were "extraordinarily clear"²³ or "exceptionally clear".²⁴

There is an additional point that warrants attention here. In Patterson's statements above, there are recurring references to research on children of "gay" men/parents. In 2000, Demo and Cox reported that "children living with gay fathers" was a "rarely studied household configuration".²⁵ In 2005, how many of the 59 published studies cited in the APA's list of "Empirical Studies Specifically Related to Lesbian and Gay Parents and Their Children" (pp. 23–45) specifically addressed the outcomes of children from gay fathers? A closer examination reveals that only eight studies did so.²⁶ Of these eight studies, four did not include a heterosexual comparison group.²⁷ In three of the four remaining studies (with heterosexual comparison groups), the outcomes studied were:

- (1) "the value of children to...fathers" (Bigner and Jacobsen, 1989a, p. 163);
- (2) "parenting behaviors of...fathers" (Bigner and Jacobsen, 1989b, p. 173);
- (3) "problems" and "relationship with child" (Harris and Turner, 1986, pp. 107–8).

The two Bigner and Jacobsen (1989a,b) studies focused on fathers' reports of *fathers'* values and behaviors, not on children's outcomes—illustrating a recurring tendency in the same-sex parenting literature to focus on the parent rather than the child. Harris and Turner (1986) addressed parent–child relationships, but their study's male heterosexual comparison group was composed of two single fathers. Although several studies have examined aspects of gay fathers' lives, none of the studies comparing gay fathers and heterosexual comparison groups referenced in the APA Brief (pp. 23–45) appear to have specifically focused on children's developmental outcomes, with the exception of Sarantakos (1996), a study to which we will later return.

In summary response to question 1 ("How representative and culturally, ethnically, and economically diverse were the gay/lesbian households in the published literature behind the APA Brief?"), we see that in addition to relying primarily on small, non-representative, convenience samples, many studies do not include any minority individuals or families. Further, comparison studies on children of gay fathers are almost non-existent in the 2005 Brief. By their own reports, social researchers examining same-sex parenting have repeatedly selected small, non-representative, homogeneous samples of privileged lesbian mothers to represent all same-sex parents. This pattern across three decades of research raises significant questions regarding lack of representativeness and diversity in the same-sex parenting studies.

2.2. Question 2: how many studies of gay/lesbian parents had no heterosexual comparison group?

Of the 59 publications cited by the APA in the annotated bibliography section entitled "Empirical Studies Specifically Related to Lesbian and Gay Parents and Their Children" (pp. 23–45), 33 included a heterosexual comparison group. In direct response to question 2, 26 of the studies (44.1%) on same-sex parenting did not include a heterosexual comparison group. In well-conducted science, it is important to have a clearly defined comparison group before drawing conclusions regarding differences or the lack thereof. We see that nearly half of the "Empirical Studies Specifically Related to Lesbian and Gay Parents and Their Children" referenced in the APA Brief allowed no basis for comparison between these two groups (see Table 1). To proceed with precision, this fact does not negate the APA claim. It does, however, dilute it considerably as we are left with not 59, but 33, relevant studies with heterosexual comparison groups.

2.3. Question 3: when heterosexual comparison groups were used, what were the more specific characteristics of those groups?

We now turn to a question regarding the nature of comparison samples. Of the 33 published "Empirical Studies Specifically Related to Lesbian and Gay Parents and Their Children" (APA Brief, pp. 23–45) that did directly include a heterosexual

²¹ Patterson (2000, , p. 1064) (emphasis added).

²² Patterson (2000, p. 1064).

²³ Patterson (1992, p. 1036).

²⁴ Patterson (2000, p. 1064).

²⁵ Demo and Cox (2000, p. 890).

²⁶ Bailey et al. (1995), Barrett and Tasker (2001), Bigner and Jacobsen (1989a,b), Bozett (1980), Harris and Turner (1986), Miller (1979), Sarantakos (1996).

²⁷ Bailey et al. (1995), Barrett and Tasker (2001), Bozett (1980), Miller (1979).

Table 2

Brief overview of 15 intact/divorce/step/single family studies.

(N)	Number of reported participants				
Probability	Is the study based on a probability sample?				
Comp Grp	Is a probability sample used as a comparison group?				
Long	Does the study employ measurements across time?				
Key	! = Yes; X = No				
	(N)	Probability	Comp Grp	Long	
Amato (1991)	9643	!	!	!	
Aquilino (1994)	4516	!	!	!	
Brown (2004) ^a	35,938	!	!	!	X
Chase-Lansdale et al. (1995) ^b	17,414	!	!	!	
Cherlin et al. (1998) ^c	11,759	!	!	!	
Ellis et al. (2003)	762	!	!	!	
Harper and McLanahan (2004) ^d	2846	!	!	!	
Hetherington and Kelly (2002) ^e	1400	!	!	!	
Jekielek (1998)	1640	!	!	!	
Lichter et al. (2003) ^f	7665	!	!	!	X
Manning and Lamb (2003)	13,231	!	!	!	X
McLanahan and Sandefur (1994) (based on four data sets)					
PSID ^g	2900	!	!	!	
NLSY ^h	5246	!	!	!	
HSBS ⁱ	10,400	!	!	!	
NSFH ^j	13,017 ^k	!	!	!	
Mitchell et al. (2009) ^l	4663	!	!	!	
Nock (1998) ^m	3604	!	!	!	
Page and Stevens (2005) ⁿ	2023	!	!	!	
Total	148,667				

^a National Survey of America's Families (NSAF).^b United Kingdom study and sample.^c United Kingdom study and sample.^d National Longitudinal Survey of Young Men and Women (NLSY).^e Virginia Longitudinal Study (VLS).^f National Survey of Family Growth (NSFG).^g Panel Study of Income Dynamics (PSID).^h National Longitudinal Survey of Young Men and Women (NLSY).ⁱ The High School and Beyond Study (HSBS).^j National Survey of Families and Households (NSFH).^k This is the total original sample. The sub-sample is unlisted but is likely smaller.^l National Longitudinal Study of Adolescent Health (Add Health).^m National Longitudinal Survey of Young Men and Women (NLSY).ⁿ Panel Study of Income Dynamics (PSID).

comparison group, *what were the more specific characteristics of the groups that were compared?* The earlier examination and response related to question 1 documented that, by Patterson's reports, "Despite the diversity of gay and lesbian communities... in the United States",²⁸ the repeatedly selected representatives of same-sex parents have been "small samples [of lesbians] that are predominantly White, well-educated [and] middle-class" (p. 1064).²⁹

In spite of homogeneous sampling, there is considerable diversity among gay and lesbian parents. Considerable diversity exists among heterosexual parents as well. Indeed, the opening paragraph of the present article noted recurring differences in several outcomes of societal concern for children in marriage-based intact families compared with children in cohabiting, divorced, step, and single-parent families.³⁰ Many of the cited findings are based on probability samples of thousands (see Table 2).

Because children in marriage-based intact families have historically fared better than children in cohabiting, divorced, step, or single-parent families on the above outcomes, the question of what "groups" researchers selected to represent heterosexual parents in the same-sex parenting studies becomes critical. A closer examination of the 33 published same-sex parenting studies (APA Brief, pp. 23–45) with comparison groups, listed chronologically, reveals that:

1. Pagelow (1980) used "single mothers" as a comparison group (p. 198).
2. Hoeffler (1981) used "heterosexual single mothers" (p. 537).
3. Kirkpatrick et al. (1981) used "single, heterosexual mothers" (p. 545).
4. Kweskin and Cook (1982) used women from Parents without Partners (p. 969).

²⁸ Patterson (1992, p. 1029).²⁹ Patterson (2000, p. 1064).³⁰ See Footnotes 2–10 for documentation.

5. Lyons (1983) used “heterosexual single mothers” (p. 232).
6. Golombok et al. (1983) used “single-parent households” (p. 551).
7. Green et al. (1986) used “solo parent heterosexual mothers” (p. 175).
8. Harris and Turner (1986) used 2 “male single parents” and 14 “female single parents” (p. 105).
9. Huggins (1989) used “divorced heterosexual mothers”³¹ (p. 123).
10. Tasker and Golombok (1995) used “heterosexual single mothers” (p. 203).
11. Tasker and Golombok (1997) used “single heterosexual mothers” (p. 38).

We see that in selecting *heterosexual* comparison groups for their studies, many same-sex parenting researchers have not used marriage-based, intact families as heterosexual representatives, but have instead used single mothers (see Table 1). Further, Bigner and Jacobsen used 90.9 percent single-father samples in two other studies (1989a, 1989b).³² In total, in at least 13 of the 33 comparison studies listed in the APA Brief’s list of “Empirical Studies” (pp. 23–45) that include heterosexual comparison groups, the researchers explicitly sampled “single parents” as representatives for heterosexual parents. The repeated (and perhaps even modal) selection of single-parent families as a comparison heterosexual-parent group is noteworthy, given that a Child Trends (2002) review has stated that “children in single-parent families are more likely to have problems than are children who live in intact families headed by two biological parents”.³³

Given that at least 13 of the 33 comparison studies listed in the APA Brief’s list of “Empirical Studies” (pp. 23–45) used single-parent families as heterosexual comparison groups, what group(s) did the remaining 20 studies use as heterosexual representatives? In closely examining the 20 remaining published comparison group studies, it is difficult to formulate precise reports of the comparison group characteristics, because in many of these studies, the heterosexual comparison groups are referred to as “mothers” or “couples” without appropriate specificity (see Table 1). Were these mothers continuously married—or were they single, divorced, remarried, or cohabiting? When couples were used, were they continuously married—or remarried or cohabiting? These failures to explicitly and precisely report sample characteristics (e.g., married or cohabiting) are significant in light of Brown’s (2004) finding based on her analysis of a data set of 35,938 US children and their parents, that “regardless of economic and parental resources, the outcomes of adolescents (12–17 years old) in cohabiting families...are worse...than those...in *two-biological-parent* married families”.³⁴ Because of the disparities noted by Brown and others, scientific precision requires that we know whether researchers used: (a) single mothers, (b) cohabiting mothers and couples, (c) remarried mothers, or (d) continuously married mothers and couples as heterosexual comparison groups.

Due to the ambiguity of the characteristics of the heterosexual samples in many same-sex parenting studies, let us frame a question that permits a more precise response, namely: *How many of the studies in the APA Brief’s “Empirical Studies” section (pp. 23–45) explicitly compare the outcomes of children from intact, marriage-based families with those from same-sex families?* In an *American Psychologist* article published the year after the APA Brief, Herek (2006) referred to a large, national study by McLanahan and Sandefur (1994) “comparing the children of intact heterosexual families with children being raised by a single parent”. Herek then emphasized that “this [large scale] research literature does not include studies comparing children raised by two-parent same-sex couples with children raised by two-parent heterosexual couples”.³⁵ Isolated exceptions exist with relatively small samples (as discussed shortly in response to question 4 and as listed in Table 1), but they are rare.

Given what we have seen regarding heterosexual comparison group selection, let us revisit three related claims. First, in 1992, Patterson posited that³⁶:

[N]ot a single study has found children of gay and lesbian parents to be disadvantaged in any respect relative to children of heterosexual parents.

Patterson’s (2000) claim was similar³⁷:

[C]entral results of existing research on lesbian and gay couples and families with children are exceptionally clear... [The] home environments provided by lesbian and gay parents are just as likely as those provided by heterosexual parents to enable psychosocial growth among family members.

Lastly, and most significantly, we turn to the APA Brief’s “Summary of Research Findings on Lesbian and Gay Parenting”, also single-authored by Patterson (see p. 5)³⁸:

Not a single study has found children of lesbian or gay parents to be disadvantaged in any significant respect relative to children of heterosexual parents.

³¹ “Four of the 16 [divorced] heterosexual mothers were either remarried or currently living with a heterosexual lover” (p. 127).

³² “Of the 66 respondents, six were married, 48 were divorced, eight were separated, and four had never been married” (Bigner and Jacobsen (1989a, p. 166). This means the sample was 90.9% single.

³³ Moore et al. (2002); for an extensive review, see Wilcox et al. (2011).

³⁴ Brown (2004, p. 364) (emphasis added).

³⁵ Herek (2006, p. 612).

³⁶ Patterson (1992, p. 1036) (emphasis added).

³⁷ Patterson (2000, p. 1064) (emphasis added).

³⁸ Patterson, p. 15 (from APA Brief, 2005), (emphasis added).

In all three of these claims (including that latter from the 2005 APA Brief), Patterson uses the broad and plural term “heterosexual parents”, a term that includes marriage-based, intact families. This broad claim is not nuanced by the information that, with rare exceptions, the research does not include studies comparing children raised by two-parent, same-sex couples with children raised by marriage-based, heterosexual couples. Further, no mention is made that in at least 13 of the 33 extant comparison studies referenced in the Brief (pp. 23–45), the groups selected to represent “heterosexual parents” were composed largely, if not solely, of single parents. We now move to another related examination of the APA Brief.

2.4. Question 4: does a scientifically-viable study exist to contradict the conclusion that “not a single study has found children of lesbian or gay parents to be disadvantaged”?

There is at least one notable exception³⁹ to the APA’s claim that “Not a single study has found children of lesbian or gay parents to be disadvantaged in any significant respect relative to children of heterosexual parents”.⁴⁰ In the “Summary of Findings” section, the APA Brief references a study by Sarantakos (1996),⁴¹ but does so in a footnote that critiques the study (p. 6, Footnote 1). On page 40 of the APA Brief’s annotated bibliography, a reference to the Sarantakos (1996) article is offered, but there is no summary of the study’s findings, only a note reading “No abstract available”.

Upon closer examination, we find that the Sarantakos (1996) study is a comparative analysis of 58 children of heterosexual married parents, 58 children of heterosexual cohabiting couples, and 58 children living with homosexual couples that were all “matched according to socially significant criteria (e.g., age, number of children, education, occupation, and socio-economic status)”.⁴² The combined sample size (174) is the seventh-largest sample size of the 59 published studies listed in the APA Brief’s “Summary of Research Findings on Lesbian and Gay Parenting” (see Table 1). However, the six studies with larger sample sizes were all adult self-report studies,⁴³ making the Sarantakos combined sample the largest study (APA Brief, pp. 23–45) that examined *children’s developmental outcomes*.

Key findings of the Sarantakos study are summarized below. To contextualize these data, the numbers are based on a teacher rating-scale of performance “ranging from 1 (very low performance), through 5 (moderate performance) to 9 (very high performance)”.⁴⁴ Based on teacher (not parent) reports, Sarantakos found several significant differences between married families and homosexual families.⁴⁵

Language Achievement	Married 7.7, Cohabiting 6.8, Homosexual 5.5
Mathematics Achievement	Married 7.9, Cohabiting 7.0, Homosexual 5.5
Social Studies Achievement	Married 7.3, Cohabiting 7.0, Homosexual 7.6
Sport Interest/Involvement	Married 8.9, Cohabiting 8.3, Homosexual 5.9
Sociability/Popularity	Married 7.5, Cohabiting 6.5, Homosexual 5.0
School/Learning Attitude	Married 7.5, Cohabiting 6.8, Homosexual 6.5
Parent-School Relationships	Married 7.5, Cohabiting 6.0, Homosexual 5.0
Support with Homework	Married 7.0, Cohabiting 6.5, Homosexual 5.5
Parental Aspirations	Married 8.1, Cohabiting 7.4, Homosexual 6.5 ^a

^a Sarantakos, 1996, pp. 24–27.

Sarantakos concluded, “Overall, the study has shown that children of married couples are more likely to do well at school in academic and social terms, than children of cohabiting and homosexual couples”.⁴⁶

The APA’s decision to de-emphasize the Sarantakos (1996) study was based, in part, on the criticism that “nearly all indicators of the children’s functioning were based on subjective reports by teachers”.⁴⁷ The Sarantakos study was based, in part, on teacher reports. However, teacher reports included “tests” and “normal school assessment” (p. 24). Subsequently, it may be

³⁹ Other arguably contradictory studies are reviewed by Schumm (2011).

⁴⁰ Patterson, p. 15 (from APA Brief, 2005).

⁴¹ Among the diverse types of gay/lesbian parents there are at least two major categories that warrant scholarly precision: (a) two lesbian or gay parents raising an adopted or DI (donor insemination) child from infancy with these and only these two parents; and (b) two lesbian or gay parents raising a child who is the biological offspring of one of the parents, following a separation or divorce from a heterosexual partner. The Sarantakos sample is of the latter (b) type. In terms of scholarly precision, it is important to differentiate and not draw strong implications from ‘a’ to ‘b’ or ‘b’ to ‘a.’ Indeed, the author would posit that adopted versus DI children may also warrant separate consideration. The core issue is that precision is essential and overextension of findings should be avoided. This same issue is of serious concern in connection with the tendency to overextend findings regarding lesbian mothers to apply to gay fathers (see Regnerus, this volume).

⁴² Sarantakos (1996, p. 23).

⁴³ In order, these six studies include: (1) Morris et al., 2002 (N = 2431), who addressed adults’ reports of “coming out”; (2) Johnson and O’Connor (2002) (N = 415), who addressed adults’ reports of parenting beliefs, division of labor, etc.; (3) Crawford et al. (1999) (N = 388), who addressed psychologists’ self-reports of gay adoption; (4) King and Black (1999) (N = 338), who addressed college students’ perceptions of gay parents; (5) Bos et al. (2003) (N = 200), who addressed parental motives and desires; and (6) Bos et al. (2004) (N = 200), who addressed parental reports of couple relations. These foci are not *children’s* outcomes.

⁴⁴ Sarantakos (1996, p. 24).

⁴⁵ Social Studies Achievement is significant at the $p = .008$ level; the eight other differences are significant at the $p = .000$ level.

⁴⁶ Sarantakos (1996, p. 30).

⁴⁷ APA Brief (2005), Footnote 1, p. 6 (emphasis added).

argued that Sarantakos' decision *not* to rely solely or extensively on parent reports, as is done in most same-sex parenting studies, is a strength, given parents' tendencies towards bias when reporting on their own children.⁴⁸ Sarantakos⁴⁹ also drew data from school aptitude tests and observations, thereby modeling a research ideal of *triangulation* of sources.⁵⁰ In fact, the study integrated not only three data sources to triangulate; it featured at least four (i.e., teachers, tests, observations, and child reports). Further, the study controlled for "education, occupation, and socio-economic status" and then, based on teacher reports, compared marriage-based families with gay/lesbian families and found nine significant differences—with children from marriage-based families rating higher in eight areas. By objective standards, compared with the studies cited by the APA Brief, the 1996 Sarantakos study was:

- (a) *The largest comparison study to examine children's outcomes*,⁵¹
- (b) *One of the most comparative* (only about five other studies used three comparison groups),⁵² and
- (c) *The most comprehensively triangulated study* (four data sources) conducted on same-sex parenting.⁵³

Accordingly, this study deserves the attention of scientists interested in the question of homosexual and heterosexual parenting, rather than the footnote it received.

As we conclude the examination of question 4, let us review a portion of APA's published negation of Sarantakos' (1996) study⁵⁴:

[*Children Australia*, the journal where the article was published] cannot be considered a source upon which one should rely for understanding the state of scientific knowledge in this field, particularly when the results contradict those that have been repeatedly replicated in studies published in better known scientific journals.

For other scientists, however, the salient point behind the Sarantakos findings is that the novel comparison group of marriage-based families introduced significant differences in children's outcomes (as opposed to the recurring "no difference" finding with single-mother and "couple" samples). We now turn to the fifth question.

2.5. Question 5: what types of outcomes have been investigated?

With respect to the APA Brief's claim that "not a single study has found children of lesbian or gay parents to [have] disadvantaged [outcomes]", *what types of outcomes have been examined and investigated?* Specifically, how many of the same-sex parenting studies in Table 1 address the societal concerns of intergenerational poverty, collegiate education and/or labor force contribution, serious criminality, incarceration, early childbearing, drug/alcohol abuse, or suicide that are frequently the foci of national studies on children, adolescents, and young adults, as discussed at the outset of this paper?

Anderssen and colleagues cataloged the foci of same-sex parenting studies in a 2002 review and reported⁵⁵:

Emotional functioning was the most often studied outcome (12 studies), followed by sexual preference (nine studies), gender role behavior (eight studies), behavioral adjustment (seven studies), gender identity (six studies), and cognitive functioning (three studies).

Examination of the articles cited in the 2005 APA Brief on Lesbian and Gay Parenting yields a list of studied outcomes that are consistent with Anderssen's summary, including: "sexual orientation"⁵⁶; "behavioral adjustment, self-concepts, and sex-role identity"⁵⁷; "sexual identity"⁵⁸; "sex-role behavior"⁵⁹; "self-esteem"⁶⁰; "psychosexual and psychiatric appraisal"⁶¹; "socioemotional development"⁶²; and "maternal mental health and child adjustment".⁶³

⁴⁸ It is well replicated that individuals tend to rate the group with which they most identify more positively than they do other groups. This positive bias includes within-family ratings Roese and Olson (2007).

⁴⁹ Sarantakos is the author of several research methods textbooks (2005, 2007b) and the author/editor of a four-volume, 1672-page work in Sage Publications' Benchmarks in Social Research Series (2007a).

⁵⁰ "Triangulation is a means of checking the integrity of the inferences one draws. It can involve the use of multiple data sources, . . . multiple theoretical perspectives, multiple methods, or all of these" (Schwandt, 2001, p. 257). In effect, the standard of triangulation is advocacy for checks and balances.

⁵¹ Six of the 59 studies listed in the 2005 APA Brief (pp. 23–45) had larger samples, but, as discussed earlier, they all focused on adult reports of adult perceptions and outcomes.

⁵² For example, Brewaeys et al. (1997), Golombok et al. (2003, 1997), MacCallum and Golombok (2004), and Tasker and Golombok (1998).

⁵³ In spite of the strong design with respect to triangulation, the Sarantakos study does not appear to be based on a true probability sample, nor is it or a large sample (although it is a subsample of a 900-plus study). The study is rigorous by comparison to other same-sex parenting studies, but is limited compared with most of the nationally representative studies on intact families listed in Table 2.

⁵⁴ Patterson (2005) in APA Brief, p. 7, Footnote 1.

⁵⁵ Anderssen et al. (2002, p. 343).

⁵⁶ Bailey et al. (1995) and Golombok and Tasker (1996).

⁵⁷ Patterson (1994).

⁵⁸ Green (1978).

⁵⁹ Hoeffler (1981) and Kveskin and Cook (1982).

⁶⁰ Huggins (1989).

⁶¹ Golombok et al. (1983).

⁶² Golombok et al. (1997).

⁶³ Patterson (2001).

With these focal outcomes identified, it is noteworthy that all of the aforementioned outcomes of societal-level concern are absent from the list of “most often studied outcome(s)” as identified by Anderssen et al.⁶⁴ In response to the present article’s question 5 (what *types* of outcomes have been investigated for children of gay/lesbian families?), it may be concluded: In the same-sex parenting research that undergirded the 2005 APA Brief, it appears that gender-related outcomes were the dominant research concern. To be more precise, Table 1 lists several categories of information regarding the 59 published empirical studies; one of these categories is the “outcome studied”. More than 20 studies have examined gender-related outcomes, but there was a dearth of peer-reviewed journal articles from which to form science-based conclusions in myriad areas of societal concern.⁶⁵

One book-length empirical study⁶⁶ entitled *Same-Sex Couples* (Sarantakos, 2000, Harvard Press) did examine several issues of societal concern. In connection with the questions raised in the present article, this study:

- (1) includes a diverse sample of lesbian *and* gay parents instead of focusing on privileged lesbian mothers (question 1);
- (2) uses not only one but two heterosexual comparison samples; one married parent sample and one cohabitating parent sample (questions 2 and 3);
- (3) examines several outcomes of societal concern (question 5); and
- (4) is unique in presenting long-term (post-18 years old) outcomes of children with lesbian and gay parents (question 6, addressed later).

This study’s conclusion regarding outcomes of gay and lesbian parents reads, in part:

If we perceive deviance in a general sense, to include excessive drinking, drug use, truancy, sexual deviance, and criminal offenses, and if we rely on the statements made by adult children (over 18 years of age). . .[then] children of homosexual parents report deviance in higher proportions than children of (married or cohabiting) heterosexual couples (Sarantakos, 2000, p. 131).

The 2005 APA Brief does not cite this study, again leaving us to more closely examine the claim that “Not a single study has found children of lesbian or gay parents to be disadvantaged in any significant respect relative to children of heterosexual parents” (p. 15).

The Sarantakos (2000) study also includes the report that “the number of children who were labeled by their parents as gay, or identified themselves as gay, is much higher than the generally expected proportion” (p. 133). However, the study also notes areas of no significant heterosexual–homosexual differences (i.e., “Physical and emotional well-being”, p. 130), consistent with the 2005 APA Brief’s claims. All of these findings warranted attention in the 2005 APA Brief but were overlooked. Of most interest to us here, however, is the novel attention of Sarantakos (2000) on multiple concerns of societal importance, including drug and alcohol abuse, education (truancy), sexual activity, and criminality.

In any less-developed area of empirical inquiry it takes time, often several decades, before many of the central and most relevant questions can be adequately addressed. This seems to be the case with same-sex parenting outcomes, as several issues of societal concern were almost entirely unaddressed in the 2005 APA Brief.

2.6. Question 6: what do we know about the long-term outcomes of children of lesbian and gay parents?

In the preceding response to question 5, the outcomes of intergenerational poverty, criminality, college education and/or labor force contribution, drug/alcohol abuse, suicide, early sexual activity, early childbearing, and eventual divorce as adults were mentioned. Close consideration reveals that the majority of these outcomes are not “child” outcomes. Indeed, most of these outcomes are not optimally observable until (at the earliest) mid-late adolescence or early adulthood (and in the case of divorce, not until middle adulthood). As discussed in question 5, virtually none of the peer-reviewed, same-sex parenting comparison studies addressed these outcomes.⁶⁷

Additionally, of the 59 published studies cited by the APA 2005 Brief (pp. 23–45), it is difficult to find comparison studies of any kind that examine late adolescent outcomes of any kind. The few that utilize comparison groups have comparison groups of 44 or fewer.⁶⁸ Let us further explore the importance of a lack of data centered on adolescents and young adults.

Table 2 identifies 15 of the hundreds of available studies on outcomes of children from intact families (as contrasted with comparison groups such as cohabiting couples and single parents). One of these studies included a data set of 35,938 children—one of “the largest. . .nationally representative survey[s] of US children and their parents”.⁶⁹ Based on analysis of this

⁶⁴ Anderssen et al. (2002, p. 343).

⁶⁵ Including: intergenerational poverty, criminality, college education and/or labor force contribution, drug/alcohol abuse, suicide, sexual activity and early childbearing, and eventual divorce.

⁶⁶ This study is a later, larger, and more detailed report on the earlier mentioned Sarantakos (1996) study. The sample of that study was larger than the other comparison samples in Table 1.

⁶⁷ Gartrell and colleagues (1999, 2000, 2005) have commenced to do so, but in 2005 they were reporting on children who were only 10 years old (with a sample size of 74 and no heterosexual comparison group).

⁶⁸ I.e. Wainwright et al. (2004).

⁶⁹ Brown (2004), p. 355.

nationally representative sample, Susan Brown emphasized, “The findings of this study... demonstrate the importance of separately examining children and adolescents”. She then explained⁷⁰:

Although the outcomes of children (6–11 years old) in cohabiting families... are worse... than those of children in two-biological-parent married families, much of this difference... is economic... In contrast, regardless of economic and parental resources, the outcomes of adolescents (12–17 years old) in cohabiting families... are worse... than those... in two-biological-parent married families.

In short, in the case of cohabiting families and “two-biological-parent married families” the differences in children’s outcomes *increase in significance as the children grow older*. The likelihood of significant differences arising between children from same-sex and married families may also increase across time—not just into adolescence but into early and middle adulthood. For example, research indicates that “[d]aughters raised outside of intact marriages are... more likely to end up young, unwed mothers than are children whose parents married and stayed married”, and that “[p]arental divorce increases the odds that adult children will also divorce”.⁷¹

Longitudinal studies that follow children across time and into adulthood to examine such outcomes are comparatively rare and valuable. We briefly turn to a key finding from one such study that followed children of divorce into middle adulthood. Based on a 25-year longitudinal study, Wallerstein and colleagues (2001) state:

Contrary to what we have long thought, the major impact of divorce does not occur during childhood or adolescence. Rather, it rises in adulthood as serious romantic relationships move center stage. When it comes time to choose a life mate and build a new family, the effects of divorce crescendo (p. xxix).

Wallerstein’s research, like nearly all of the studies in the same-sex parenting literature, is based on a small, non-representative sample that should not be generalized or overextended. Her longitudinal work does, however, indicate that “effects [can] crescendo” in adulthood. Did any published same-sex parenting study cited by the 2005 APA Brief (pp. 23–45) track the societally significant long-term outcomes into adulthood? No. Is it possible that “the major impact” of same-sex parenting might “not occur during childhood or adolescence... [but that it will rise] in adulthood as serious romantic relationships move center stage”? Is it also possible that “when it comes time to choose a life mate and build a new family” that the effects of same-sex parenting will similarly “crescendo” as they did in Wallerstein’s study of divorce effects? In response to this or any question regarding the long-term, adult outcomes of lesbian and gay parenting we have almost no empirical basis for responding. An exception is provided by the findings from self-reports of adult “children” (18+ years of age) in Sarantakos’ (2000) book-length study, but those results not encouraging. This is a single study however—a study that, like those cited by the APA Brief, lacks the statistical power and rigor of the large, random, representative samples used in marriage-based family studies (see Table 2). We now move to a final related empirical question regarding the same-sex parenting literature.

2.7. Question 7: have the studies in this area committed the type II error and prematurely concluded that heterosexual couples and gay and lesbian couples produce parental outcomes with no differences?

The Summary of Research Findings in the APA brief reads, “As is true in any area of research, questions have been raised with regard to sampling issues, statistical power, and other technical matters” (p. 5). However, neither statistical power nor the related concern of Type II error is further explained or addressed. This will be done next.

In social science research, questions are typically framed as follows: “Are we 95% sure the two groups being compared are different?” ($p < .05$). If our statistics seem to confirm a difference with 95% or greater confidence, then we say the two groups are “significantly different”. But what if, after statistical analysis, we are only 85% sure that the two groups are different? By the rules of standard social science, we would be obligated to say we were unable to satisfactorily conclude that the two groups are different. However, a reported finding of “no statistically significant difference” (at the $p < .05$ level; 95%-plus certainty) is a grossly inadequate basis upon which to offer the science-based claim that the groups were conclusively “the same”. In research, incorrectly concluding that there is no difference between groups when there is in fact a difference is referred to as a Type II error. A Type II error is more likely when undue amounts of random variation are present in a study. Specifically, small sample size, unreliable measures, imprecise research methodology, or unaccounted for variables can all increase the likelihood of a Type II error. All one would have to do to be able to come to a conclusion of “no difference” is to conduct a study with a small sample and/or sufficient levels of random variation. These weaknesses compromise a study’s “statistical power” (Cohen, 1988).

It must be re-emphasized that a conclusion of “no significant difference” means that it is unknown whether or not a difference exists on the variable(s) in question (Cohen, 1988). This conclusion does not necessarily mean that the two groups are, in fact, the same on the variable being studied, much less on all other characteristics. This point is important with same-sex parenting research because Patterson (1992, 2000) and the 2005 APA Brief seem to draw inferences of sameness based on the observation that gay and lesbian parents and heterosexual parents appear not to be statistically different from one another based on small, non-representative samples—thereby becoming vulnerable to a classic Type II error.

⁷⁰ Brown (2004), p. 364.

⁷¹ Wilcox et al. (2011), p. 11.

To make the APA Brief's proposition of sameness more precarious, in a review published one year after the APA Brief in the flagship APA journal, *American Psychologist*, Herek (2006) acknowledged that many same-sex parenting studies have "utilized small, select convenience samples and often employed unstandardized measures".⁷² Anderssen et al. (2002) similarly indicated in their review of same-sex parenting studies, "The samples were most often small, increasing the chance to conclude that no differences exist between groups when in fact the differences do exist. This casts doubt on the external validity of the studies".⁷³ With these limitations noted, the 2005 APA Brief explicitly claimed that findings of non-significant differences between same-sex and heterosexual parents had been "repeatedly replicated" (p. 7, Footnote 1).

Reasons for skepticism regarding the APA Brief's claim that findings have been "repeatedly replicated" rest in Neuman's (1997) point that "the logic of replication implies that different researchers are unlikely to make the same errors".⁷⁴ However, if errors (e.g., similarly biased sampling approaches employing "small, select convenience samples"⁷⁵ and comparison groups) are repeated by different researchers, the logic behind replication is undermined. As has been previously detailed in the response to question 1 in this article, same-sex parenting researchers have repeatedly selected White, well-educated, middle- and upper-class lesbians to represent same-sex parents. This tendency recurred even after this bias was explicitly identified by Patterson (1992, 2000).⁷⁶ Further, repeated sampling tendencies in connection with heterosexual comparison groups (e.g., single mothers), were documented in response to Question 3 in this paper. These repeated (convenience) sampling tendencies across studies that employed different measures do not seem to constitute valid scientific replication.

An additional scientific question raised by the above information regarding "small, select convenience"⁷⁷ samples is framed by Stacey and Biblarz (2001) who reveal that "many of these [comparative same-sex parenting] studies use conventional levels of significance. . . on miniscule samples, substantially increasing their likelihood of failing to reject the null hypothesis".⁷⁸ Was the APA's claim that "Not a single study has found children of lesbian or gay parents to be disadvantaged. . ." based on clear scientific evidence or (perhaps) Type II errors? In response, we now turn to the APA-acknowledged but unexplained critique of low "statistical power" in these studies (p. 5).

The last three editions of the *APA Publication manual* (1994, 2001, 2010) have urged scholars to report effect sizes and to take statistical power into consideration when reporting their results. The APA 5th Publication manual (2001) in use at the time of APA's 2005 Brief on Lesbian and Gay Parenting stated:

Take seriously the statistical power considerations associated with your tests of hypotheses. Such considerations relate to the likelihood of correctly rejecting the tested hypotheses, given a particular alpha level, effect size, and sample size. In that regard, you should routinely provide evidence that your study has power to detect effects of substantive interest (e.g., see Cohen, 1988). You should be similarly aware of the role played by sample size in cases in which not rejecting the null hypothesis is desirable (i.e., when you wish to argue that there are no differences [between two groups]). . . (p. 24).

This awareness of statistical power in cases "when you wish to argue that there are no differences" bears directly on same-sex comparative research. The APA 5th Publication manual (2001) continues:

Neither of the two types of probability [alpha level or *p* value] directly reflects the magnitude of an effect or the strength of a relationship. For the reader to fully understand the importance of your findings, it is almost always necessary to include some index of effect size or strength of relationship in your Results section (p. 25).

Let us review three statements from the *APA 5th Publication Manual* for emphasis:

- (1) The APA urges researchers to: "Take seriously the statistical power considerations" and "routinely provide evidence" (p. 24).
- (2) The APA identifies a specific concern with sample size and statistical power in connection with cases where authors "wish to argue that there are no differences" between compared groups (p. 24).
- (3) The APA concludes: "It is almost always necessary to include some index of effect size or strength of relationship in your Results section" (p. 25).

The APA's first highlighted exhortation is that an author "should routinely provide evidence that your study has sufficient power. . . (e.g., see Cohen, 1988)" (p. 24). The reference cited here by the APA is the volume *Statistical Power Analysis for the Behavioral Sciences* (2nd ed.) by the late psychometrician Jacob Cohen, who has been credited with foundational work in statistical meta-analysis (Borenstein, 1999). In his APA-cited volume, Cohen states:

⁷² Herek (2006), p. 612.

⁷³ Anderssen et al. (2002), p. 348.

⁷⁴ Neuman (1997), p. 150.

⁷⁵ Herek (2006), p. 612.

⁷⁶ Further, single mothers have been repeatedly selected to represent heterosexual parents as documented in this paper's response to question 3.

⁷⁷ Herek (2006), p. 612.

⁷⁸ Stacey and Biblarz (2001, p. 168), Footnote 9.

⁷⁹ Patterson, p. 15 (from APA Brief, 2005).

Most psychologists of whatever stripe believe that samples, even small samples, mirror the characteristics of their parent populations. In effect, they operate on the unstated premise that the law of large numbers holds for small numbers as well. ... [Citing Tversky and Kahneman] “The believer in the law of small numbers has incorrect intuitions about significance level, power, and confidence intervals. Significance levels are usually computed and reported, but power and confidence levels are not. Perhaps they should be”.

But as we have seen, too many of our colleagues have not responded to [this] admonition... They do so at their peril (p. xv).

Let us contextualize “the law of small numbers” with respect to the same-sex parenting studies cited in the APA Brief. The combined non-representative sample total of all 59 same-sex parenting studies in the 2005 APA Brief (pp. 23–45) is 7800⁸⁰ (see Table 1). By comparison, Table 2 lists 15 prominent studies that contrast children’s outcomes in intact, single-parent, divorced, and/or step-family forms using large probability samples and comparison groups.⁸¹ The average sample size in these studies is 9911⁸²—a figure larger than all 59 same-sex parenting studies combined (7800).

We now turn to another question relating to Cohen’s statements: How many of the published same-sex parenting studies with a heterosexual comparison group cited in APA’s Brief (pp. 23–45) “provide[d] evidence” of statistical power, consistent with APA’s *Publication Manual* and the “admonition” of Jacob Cohen who is cited in the APA manual? An examination of the studies indicates that only four of the 59 did so.⁸³

In addition to Cohen’s (1988) statement that statistical power is ignored at our own peril, he offered several tables in his volume for researchers to reference. Employing these tables, statistical experts Lerner and Nagai (2001) computed the sample sizes required for “a power level of .80, or a Type II error rate of .20, or one in five findings” (p. 102). At this power level, the minimum number of cases required to detect a small effect size⁸⁴ is 393 for a T-test or ANOVA, or 780-plus for Chi-Square or Pearson Correlation Coefficient tests.⁸⁵ In Table 1 of this report, the 59 published same-sex parenting studies cited in the APA Brief (pp. 23–45) are compared against these standards. A close examination indicates that not a single study, including the few that reported power, meets the standards needed to detect a small effect size. Indeed, it appears that only two of the comparison studies (Bos et al., 2003, 2004) have combined sample sizes of even half of “the minimum number of cases”.⁸⁶

In their book-length examination of same-sex parenting studies, Lerner and Nagai (2001) further indicate that 17 of the 22 same-sex parenting comparison studies they reviewed had been designed in such a way that the odds of failing to find a significant difference [between homo- and hetero-sexual groups] was 85% or higher.⁸⁷ Indeed, only one of the 22 studies they analyzed revealed a probability of Type II error below 77 percent, and that study *did* find differences.⁸⁸ These methodological concerns (and others) were raised and explained in Lerner and Nagai’s monograph (see pp. 95–108), and in an 81-page report by Nock (2001) preceding the APA Brief.⁸⁹ Nock concluded:

All of the [same-sex parenting] articles I reviewed contained at least one fatal flaw of design or execution. Not a single one was conducted according to generally accepted standards of scientific research... [I]n my opinion, the only acceptable conclusion at this point is that the literature on this topic does not constitute a solid body of scientific evidence (Nock, 2001, pp. 39, 47).

⁸⁰ This figure (7800) includes same-sex parents and their children, as well as heterosexual comparison samples (1404), psychologists (388), and college students’ perception reports (489).

⁸¹ Table 2 lists 15 studies that contrast children’s outcomes in intact families compared with other family forms using large, probability samples and comparison groups. The focal topics of these studies are not “sexual preference, gender role behavior... [and] gender identity” (Anderssen et al., 2002, p. 343), but outcomes such as “educational attainment”, “labor force attachment”, and “early childbearing” (McLanahan and Sandefur, 1994, pp. 20–21), as recommended in the earlier examination of question 5. Further, all but two of the 15 studies employ longitudinal designs, as recommended in the earlier examination of question 6.

⁸² This figure is the result of 148,667 divided by 15 studies.

⁸³ These include Chan et al. (1998b), Fulcher et al. (2002), Golombok and Tasker (1996), and Tasker and Golombok (1997).

⁸⁴ By way of context, in a 67 study meta-analysis of the average differences in outcomes between children with “divorced and continuously married parents”, Amato (2001) reported an average weighted effect size of between -0.12 and -0.22 (a -0.17 average) with an advantage in all five domains considered to children of continuously married parents (p. 360). These effect sizes of about .20, although statistically robust, would be classified by Cohen (1992) as small effect sizes. Even so, based on the data, most family scholars would agree that children whose parents remain continuously married tend to fare slightly to moderately better than when parents divorce. However, large numbers were needed to determine this “small” but important effect. Indeed, most effect sizes in social science research tend to be small. Rigorous and sound social science tends to include and account for many influential factors that each has a small but meaningful effect size. In social science, detecting a novel “large effect” from a single variable (whether it is divorce, remarriage, or same-sex parenting), is a comparatively rare occurrence. If we are to examine possible effects of same-sex parenting with scientific precision and rigor, related examinations would, like Amato’s work, be designed and refined to detect “small effect” sizes.

⁸⁵ Cohen (1988) proposes a “relatively high power” of .90 for cases where one is trying to “demonstrate the r [difference] is trivially small” (p. 104). If the .90 power were applied, the required sample sizes would further increase. However, because none of the studies in Table 1 of the present report approach the .80 power levels, .90 calculations are unnecessary here.

⁸⁶ The “minimum number of cases” is 393. The two Bos et al. studies both have combined samples of 200. Four other larger samples are not comparison studies Crawford et al. (1999), Johnson and O’Connor (2002), King and Black (1999), and Morris et al. (2002).

⁸⁷ Lerner and Nagai (2001, p. 103).

⁸⁸ The single exception was Cameron and Cameron (1996) with a comparatively low probability error rate of 25%. This study, like the Sarantakos (1996) study mentioned earlier, did report some significant differences between children of heterosexual and homosexual parents but, like Sarantakos (1996), was not addressed in the body of the 2005 APA brief but was instead moved to a footnote on p. 7. See Redding (2008) for additional discussion (p. 137).

⁸⁹ For similar critiques preceding the 2005 APA brief, see Nock (2001), Schumm (2004), Wardle (1997), and Williams (2000). For similar critiques post-dating the 2005 APA brief, see Byrd (2008), Schumm (2010a,b, 2011), and Redding (2008, p. 138).

More specifically, Nock identified: (a) several flaws related to sampling (including biased sampling, non-probability sampling, convenience sampling, etc.); (b) poorly operationalized definitions; (c) researcher bias; (d) lack of longitudinal studies; (e) failure to report reliability; (f) low response rates; and (g) lack of statistical power (pp. 39–40).⁹⁰ Although some of these flaws are briefly mentioned in the 2005 APA Summary of Research Findings on Lesbian and Gay Parenting, many of the significant concerns raised by Nock or Lerner and Nagai are not substantively addressed.⁹¹ Indeed, the Lerner and Nagai volume and the Nock report are neither mentioned nor referenced.

To restate, in connection with the APA's published urging that researchers: "Take seriously the statistical power considerations" and "routinely provide evidence", the academic reader is left at a disadvantage.⁹² Only a few comparison studies specifically reported statistical power at all and no comparison study approached the minimum sample size of 393 needed to find a small effect.

The author's response to question 7 has examined how comparisons have been made from a research methods standpoint. In summary, some same-sex parenting researchers have acknowledged that "miniscule samples"⁹³ significantly increase "the chance to conclude that no differences exist between groups when in fact the differences do exist"—thereby casting "doubt on the external validity of the studies".⁹⁴ An additional concern is that the APA Brief's claim of "repeatedly replicated" findings of no significant difference rested almost entirely on studies that were published without reports of the APA-urged effect sizes and statistical power analyses.⁹⁵ This inconsistency seems to justify scientific skepticism, as well as the effort of more closely assessing the balance, precision, and rigor behind the conclusions posed in the 2005 APA Brief.

3. Conclusion

The 2005 APA Brief, near its outset, claims that "even taking into account all the questions and/or limitations that may characterize research in this area, none of the published research suggests conclusions different from that which will be summarized" (p. 5). The concluding summary later claims, "Indeed, the evidence to date suggests that home environments provided by lesbian and gay parents are as likely as those provided by heterosexual parents to support and enable children's psychosocial growth" (p. 15).⁹⁶

We now return to the overarching question of this paper: Are we witnessing the emergence of a new family form that provides a context for children that is equivalent to the traditional marriage-based family? Even after an extensive reading of the same-sex parenting literature, the author cannot offer a high confidence, data-based "yes" or "no" response to this question. To restate, not one of the 59 studies referenced in the 2005 APA Brief (pp. 23–45; see Table 1) compares a large, random, representative sample of lesbian or gay parents and their children with a large, random, representative sample of married parents and their children. The available data, which are drawn primarily from small convenience samples, are insufficient to support a strong generalizable claim either way. Such a statement would not be grounded in science. To make a generalizable claim, representative, large-sample studies are needed—many of them (e.g., Table 2).

Some opponents of same-sex parenting have made "egregious overstatements"⁹⁷ disparaging gay and lesbian parents. Conversely, some same-sex parenting researchers seem to have contended for an "exceptionally clear"⁹⁸ verdict of "no difference" between same-sex and heterosexual parents since 1992. However, a closer examination leads to the conclusion that strong, generalized assertions, including those made by the APA Brief, were not empirically warranted.⁹⁹ As noted by Shiller (2007) in *American Psychologist*, "the line between science and advocacy appears blurred" (p. 712).

The scientific conclusions in this domain will increase in validity as researchers: (a) move from small convenience samples to large representative samples; (b) increasingly examine critical societal and economic concerns that emerge during adolescence and adulthood; (c) include more diverse same-sex families (e.g., gay fathers, racial minorities, and those without middle-high socioeconomic status); (d) include intact, marriage-based heterosexual families as comparison groups; and (e)

⁹⁰ Four of these seven issues are addressed in the present paper. The exceptions include researcher bias, failure to report reliability, and low response rates.

⁹¹ The 2005 APA Brief's Summary on Research Findings acknowledges criticisms of same-sex parenting research including: (a) non-representative sampling, (b) "poorly matched or no control groups", (c) "well-educated, middle class [lesbian] families", and (d) "relatively small samples" (p. 5). The respective responses to these criticisms in the APA brief are: (a) "contemporary research on children of lesbian and gay parents involves a wider array of sampling techniques than did earlier studies"; (b) "contemporary research on children of lesbian and gay parents involves a wider array of research designs (and hence, control groups) than did earlier studies"; (c) "contemporary research on children of lesbian and gay parents involves a greater diversity of families than did earlier studies"; and (d) "contemporary research has benefited from such criticisms" (p. 5). The APA Brief does not challenge the validity of these research criticisms but notes that improvements are being made.

⁹² See Schumm (2010b) for more comprehensive, article-length treatment of these statistical issues.

⁹³ Stacey and Biblarz (2001, p. 168).

⁹⁴ Anderssen et al. (2002, p. 348).

⁹⁵ Schumm (2010b).

⁹⁶ The APA Brief also states that "the existing data are still limited, and any conclusions must be seen as tentative". Also, that "it should be acknowledged that research on lesbian and gay parents and their children, though no longer new, is still limited in extent" (p. 15). For some scientists, these salient points seem to be overridden by the APA Brief's conclusions.

⁹⁷ This reality has been disapprovingly documented by Shiller (2007).

⁹⁸ Patterson (1992).

⁹⁹ In 2006, the year following APA's release of the brief on Lesbian and Gay Parenting, "former APA president Nicholas Cummings argued that there has been significant erosion" of the APA's established principle (Shiller (2007), p. 712)... that "when we speak as psychologists we speak from research evidence and clinical experience and expertise" (Cummings (2006), p. 2).

constructively respond to criticisms from methodological experts.¹⁰⁰ Specifically, it is vital that critiques regarding sample size, sampling strategy, statistical power, and effect sizes not be disregarded. Taking these steps will help produce more methodologically rigorous and scientifically informed responses to significant questions affecting families and children.

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¹⁰⁰ At least one such study (Rosenfeld, 2010) has emerged in the years since the 2005 APA brief was issued. This study features a very large sample but has also received criticism (Schumm, 2011).

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