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Sarantakos's research on same-sex parenting in Australia and New Zealand: Importance, substance, and corroboration with research from the United States¹

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Abstract

Sarantakos (1996a) compared teacher ratings and other outcomes for the children of heterosexual married, heterosexual cohabiting, and homosexual parents and reported numerous significant, substantial differences. Few scholars have taken the effect sizes of his results into account or have considered his larger program of research. Sarantakos's research yielded many interesting findings with respect to children's academic performance, sexual orientation, use of alcohol and drugs, sexual deviance, and gender identity with respect to parents' parenting values, relationship stability, conflict, monogamy, and religiosity or moral values, many of which have been corroborated by U.S. or British research. In addition, the methodological quality of his research appears to be at least above average, especially for research done 20 or more years ago. He appears to have been unbiased with respect to same-sex families. His results disseminated via multiple publications should be taken into account in literature reviews concerning same-sex parenting.

Patterson (2005) claimed in a brief sponsored by the American Psychological Association 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), a theme reiterated more recently by Manning, Fetto, and Lamidi (2014). The idea that there is universal evidence of no effects whatsoever of sexual orientation on parenting outcomes can be labeled the "no difference" or null hypothesis regarding gay, lesbian, or bisexual parenting. Rosenfeld (2010) has stated that "The prior literature has found no evidence that children raised by same-sex couples suffer any important disadvantages" (p. 772) and "all the more recent studies that cite the earlier ones—none found statistically significant disadvantages for children raised by gay and lesbian parents compared with other children" (p. 756). Judge Vaughn Walker, in his decision on the California Proposition 8 trial (section 70, *Perry v. Schwarzenegger*), stated that "Children raised by gay or lesbian parents are as likely as children raised by heterosexual parents to be healthy, successful and well-adjusted. The research supporting this conclusion is accepted beyond serious debate in the field of developmental psychology" (Allen, 2013, p. 635; Allen, 2015, p. 154). When such absolute statements are made, there is the risk that readers might accept them at face value and conclude that such a scholarly certitude was justified. Sarantakos (1996a) published an important study on parenting but the breadth of his research on lesbian, gay, bisexual, and transgender (LGBT) issues is often overlooked. Given the controversial nature of LGBT issues (Satinover, 1996; Cameron & Cameron, 2002), the objective of the current paper is to assess the claims of Patterson and others that there is *no* extant research showing differences—whether overlooked or dismissed prematurely. The particular focus will be the multifaceted research of Sarantakos (1996a) and any research that has corroborated his findings.

Who Is Dr. Sotirios Sarantakos?

Dr. Sarantakos was a senior lecturer in sociology (1991b, p. 23) and later associate professor (1996a, p. 23), School of Humanities and Social Sciences, Charles Sturt University—

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Riverina in Wagga Wagga, Australia. More recently, he was described as an adjunct professor at the same university (Sarantakos, 2005). Given the critical focus by several scholars (Patterson, 2005; Wald, 2006; Redding, 2008; Herek, 2010) on one particular article by Sarantakos (1996a), some might presume he published little else during his academic career at an Australian university.

On the contrary, Sarantakos published numerous scholarly articles (1973, 1975, 1980a, 1980c, 1982a, 1982b, 1985, 1991a, 1991b, 1994a, 1994b, 1996a, 1996c, 1997, 1998d, 1999a, 2000b, 2000c, 2004), a book chapter (1998a), articles in law journals (1998b, 1999b), several family textbooks (1971, 1980b, 1984, 1987, 1992, 1996b, 1996d, 1998c, 2000d), several texts on research methodology (1993, 1998e, 1998g, 2000a, 2005, 2007a, 2007b), and numerous book reviews (e.g., 1998f). Some of his research was reviewed in an article on Australian family studies (Funder, Edgar, Withear, Brownlee, Glezer, Harrison, *et al.*, 1996). More recently, he was cited by Kirby (2005) in an article entitled "Sexuality and Australian Law" in the *Journal of Homosexuality*. Neither Biblarz and Stacey (2010) nor Manning, *et al.* (2014) cited Sarantakos in their review of the social science literature on same-sex parenting; Marks (2012) cited only some of Sarantakos's research (2000d, 2005, 2007a, 2007b) in his review of the same-sex parenting literature. Herek (2014) discussed only Sarantakos (1996a), overlooking the rest of his research on same-sex parenting. Allen (2015) cited only Sarantakos (1996a) among the 60 studies that he reviewed concerning same-sex parenting. However, Sarantakos's entire body of research is valuable and should be examined as part of the LGBT literature as a whole.

Sarantakos's Methodology of Studying Same-sex Families

Sarantakos (1996a) reported data from 58 children of heterosexual married parents, 58 children of cohabiting heterosexual parents, and from 58 children of 11 gay and 47 lesbian parents. The children were described as having been "matched according to age, gender, and year of study" (school) while the parents were matched on "education, occupation, and employment status" (p. 23). All of the children were living with at least one biological parent at the time of the study. The children were from the rural and urban region of Victoria and New South Wales (NSW). The gay and lesbian parent couples were from a larger study of 82 homosexual couples (78 of whom had children) by Sarantakos (1996c, 1998d); assuming that the couples were selected on the basis of having children in the primary grades, it appears that the gay male parents in the larger study were less likely to have children of primary school age (two-sided Fisher's Exact Test, $p < .001$). The children of the homosexual couples had all been born in the context of previous heterosexual relationships, but not necessarily from previous heterosexual marriages. One strength of this study

was that Sarantakos used at least four different sources of data on the three groups of children: academic tests, teachers' reports, observations, and children's reports (Marks, 2012, p. 743).

It is of interest that parent reports were not used in Sarantakos (1996a), as they can involve social desirability bias. As could be said of any parenting study, Gartrell, Hamilton, Banks, Mosbacher, Reed, Sparks, *et al.* (1996) indicated that lesbian mothers "might wish to present themselves and their families in the best possible light" and thus, "the study findings may be shaped by self-justification and self-presentation bias" (p. 279). Golombok, MacCallum, Goodman, and Rutter (2002) noted that "With any investigation that uses parental reports, one must be aware of the social desirability bias whereby parents try to present themselves and their children in the best possible light" and "One method of combating this problem is through the use of multiple measures.... and multiple respondents (mother, father, child, and teacher)" (p. 965). Goldberg's authoritative methodology (2010, p. 169) also acknowledged a concern with social desirability or self-presentation bias in parental reports. Instead of relying only upon parental self-report with its constraints of potential social desirability, Sarantakos used multiple measures and multiple respondents (as recommended by Golombok, *et al.*, 2002), all of which would have tended to minimize social desirability bias in his study.

In other studies, Sarantakos used data from 40 gay and 42 lesbian couples (Sarantakos, 1996c, 1998d), who had 105 children among them. The average relationship duration was 2.3 yr.; the average age of the partners was 27.5 yr. Most of the participants were employed full-time (62%) and had college degrees (75%). Later, Sarantakos (2000d) reported preliminary (p. 130) results from a study of same-sex families (153 gay and 163 lesbian couples, 264 from Australia and 52 from New Zealand, p. 16) conducted between 1995 and 1999. Most of these respondents had college degrees (71%) and were employed full-time (78%). Over 40% of the couples, more lesbians than gay men, had 181 children living with them (118 with lesbian couples, 63 with gay couples) while another 12.3%, more gay men than lesbians, had children living in other households (p. 16). All of the gay fathers and more than 75% of the lesbian mothers had children born from previous heterosexual relationships (p. 102).

Approach to Assessment of Sarantakos's Research

Several questions must be considered with respect to Patterson's (2005) assertion of the null hypothesis regarding same-sex parenting outcomes. The accuracy of the assertion will be assessed in detail, since Sarantakos' studies did report disadvantages for the children of lesbian or gay parents. Since research by Sarantakos was

apparently dismissed by Patterson's brief, the critiques will be examined to assess the quality of the research in comparison to accepted literature. Differences reported between children of gay or lesbian parents and children of heterosexual parents will be examined as well as the differences between the groups of parents that may have mediated children's outcomes. Other research with similar findings will be reviewed. Finally, there will be a careful look at whether personal bias on the part of Sarantakos might have been involved in his findings.

The review will follow a specific topical sequence:

1. Assessment of criticisms of Sarantakos's research: critiques of where he published, often in Australian journals; potential influences of parental divorce, peer effects, and teacher ratings.
2. What Sarantakos reported with respect to children of same-sex parents: academic performance, sexual orientation, sexual deviance, gender identity, and substance use.
3. What Sarantakos reported with respect to same-sex parents: parental values, relationship stability, relationship conflict, sexual monogamy, and religiosity or moral values.
4. Literature corroboration of Sarantakos's results for children: academic performance, sexual orientation, sexual deviance, gender identity, and substance use.
5. Literature corroboration of Sarantakos's results for same-sex parents: parental values, relationship stability, relationship conflict, sexual non-monogamy, religiosity and moral values.
6. Consistency and quality of Sarantakos's research compared to accepted literature; assessment of personal bias in his research.

Assessment of Criticisms of Sarantakos (1996a)

Patterson (2005) did cite in a footnote the study by Sarantakos (1996a), which, as discussed in detail later, reported significant differences between the children of heterosexual and gay or lesbian parents—differences which in some teacher ratings and children's tests reflected disadvantages for the children of gay or lesbian parents. Also cited by Patterson (2005) was a study by Puryear (1983) that had reported significant differences between the children of heterosexual and lesbian mothers. Patterson's claim that no studies showed any differences between children of gay and lesbian parents and heterosexual parents imply that these studies were *dismissed* as inaccurate, invalid, or biased in some way that is out of line with accepted research.

It is clear that Sarantakos studied a great many topics related to same-sex parents and their children. Although overlooked for nearly two decades by most reviews of

the literature on gay and lesbian parenting (Schumm, 2008), Sarantakos (1996a) was mentioned by Patterson (2005) and later by Wald (2006), Redding (2008), and Herek (2010, 2014). However, Patterson (2005) dismissed the value of the study for four reasons: (1) the study had been published in a regional Australian journal, "As such, it cannot be considered a source upon which one should rely for understanding the state of knowledge in this field ..." (p. 7); (2) most of the children of homosexual couples allegedly had parents who had been divorced; (3) the children of homosexual parents had experienced ostracism from their peers and other parents; and (4) the teacher ratings were subjective and could have been biased. Wald (2006, p. 394) cited Sarantakos (1996a), and not only viewed the teachers involved as biased but as oppressive to the children of homosexual parents (p. 399). Redding (2008) likewise argued that the research had been published in "an obscure Australian journal" and that the teachers had not been blind to the household types of the students they were rating (p. 145). Herek (2010) agreed with Patterson's second and third criticisms and added that Sarantakos (1996a) had used a "small" convenience sample. Herek (2010) also appeared to view the Sarantakos study as an exception to the general finding of no differences between heterosexual and homosexual parents. Herek (2014) reiterated such criticisms. The following section examines these specific critiques of Sarantakos (1996a) in detail.

Publication in an Australian journal.—Judging the merits of research on the regional location or "tier" of a scholarly journal is counter to the current understanding of impact: now, instead of journal impact factors, article impact factors are preferred; these refer to the impact and quality of the specific article.² Fenner (2013) recently noted that "journal-based metrics are now considered a poor performance measure for individual articles" (p. 1). As Campbell (2008) has stated, "Many researchers say that their important work has been published in low-impact journals" and that "the most effective and fair analysis of a person's contribution derives from a direct assessment of individual papers, regardless of where they were published" (p. 5). There are now many other ways to evaluate or assess the quality of individual journal articles (Lin & Fenner, 2013). Moreover, published research, even in "top tier," peer-reviewed journals, has been demonstrated to have numerous errors (Schumm, Southerly, & Figley, 1980; Schumm, 1982, 1993). Although both Patterson (2005) and Redding (2008) appeared to criticize the nationality of the journals in which Sarantakos pub-

²Most independent, regional, or university-run journals will have lower overall impact factors in any case, due to factors having nothing to do with article quality (Schumm, 2010a). In addition, the resources required to make an article highly discoverable on the Internet are costly and complex, so there is a bias in article impact factors toward articles published by huge publishing corporations and organizations.

lished, it is unclear how this would relate *per se* to the value of empirical research without an unstated assumption of the supremacy of North American research. The quality of a journal is based on its editorial policies and function; thus, it is best to compare the quality of each article with its respective literature.

Parental divorce.—Sarantakos (1994a, 1994b) found that 23% of his heterosexual married couples had divorced and remained divorced between 1981 and 1990 and a few had remarried each other after their divorces. Patterson's (2005) claim about Sarantakos (1996a) was that "most or all of the children being raised by gay and lesbian parents, but not the children being raised by heterosexual married parents, had experienced parental divorce" (p. 6). While Sarantakos (1996a) acknowledged an important potential role of divorce, "It is then reasonable to assume that parental divorce explains in part the differences in educational development of the children in the three contexts" (p. 30), there was no evidence in the text of the paper that "most or all" of the gay or lesbian parents had been divorced heterosexually. What Sarantakos (1996a) reported was, "However, given that the majority of children of cohabiting homosexual and heterosexual couples have experienced divorce ..." (p. 30). Sarantakos did not specify if he meant an absolute majority or a relative majority, but if the rate was 50%, the effect size associated with divorce could have been as low as 0.55. An upper estimate would assume that 91% of the homosexual parents had been heterosexually married and then divorced, compared to 24% of the heterosexual married parents, the associated effect size would be approximately 1.84 ($t_{114} = 9.92$, $p < .001$), smaller than many of the effects illustrated in Table 1.³ It would seem that the potential effects of divorce would range between 0.55 and 1.84, whereas the effects of the three parent (family) types ranged between -0.32 and 3.75, suggesting that it is unlikely that prior divorce could account for all of the variation in teacher ratings.

There are both *distal* (distant) and *proximal* (near term) effects in social science. The parental divorces of the students in Sarantakos (1996a) may have occurred up to several years prior to the teacher ratings of the students or the students' tests, although some may have been recent. More recent or proximal effects might account for the group differences reported by Sarantakos (1996a) more than the more distal effect of parental di-

vorce or break-up if the parents had not been married. Sarantakos reported frequent break-ups among same-sex and cohabiting couples; thus, some parental instability may well have occurred between any former heterosexual/married break-ups and the time of the study. Neither Patterson (2005), Redding (2008), nor Herek (2010) appear to have considered that possibility in their critiques, although Patterson and her colleagues have cited current family or home environment as an important predictor of child outcomes (Wainright, Russell, & Patterson, 2004; Wainright & Patterson, 2006, 2008). Further confounding the issue is the length of time and ages at which children are exposed to different types of parents or families (e.g., 10 years of heterosexual parents from birth, divorce and single parenting for 6 yr., then 1 yr. with homosexual parents at age 17 yr., versus 17 years of homosexual parenting); this has never been taken into account in any study, but it should be, as discussed in more detail elsewhere (Schumm, 2014).

Peer effects.—It does not appear that Sarantakos ever measured peer effects in his research, rendering any conclusions about peer effects speculative. Qualitatively, Sarantakos (1996a) reported some cases of severe bullying against children of same-sex parents: "In extreme cases, they have been ridiculed by the other children for some personal habits or beliefs, or for the sexual preferences of their parents. In certain cases, these children were called sissies, lesbians or gays, or asked to tell 'what their parents do at home', where they slept, etc. Such incidents were one of the reasons for these children to move to another school, to refuse to go to that school, or even for the parents to move away from that neighbourhood or town" (p. 25). However, peer stigma may be less salient than many assume. For example, in Gartrell and Bos's (2010) study of adolescent children of lesbian mothers, fewer than 42% of the adolescents and fewer than 38% of the lesbian mothers reported any recent unfair treatment of the adolescent related to the mother being a lesbian. Of the 15 psychological outcomes reported, none appeared to be significantly ($p < .05$) related to adolescent reports of stigma and only four were significantly ($p < .05$) related to maternal reports. The most significant effect found was for thought problems; the associated effect size was 0.79, while the least significant effect found, for total problems, was 0.60, both far smaller than most of the effects in Table 1. Thus, it is not clear that stigma can explain the outcomes reported by Sarantakos (1996a), as shown in Table 1.

Riggs, Rosenthal, and Smith-Bonahue (2011) reviewed literature on LGBT youth and concluded that such youth were at risk for lower school achievement, more frequent truancy, and diminished college aspirations, especially if they had been discriminated against. However, Gershon, Tschann, and Jemerin (1999) did not find a significant relationship between scholastic competence and stigma. Likewise, Almeida, Johnson, Corliss, Molnar,

³The Australian Institute of Professional Counselors (AIPC) reports that in Australia the divorce rate over 30 years of potential marriage is 43% as of 2010–2012 (<http://www.aipc.net.au/articles/trends-and-statistics-of-the-contemporary-family.html>). The crude divorce rate in 2013 in Australia was 2.1 divorces per 1,000 estimated resident population (<http://www.abs.gov.au/AUSSTATS/abs@.nsf/productsbyCatalogue/893C1288678FD232CA2568A90013939C?OpenDocumnt>); in 1993, it was 2.7, which might, by extrapolation, suggest it was about 55% in 1993 for heterosexuals over 30 years.

TABLE 1
A Power Analysis of Sarantakos's (1996a) Results

Outcome	Type of Couple						<i>p</i>	<i>d</i> ^a	<i>d</i> ^b
	Married		Cohabiting		Homosexual				
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>			
Parental									
Parent-school participation	7.5	1.40	6.0	1.20	5.0	1.20 ^c	<.001	0.42	1.53
Aspirations for child's education	8.1	0.68	7.4	0.70	6.2	1.10	<.001	1.30	2.08
Support for doing homework	7.0	0.97	6.5	0.81	5.5	1.17	<.001	1.00	1.40
Child									
Autonomy	5.9	1.15	7.2	0.96	8.3	0.79	<.001	-1.25	-2.44
Attitude of child toward learning	7.5	1.37	6.8	1.18	6.5	1.18	<.001	0.25	0.78
Sociability of child	7.5	0.93	6.5	0.99	5.0	1.01	<.001	1.50	2.57
Social studies	7.3	0.83	7.0	1.19	7.6	1.02	<.009	-0.54	-0.32
Language	7.7	0.66	6.8	0.61	5.5	0.93	<.001	1.65	2.72
Mathematics	7.9	0.54	7.0	0.55	5.5	0.98	<.001	1.90	2.79
Sports	8.9	0.67	8.3	1.00	5.9	0.91	<.001	2.52	3.75

Note Standard deviations were rounded to two decimals; Sarantakos reported results to four decimals. Four decimals were used in calculating Cohen's *d*. Language and math skills were measured by objective assessment tests. Parent-school participation, attitude of the child toward learning, and sociability were rated by the teachers. Aspirations for child's education, autonomy, and support for doing homework were teacher ratings based on how children answered questions about their parents, asked by the teachers. Sports and social studies were based on teacher ratings, given the teacher's observations of student involvement and comprehension for those subjects. All scores ranged from 1 to 9 for each outcome, with higher scores reflecting more favorable outcomes. On objective tests, teachers recoded actual scores into a 1 to 9 point rating. Sarantakos did not provide information on the names of the objective tests or complete items for all scales.

^aHomosexual vs Cohabiting Heterosexual Couples.

^bHomosexual vs Married Heterosexual Couples.

^cStandard deviations were not reported for parent-school participation; to provide a conservative estimate of effect sizes, estimated standard deviations were used that were larger than any others reported for each type of parent. Assuming standard deviations averaged over the nine other outcomes for married couples ($SD=0.87$), cohabiting couples ($SD=0.89$), and homosexual couples ($SD=1.01$), then the respective effect sizes would have been estimated as 1.05 and 2.65.

and Azrael (2009) found that only 31.3% of LGBT youth reported any discrimination on the basis of their sexual orientation. Furthermore, discrimination did not completely mediate or explain suicidal ideation, self-harm, and depressive symptomatology; LGBT status was significantly associated with suicidal ideation in both sexes after controlling for discrimination. Almeida, *et al.* (2009) found that 41.7% of LGBT males had engaged in self-harm in the past year, compared to only 3.4% of non-LGBT males ($OR=20.3$, $95\%CI=7.4, 55.6$, $p<.05$); controlling for discrimination reduced the effect, but it was still very large ($OR=8.8$, $95\%CI=2.7, 28.5$, $p<.05$).

Also overlooked in such studies is the possibility that discrimination occurs not because of sexual orientation but because of behaviors associated with LGBT identity (e.g., having multiple sexual partners, use of drugs or alcohol, or gender nonconformity). Rieger and Savin-Williams (2012) found that gender nonconformity predicted lower subjective or psychological well-being among high school seniors rather than sexual orientation or gender, raising the possibility that any discrimination that adversely lowered well-being was based more on gender nonconformity than sexual orientation *per se*. Thus, while discrimination on the basis of sexual orientation

is an issue for a minority of children, dismissing research on the theory that all adverse associations with gay or lesbian parenting or child sexual orientation can be explained by discrimination is not consistent with extant research. Recently, Sullins (2015b) found from a U.S. national sample that children of same-sex couples were bullied less often (15% vs 19%) than children of heterosexual parents. Furthermore, Wald (2006) has argued that "While the presence of stigma is clear, the research does not find that it has a significant harmful impact on the children's mental health" (p. 399). Thus, it does not seem likely that Sarantakos's results would have differed greatly if bullying had been taken into account.

Teacher ratings.—It is true that the teacher ratings were subjective and could have been biased; on the other hand, parent ratings are vulnerable to social desirability biases as are any self-report answers or scores. Sarantakos (1996a) admitted this was an issue: "using teachers as informers may entail an inherent bias which could distort the real picture of children" (p. 24). Van-Fraussen, Ponjaert-Kristoffersen, and Brewaeys (2002) found that teachers rated the adjustment of lesbians' children lower ($ES=0.52$, $p<.03$) than did the lesbian

mothers in their study. Thus, Sarantakos (1996a) is not the only study that has found lower teacher ratings of the children of homosexual parents. The criticism has not been applied consistently; in VanFraussen, *et al.* (2002), teachers' ratings were not dismissed as biased but were accepted as another source of evidence on outcomes of homosexual parenting. Usually scholars accept different sources of evidence as complementary rather than as inherently contradictory. With respect to Redding's (2008) criticism, it is not clear how teachers who become closely involved in the lives of their students and meet often with parents in parent-teacher conferences could long remain "blind" to the family structures of their students' families and thus meet Redding's expectations for blinded research. Thus, while teacher ratings have limitations, they should not be dismissed as inherently invalid without evidence to substantiate such a claim.

Sarantakos was open about many of the limitations of his research. Many of the criticisms of his research echo what he explicitly acknowledged. Stating that a study has limitations does not invalidate all the results (Herek, 2014); in the case of Sarantakos (1996a), the main effects were so large that they cannot be explained away by questioning his methods, which are commonly used in the field. Since 1994, the American Psychological Association (1994, p. 18; 2001, p. 25; 2010, p. 34) has been recommending that scholars report effect sizes as well as significance levels. Wilkinson and the Task Force on Statistical Inference (for the APA) specifically stated, "Always provide some effect-size estimate when reporting a *p* value" (1999, p. 599). Much of the research discussed below as comparison for Sarantakos (1996a) did not report effect sizes and often involved very small samples ($N < 30$) that had very little chance of finding statistical significance for anything other than large effects. In this context, it is very important to remember what Jacob Cohen (1988), one of the leading psychological methodologists of the late 20th century, said: "Many effects sought in personality, social, and clinical-psychological research are likely to be small effects as here defined, both because of the attenuation in validity of the measures employed and the subtlety of the issues frequently involved" (p. 13). Thus, reliance upon significance levels in the context of small samples means that many otherwise important effects could be overlooked or prematurely dismissed. Consequently, in this review effect sizes will be reported even in cases where statistical significance was not obtained, defining an effect size of 0.20 or greater as weak to moderate in magnitude.

What Sarantakos Reported With Respect to Children of Same-sex Parents

The main focus of Sarantakos's research is often considered to be the academic performance of children; however, Sarantakos also considered outcomes for children

in terms of sexual orientation, gender identity, and alcohol and drug abuse. His findings for these four topical areas will be reviewed in sequence.

Academic performance.—The results Sarantakos (1996a) reported are summarized in Table 1 with the exception of outcomes for which he did not report means and standard deviations (e.g., sex identity, household tasks, and parenting styles with respect to control and punishment). The effect size (ES) differences, based on Cohen's *d*, on child outcomes across the three types of households were often large.⁴

Given the magnitude of the effect sizes, Sarantakos concluded that "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 heterosexual and homosexual couples" (p. 30). Although Sarantakos (1996a) did not assess educational progress, in his comparative study of the children of same-sex and heterosexual parents and their children, he found that "It was more likely for homosexual parents to have no firm expectations regarding the education of their child and to leave the decision to their children and their future interest and progress" (p. 27). In his later study, Sarantakos (2000d) summarized comments from the adult children of same-sex parents: "Low performance at school was also mentioned by many adult children who, looking back at their school years, felt that they did not perform up to capacity" (p. 132). Sarantakos (2000d) also reported higher rates of truancy (skipping school) among the children of same-sex couples (p. 131).

Sexual orientation.—Sarantakos (2000d, p. 133) had not expected to find any association between parental sexual orientation and children's sexual orientation based on his familiarity with the literature in this area. Yet he found a significantly higher proportion (which he did not specify) of children from same-sex parent families who had engaged in same-sex behavior or had assumed an LGBT sexual orientation or identity compared to children from heterosexual parent families. He expressed surprise at such a finding because it occurred "against all expectations" (p. 133).

Gender identity.—Sarantakos (1996a) stated that "Teachers felt that a number of students of homosexual parents were confused about their identity and what was considered right and expected of them in certain situations. Girls of gay fathers were reported to demonstrate more 'boy-

⁴Cohen (1992) said with respect to effect size (ES), "My intent was that the medium ES represent an effect likely to be visible to the naked eye of a careful observer" (p. 156). In the field of psychology, .80 and .50 are considered to be "large" and "medium," respectively; Amato (2012) suggested using less than .20 (weak), .20 to .39 (moderate), .40 to .59 (strong), and greater than or equal to .60 (very strong). Warner (2013) considered .20 or greater to be a medium effect size. Maxwell (2004) has reported that "Underpowered studies persist in the psychological literature" (p. 147).

ish' attitudes and behavior than girls of heterosexual parents. Most young boys of lesbian mothers were reported to be more effeminate in their behavior and mannerisms than boys of heterosexual parents. Compared to boys of heterosexual parents, they were reported to be more interested in toys, sport activities and games usually chosen by girls; they cried more often when under the same type of stressful situations; and they more often sought the advice of female teachers. In general, children of homosexual couples were described by teachers as more expressive, more effeminate (irrespective of their gender) and 'more confused about their gender' than children from heterosexual couples" (p. 26). Sarantakos (1996a) hypothesized that children of homosexual couples might "have difficulties in establishing a sex identity, i.e., to know what is expected of a male or a female, and to behave the way it is expected of a male or a female in the school and in the community in general" (p. 26).

Drug and alcohol use.—In other research, Sarantakos (2000d, p. 131), as noted by Marks (2012, p. 744), reported higher alcohol and drug use among children of same-sex couples compared to heterosexual couples. Sarantakos summarized his research with same-sex families and their children's use of substances, without specifying percentages, as follows: "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) relating to what they considered deviant and what they have committed rather than what was reported to police, children of homosexual parents report deviance in higher proportions than children of (married or cohabiting) heterosexual couples. This is more evident with regard to drug use and drinking" (2000d, pp. 131–132).

Sarantakos not only investigated academic performance of children of parents of differing sexual orientations, but he also investigated the children's sexual orientation, use of drugs and alcohol, sexual deviance, and their gender identity. Many scholars appear to be unaware of the last three areas of his interests and what he reported about them. The effects of these factors might be interrelated; for example, high drug use might be associated with truancy, and both high drug use and truancy might be associated with lower academic performance. This summary provides perspective on these issues based on his data.

What Sarantakos Reported With Respect to Same-sex Parents

Sarantakos also reported findings for differences between same-sex parents and heterosexual parents, differences that might mediate or explain differences between children of different types of parents. Sarantakos's (1996a) research on child outcomes as a function of family typology was part of a larger research project that involved at least 82 gay and lesbian couples in his

earlier study and many more same-sex couples in his later study. Patterson (2005), Redding (2008), and Herek (2010, 2014; and many recent *amici* briefs) seem not to have been aware of Sarantakos's larger research program, or its published outcomes regarding other factors, possibly associated with behavior or identity as a homosexual parent, from Sarantakos's (1996c, 1998d, 2000d) research that might have adversely influenced the children of those parents. Because Sarantakos (1996a) reported disadvantages for both cohabiting heterosexual and homosexual couples relative to married heterosexual couples, some of his other research with heterosexual cohabiting couples will be discussed below. Possible mediating factors associated with parental sexual orientation include parental values, parental relationship stability or instability, relationship conflict or violence, sexual non-monogamy, and religiosity or moral values, all of which Sarantakos investigated and discussed in various publications.

Parental values.—Sarantakos (1996a) found a very large effect size (2.44) for personal autonomy (granted by parents to their children) when comparing children of homosexual and heterosexual married couples. "Marrieds are reported to control and direct their children more than the couples of the other two groups" (p. 27). Even though parents were matched on socioeconomic status, he described the socioeconomic affluence (a condition that might have biased results in favor of the children of same-sex parents, see Rosenfeld, 2010, p. 763; Lamb, 2012) granted the children of gay and lesbian parents, "More children of the homosexual couples had their 'own living room' which usually was their bedroom equipped with their own TV set, radio and, sometimes, stereo system and sitting area, giving them a relatively high degree of freedom and autonomy at home" (p. 27). He also reported that, "It was more likely for homosexual parents to have no firm expectations regarding the education of their child and to leave the decision to their children and their future interest and progress" (p. 27). It would appear that the gay and lesbian parents may have taken a more "laissez-faire" approach to parenting, giving their child more "stuff" and more "space" but perhaps less guidance. It is possible this factor, as well as higher rates of truancy or criminal offenses (Sarantakos, 2000d), might have mediated between parental sexual orientation and the teachers' ratings reported by Sarantakos (1996a).

Another parental value concerns parental satisfaction with one's own gender, which might mediate the gender identity issues associated with children as discussed by Sarantakos (1996a, 1998d). Examining 82 gay and lesbian couples (over 95% of whom had children living with them), Sarantakos (1998d) found that 55% of the gay men reported they were a woman in a man's body, while 45% of the lesbians reported being a man in a woman's body. This concerned Saran-

takos (1998d), who concluded that “Cross-sex identity.... can cause confusion to young children and retard their social and emotional growth and development” (p. 33). He was concerned with the gender role and identity development problems observed in his earlier study (1996a).

Relationship stability.—Sarantakos (1996c) found that 66% of the gay couples and 63% of the lesbian couples had broken up with three or more partners in the past 5 years; 7% of the homosexual couples had broken up with six or more partners in the past 5 years, and only 19% of the couples had not broken up within the past 5 years.⁵ In other words, in terms of relationship instability, it was not divorce from a prior heterosexual parent that was most proximal for most children in Sarantakos's (1996a) study; more proximal were multiple break-ups with gay or lesbian partners. When Sarantakos (1991a) compared the 10-year stability of demographically matched cohabiting heterosexual and married heterosexual couples, he found significantly higher rates of instability among the cohabiting couples (68.1%, $n=307$) than among the married couples (23.0%, $n=313$; $OR=7.14$, $95\%CI=5.00, 10.2$, $p<.001$, $ES=1.02$). However, for both groups of heterosexual couples, regardless of cohabitation status, instability rates appeared to be lower than the rates Sarantakos (1996c) found for same-sex couples, if the time differences are accounted for (5 years for same-sex couples, 10 years for heterosexual couples).

Sarantakos (1997) reported that children from unstable heterosexual families were significantly more likely to have committed criminal offenses reported to authorities (p. 192, 28 vs 8%, $OR=4.46$, $95\%CI=2.66, 7.46$, $p<.001$, $ES=0.56$). He also found that children from cohabiting heterosexual families were significantly more likely to have committed any criminal offenses (p. 190, 24 vs 7%, $OR=4.23$, $95\%CI=2.43, 7.37$, $p<.001$, $ES=0.49$) as well as more likely to have committed multiple offenses (p. 191, 12 vs 1%, $OR=9.01$, $95\%CI=3.11, 26.2$, $p<.001$, $ES=0.43$). Another corollary of cohabitation was that 43% of the children of cohabiting couples (38% of the cohabiting couples had children, Sarantakos, 1984, p. 125) were biologically related to only one of the two partners compared to none of the children of the married couples (p. 189, $p<.001$, two-sided Fisher's Exact Test, $ES=2.27$), a result recently confirmed by Sullins (2015b). How did parental status (cohabiting vs married) influence delinquency? Sarantakos's research (1997) was clear that low (vs high) family cohesion was significantly related to children having committed criminal offenses (p. 193, 58 vs 5%, $OR=27.6$, $95\%CI=15.0,$

50.8 , $p<.001$, $ES=1.44$). Because he did not report the cross-tabulation of family cohesion and parental status for non-offenders, it is not possible to specify the exact relationship of parental status to cohesion or of the combined effects of cohesion and parental status on offending. If the children described their family environment as hostile versus friendly and loving, offending was significantly more likely (73 vs 4%, $OR=68.5$, $95\%CI=34.0, 138.1$, $p<.001$, $ES=2.01$).

Relationship conflict.—With respect to having serious to moderate conflicts in their current relationship, 27% of the gay partners and 31% of the lesbian partners so indicated. Sarantakos (1996c) also found that 17% of the respondents had inflicted or suffered violence in their present or a previous homosexual relationship. While a history of separations from previous heterosexual or same-sex relationships might account for some of the outcomes in Table 1, it would seem that conflict or violence within the parent's gay or lesbian relationships might also be a factor. He did not report data for heterosexual couples. However, as discussed in detail elsewhere (Schumm, 2013, pp. 323-326), numerous research reports have found higher rates of violence experienced by LGBT persons.

Sexual non-monogamy.—Sarantakos (1998d) also found that only 10% of the gay partners and 17% of the lesbian partners were intentionally monogamous, in a closed union. Again, this finding concerned Sarantakos (1998d), who concluded that “... sexual pluralism and promiscuity can cause confusion to young children and retard their social and emotional growth and development” (p. 33). He did not compare rates for heterosexual couples.

Religiosity or moral values.—Sarantakos (1984, p. 52) found that 73% of his married couple sample versus 33% of the heterosexual cohabiting couples reported they were religious or very religious in terms of behavior ($OR=5.49$, $95\%CI=2.99, 10.1$, $p<.001$, $ES=0.88$), while the respective percentages for belief were 94 vs 51% ($OR=15.1$, $95\%CI=6.04, 37.5$, $p<.001$, $ES=1.10$). He did not appear to have assessed religiosity among same-sex families.

Literature Corroboration of Sarantakos's Results for Children

In his wider area of research on children from same-sex families, Sarantakos found disadvantages for children of same-sex families in terms of academic performance, drug use, gender identity confusion, sexual deviance, and differences in sexual orientation. A good question is whether any of his findings in those five areas have ever been replicated or corroborated in the research literature. Below, each area will be discussed for children of same-sex parents and then the research on same-sex parents themselves will be discussed. A summary of the studies cited is presented in Table 2.

⁵This instability is exemplified by responses of homosexual couples to the question “if their cohabitation was based on freedom rather than commitment”: 66% of the gay partners and 50% of the lesbian partners agreed, with another 9 and 13%, respectively, undecided.

Academic performance.—A number of reports have supported Sarantakos's findings in terms of the children of same-sex parents performing less well academically, even though in some cases they have had same-sex parents who surpassed the heterosexual parents on characteristics often associated with a child's academic success, e.g., having more education, higher income, fewer children at home, and lower anxiety, stress, or depression. There is evidence contrary to the view that there are no differences in academic performance as a function of parental sexual orientation (Potter, 2012, p. 559).

Golombok, Tasker, and Murray (1997) compared heterosexual two-parent ($n=41$) and single-parent ($n=42$) families to 30 lesbian mother families. The small samples involved limited the statistical power of this study; hence, non-significant effect sizes will be reported here and elsewhere. The heterosexual families differed significantly from the lesbian families in terms of mother's age ($p<.05$), social class ($p<.001$), and family size ($p<.0001$). The lesbian mothers reported lower depression than did the two-parent heterosexual mothers ($d=0.31$) and higher mother's warmth to child ($d=1.04$, $p<.05$). The children of the lesbian mothers reported greater peer acceptance ($d=0.19$) than did the children of the two-parent heterosexual mothers, and greater than that of the children of single heterosexual mothers as well. What is remarkable is that in this study the two-parent heterosexual mothers and their families were disadvantaged in terms of age (younger), family size (more children), fewer socioeconomic resources, lower peer acceptance of their children, higher maternal depression, and higher maternal stress ($d=0.37$); yet, their children reported higher cognitive competence ($d=0.94$, $p<.001$) and physical competence ($d=0.55$, $p<.01$) than did children of lesbian mothers, as reported previously (Schumm, 2011, p. 92).

Golombok, Perry, Burston, Murray, Mooney-Somers, Stevens, *et al.* (2003) also found that children from two-parent heterosexual families ($n=74$) reported greater cognitive competence ($d=0.14$) and physical competence ($d=0.38$) than children from two-parent lesbian families ($n=19$), even though the latter families had higher socioeconomic status, greater maternal acceptance, lower stress, and fewer children, and used less corporal punishment (Schumm, 2011, p. 93). The small n for the two-parent lesbian families suggests that only large effects could be detected because of low statistical power.

MacCallum and Golombok (2004) interviewed children about their school situation. The children of lesbian mothers ($n=25$) rated their interest/effort in schoolwork higher than did the children of two-parent heterosexual mothers ($n=38$; $d=0.54$, $p<.05$). The children of lesbian mothers also rated their school functioning higher ($d=0.79$, $p<.05$). Surprisingly, the children of heterosexual mothers rated bullying as slightly more of a problem than did the children of lesbian mothers ($d=0.09$).

However, a major limitation of the MacCallum and Golombok (2004) study is that the lesbian and two-parent heterosexual mothers differed on child's age ($d=0.68$, $p<.05$, lesbians' children older), family size ($d=1.22$, $p<.001$, heterosexual families larger), mother's occupational status ($d=0.39$, $p<.10$, lesbians higher), age of mother ($d=0.26$, lesbians younger), anxiety ($d=0.24$, lesbians less anxious), and depression ($d=0.46$, $p<.08$, lesbians lower), factors that were not all controlled statistically when comparing the families on the child outcome variables. This is one study that provides evidence contradictory to Sarantakos's findings, although it is not clear what would have occurred had all of the control variables been taken into account or if the sample size had been larger.

Wainright, *et al.* (2004) found a gender difference in grade point averages (GPA), as self-reported by the 44 adolescents of same-sex parents and the 44 adolescents of heterosexual parents; the sons of same-sex parents reported higher GPA ($d=0.27$) while the daughters of same-sex parents reported lower GPA ($d=0.19$) than did the children of heterosexual parents; however, there was considerable missing data for the boys (27%) and girls (14%) on the GPA variable.⁶

Using data from a random national U.S. study, Fedewa and Clark (2009) compared 35 heterosexual and 35 same-sex families (27 lesbian, 8 gay) in terms of parental reports of their own parenting practices (e.g., reading to children, helping with homework, listening to the child, discussing friends and activities, p. 323), home-school collaboration (parent involvement with PTA, volunteering activities at school, attending school functions, school helping parents understand their child, providing parents volunteer opportunities at school, p. 324), and their child's social skills/adjustment (sensitive to others' feelings, maintains friendships, respects property of others, helps other children, controls temper, pp. 324–325), as well as the actual academic achievement of the child (reading and math skills). Although a higher percentage of heterosexual parent families fell into the lowest quintile of socioeconomic status (31 vs 11%, $OR=2.41$, $p<.10$, $d=0.41$), in terms of academic achievement the children of heterosexual parents performed somewhat better than the children of lesbian ($d=0.17$) or gay ($d=0.07$) parents. In terms of parent practices, gay fathers reported far worse child behavior ($d=-1.30$, $p<.01$) than did heterosexual parents, while lesbian mothers reported better behavior ($d=0.23$). Lesbian ($d=-0.05$) and gay parents ($d=-0.44$) described home-

⁶Patterson (2009) later made her definition of "same-sex lesbian parent" more stringent and determined that of the 44 couples assessed by Wainright, *et al.* (2004) and Wainright and Patterson (2006) as "same-sex" parents as few as 17 or 18 (38–41% of the original 44) were actually lesbian parents. Of the six "same-sex" male parent families, as few as three may have actually been "same-sex" gay male families (Sullins, 2015c).

TABLE 2
Child Outcomes Associated With Parental Sexual Orientation That Corroborate Sarantakos's Research

Outcome	Study	Result	Effect Size (Cohen's <i>d</i> or OR)	Methodology/Limitation
Academic performance	Sarantakos (1996a)	Language skills	1.65–2.72*	Teacher or community bias
		Math skills	1.90–2.79*	
		Sports skills	2.52–3.75*	
		Social studies	–0.54–0.32	
		Attitude toward learning	0.25–0.78*	
	Sarantakos (2000d)	Adult children of same-sex parents felt they did not perform up to capacity in school; higher rates of truancy reported		Statistics not reported
	Golombok, <i>et al.</i> (1997)	Cognitive competence	0.94*	Small sample size
		Physical competence	0.55*	
	Golombok, <i>et al.</i> (2003)	Cognitive competence	0.14	Small sample size
		Physical competence	0.38	
	MacCallum & Golombok (2004)	School functioning engagement with school	–0.79* –0.54*	Small sample size, no statistical controls for advantages of lesbian families in terms of socioeconomic status or mental health
	Wainright, <i>et al.</i> (2004)	Grade point average, sons	–0.27	Majority of “lesbian” families were heterosexual families
		Grade point average, daughters	0.19	
	Fedewa & Clark (2009)	Academic achievement	0.07–0.17	
		Home/School collaboration	0.05–0.44	
	Gartrell & Bos (2010)	Lesbian mothers reported their children as more academically competent than did heterosexual mothers of children		No controls for social desirability bias
	Rosenfeld (2010)	Retention in grade	0.29	High error rate in census data for identifying same-sex parent families
Allen, <i>et al.</i> (2013)	Retention in grade	Found significant differences	Conflicting results vs Rosenfeld (2010)	
Potter (2012)	Test scores	No significant differences after controlling for parental instability	Parental instability rates very high for same-sex families	
Regnerus (2012a)	Educational attainment as adults	Children of lesbian mothers vs children of intact biological families: –0.72* children of gay fathers vs children of intact biological families: –0.50*	Definition and measurement of same-sex families often criticized	
Allen (2013)	High school graduation rates for children from different families	Married heterosexual parents: 72% Gay fathers: 59–64% Lesbian mothers: 52–58%	Possible selection effects	
Sullins (2015a)	ADHD	14 vs 7%*	Large national random sample	
	Learning disabilities	14 vs 8%*		
	Intellectual disabilities	1.5 vs 0.7%		
Cheng & Powell (2015)	Educational attainment from NFSS	After numerous corrections and controls, results no longer significant	Did not specify effect size	
Sexual orientation	Sarantakos (2000d)	Adult children of same-sex parents had higher rate of same-sex sexual orientation	Statistics not reported	

(continued on next page)

Note Positive effect sizes indicate favorable results for children of heterosexual parents. +*p*<.10. **p*<.05.

TABLE 2 (CONT'D)
 Child Outcomes Associated With Parental Sexual Orientation That Corroborate Sarantakos's Research

Outcome	Study	Result	Effect Size (Cohen's <i>d</i> or OR)	Methodology/Limitation
	Paul (1986)	Identification as non-heterosexual	23.5%	Small sample size
		Involved in same-gender sexuality	35.3%	
		Felt same-sex sexual attraction	52.9%	
	Bailey, <i>et al.</i> (1995)	Sexual orientation for adult children of gay fathers	13–21% of sons of gay fathers had a non-heterosexual sexual orientation	Small sample size, missing data
	Tasker & Golombok (1995)	Same-sex sexual attraction	Daughters, 36 vs 20%	Small sample size
		Considered having a same-sex romantic relationship	Daughters: 67 vs 13%* Sons: 57% vs 20%*	
		Among children having same-sex attractions	67 vs 0%*	
	Sirota (1997)	Sexual orientation	Daughters: 34 vs 3% identified as lesbian/bisexual*	
		Sexual questioning	70 vs 23%*	
	Kunin (1998)	Sexual orientation	Children of lesbian mothers, 8.5% not heterosexual vs 2.1% for children of heterosexual mothers ($d = .28$)	
		Questioning of sexual orientation	44.7 vs 21.3%*	
	Joos & Broad (2007)	Sexual orientation	42.3% for children of same-sex parents	No comparison group of children of heterosexual parents
	Bos & Sandfort (2010)	Sexual orientation	Daughters, $d = -0.74^*$	
	Schumm (2010c)	Sexual orientation, attraction, exploration, questioning	Review of literature indicates higher rates of same-sex identity or exploration among children of same-sex parents, especially for daughters of lesbian mothers, less so for sons of gay fathers	
	Gartrell, Bos, & Goldberg (2011)	Kinsey ratings of sexual orientation	Daughters of lesbians 49% not entirely heterosexual; sons of lesbians 22% not entirely heterosexual	Small sample size, no comparison group for Kinsey ratings
	Regnerus (2012a)	Sexual orientation or being in a same-sex romantic relationship	39% of children with lesbian mothers and 29% of children with gay fathers not entirely heterosexual vs 10% of children of intact biological parents*	Both confirmed by Cheng and Powell (2015) as significant, after numerous corrections and controls
	Sullins (2015c)	Same-sex sexual attraction	19–23% vs 6–8%	Small sample size
	Schumm (2013)	Sexual orientation identity or exploration	Generally higher rates of same-sex identity or exploration for children of same-sex parents	Review of 38 studies
Gender identity	Sarantakos (1996a)	Children of same-sex parents confused about their gender roles and gender	Not provided	Statistics not reported
	Dundas & Kaufman (2000)	One boy “thought it would be better to be a girl” (p. 76) and “a couple of the children thought that there was no difference in male and female gender roles” (p. 76)		No comparison group, small sample size
	Goldberg & Allen (2013)	Gender identity as other than male or female	1 out of 11 children (9%) interviewed with same-sex parents described self as “gender-queer”	Very small sample size, subset of a small sample

(continued on next page)

Note Positive effect sizes indicate favorable results for children of heterosexual parents. $+p < .10$. $*p < .05$.

TABLE 2 (CONT'D)
Child Outcomes Associated With Parental Sexual Orientation That Corroborate Sarantakos's Research

Outcome	Study	Result	Effect Size (Cohen's <i>d</i> or OR)	Methodology/Limitation
Use of alcohol or drugs	Kuvalanka (2013)	Gender identity as other than male or female	8 out of 30 children of same-sex parents described themselves as "gender-queer"	Small sample size
	Sarantakos (2000d)	Higher alcohol and drug use among children of same-sex parents	Not provided	Statistics not reported
	Wainright & Patterson (2006)	Higher rates for children from "lesbian" families	0.00–0.27	Majority of "lesbian" families were heterosexual families
	Marquardt, Glenn, & Clark (2010)	Higher rate for children of lesbian mothers vs heterosexual parents: 21 vs 11%	0.15 (+)	
	Sirota (1997)	Drug use: 44 vs. 15%	0.68*	
	Goldberg, Bos, & Gartrell (2011)	Tobacco: 27 vs 14%	0.32 ($p = .051$)	Small sample size
		Alcohol: 80 vs 50%	0.67*	
		Marijuana/Hashish: 60 vs 21%	0.89*	
		LSD/MDA, etc.: 21 vs 8%	0.38*	
		Cocaine: 13 vs 6%; daughters only 15 vs 3%	0.22 (daughters only, 0.46+)	
		Barbituates	No significant difference	
		Tranquilizers	No significant difference	
	Golombok & Badger (2010)	Drug use	No significant differences	United Kingdom study, small sample of lesbian families
	Regnerus (2012a)	Marijuana use	Children of lesbian mothers: -0.42*	Definition and measurement of same-sex families often criticized
Children of gay fathers, -0.24				
Smoking tobacco		Children of lesbian mothers, -0.52*		
Drinking to get drunk		Children of gay fathers, -0.44*		
	Children of lesbian mothers, -0.08; children of gay fathers, -0.42			
Schumm, Landess, & Williams (2014)	Drug use, from Regnerus (2012a, b)	0.11–0.63	Defined lesbian mothers based on high stability and compared to heterosexual step-families	
Greater Sexual Deviance	Sarantakos (2000d)	Greater sexual deviance among children of same-sex couples		No statistics provided
	Tasker & Golombok (1997)	Multiple cohabitations	71 vs 22%*	
		Multiple sexual partners	88 vs 56%*	
		Early initiation of cohabitation	71 vs 17%*	
		Five or more sexual partners	62.5 vs 22.2%*	
Gartrell, <i>et al.</i> (2011); Sullins (2015c)	Found few differences in sexual behavior as a function of parental sexual orientation			

Note Positive effect sizes indicate favorable results for children of heterosexual parents. $+p < .10$. $*p < .05$.

school collaboration less favorably than did heterosexual parents. In terms of social adjustment, lesbian mothers rated their children the same as heterosexual parents while gay fathers rated them lower ($d = -0.24$) than did heterosexual parents. With the small sample used by Fedewa and Clark (2009), it is not surprising that many of their outcomes were not statistically sig-

nificant, but that they favored the children of heterosexuals to any extent, whether significant or not, is remarkable given the socioeconomic advantages of the same-sex couples, differences for which there were no statistical controls.

Gartrell and Bos (2010) found that adolescent children of lesbian mothers were rated much higher on ac-

ademic competence by their mothers than children of heterosexual mothers from a subset of a national study. Unfortunately, no measures of social desirability were used to control for any maternal tendencies to exaggerate a child's academic competence and substantial differences in maternal race (93 vs 68% White, lesbian/heterosexual) were not controlled. Furthermore, at least 67% of the lesbian mothers had a college degree compared to an average of 28% for U.S. women in general, although the Hollingshead Index may have favored the mothers of the comparison sample over the lesbian mothers. This is a second study that counters Sarantakos's findings. However, the heterosexual and lesbian families used in this study were not matched well on adolescent's age, region of the country, or mother's race. For example, all of the control group adolescents were 17 years old, while 7 (9%) and 3 (4%) of the adolescents with lesbian parents were older than or younger than 17 years, respectively. With such pre-existing group differences for which no statistical controls were used, it is hard to interpret the results accurately.

Rosenfeld (2010, 2013) has used U.S. Census data to argue for no significant differences in school retention rates for children in same-sex parent families. Unfortunately, the integrity of his data and therefore his conclusions are questionable because over 40% of couples classified as "same-sex" in the 2000 U.S. Census were probably misclassified heterosexual couples (Black, Gates, Sanders, & Taylor, 2007), a problem that continued with the 2010 census (O'Connell & Feliz, 2011). Prior to modifying his sample, Rosenfeld (2010) found higher rates of grade retention for children of lesbian mothers (9.5%) and gay fathers (9.7%) than for children of heterosexual parents (6.8%), differences that were statistically significant; later (2013, p. 967) he reported different figures (8.5% for same-sex families and 6.6% for heterosexual married families). He also found that children from higher socioeconomic households (both in terms of income and parental education) performed better academically, as did children who were genetically related to their parent(s). When Rosenfeld restricted his analyses to biological children and eliminated families who had moved within the past 5 years and controlled for over 75 variables, his final logistic regression coefficient (reported to three digits to show how similar the coefficients were in spite of differences in statistical significance) for same-sex parent's children was -0.142 ($ES=0.29$); notably, in the same analysis, coefficients that were nearly as small (-0.145 and -0.152) were significant ($p < .001$) in this large U.S. Census sample. Furthermore, in an interesting reversal of typical trends, Rosenfeld reported, "Among children raised by highly educated parents, the children of heterosexual married couples make better progress in school than the children of same-sex couples" (p. 768); given that much research with same-sex parents has involved highly ed-

ucated parents, this finding and consideration of what mediating or moderating factors might account for this outcome should not be overlooked in reviews of the literature. Rosenfeld was concerned that poor academic performance might be related to geographical mobility, which might also reflect parental instability. Thus, he limited his analysis to those families with the same address as of the 2000 Census and 5 years prior. If same-sex families are less stable than married heterosexual families and less stable families do move more often, Rosenfeld's methodology would tend to underestimate any effect of parental instability by eliminating that instability from the sample.

Allen, Pakaluk, and Price (2013) and Allen (2015) disputed Rosenfeld's (2010) analysis, indicating that his methodology reduced his sample size by 55% and claiming that children from same-sex families were 35% ($p < .01$) less likely to make normal progress in their education. Rosenfeld's screening procedures did reduce his married heterosexual parent sample by nearly 48% and his same-sex couple sample by nearly 58% (Allen, *et al.*, 2013, p. 957). Rosenfeld (2013) in his reply to Allen, *et al.* (2013) did agree that for families who had moved in the past 5 years, poor academic performance as measured by retention in grade was higher for same-sex family children (11.5%) than for children of heterosexual married couples (7.0%), which he interpreted as a need for marriage for same-sex couples. Rosenfeld (2013) also reported separate results for non-biological children (step-, adopted, or foster children), for whom grade retention rates were much higher for both children of married heterosexual parents (12.0%, 1.8 times greater than the 6.6% rate for biological children) and same-sex families (22.2%, 2.6 times greater than the 8.5% rates for same-sex families with a biological child). Given that same-sex families most often included a non-biological child for at least one partner, it is not clear how these greater rates (22.2%) of poor academic performance can be seen as favorable for same-sex parenting.

Potter (2012) initially found substantial and significant differences in which children from same-sex families were doing less well in math and reading assessments compared to children from married, two-biological parent families. Only after controlling for socioeconomic status and other variables, including number of family transitions (an indication of parental instability), did he no longer find significant differences in educational outcomes for children of same-sex couples. Potter's (2012) data, as discussed elsewhere (Schumm, 2012), indicated that none of the same-sex parents were stable from the birth of the child through fifth grade and only about 30% of the lesbian parents (none of the gay fathers) had stable families between their children's kindergarten and eighth grade compared to much higher rates (~90%) of stability for heterosexual married couples. What is really needed is to use relationship stability

as an intervening variable between family type and educational outcomes, with tests for the significance of both the direct and indirect effects of family type on the outcomes (Warner, 2013, pp. 652–662).

Regnerus (2012a, 2012b) in his study of nearly 3,000 adult children from a variety of family types, including many dozens whose parents had engaged in same-sex romantic relationships of varying lengths, reported that offspring of lesbian, gay, or bisexual (LGB) parents had lower educational attainment than did offspring of stable, heterosexual parents. It is not clear how these results would have differed if better matched comparisons had been made, although Cheng and Powell (2015), in their replication of Regnerus (2012a, 2012b), no longer found educational attainment to differ significantly after making numerous corrections to the data and changing the control variables used.

A recent article by Allen (2013, 2014) did try to parse numerous factors simultaneously using Canadian Census data. That research found that for children ages 17 to 22 years, those living with heterosexual married parents had a 72% chance of having graduated from high school compared to 59% for cohabiting heterosexuals, 60% for gay father couples, 52% for lesbian couples, 62% for single fathers, and 61% for single mothers (p. 646). If the parents had graduated from high school themselves, the corresponding percentages improved, respectively, to 75, 68, 64, 55, 67, and 65%. If neither parent had moved within the past 5 years, the corresponding percentages were 73, 62, 59, 58, 65, and 64%. Notable apparent interactions were found between the gender of child and the gender of parent(s). Controlling for child characteristics, parental education, and parental marital status, daughters of lesbians had low odds ratios (compared to married heterosexuals' daughters) of graduating from high school ($OR=0.45, p<.05$) as did daughters of gay fathers ($OR=0.15, p<.05$). The odds ratios were higher for sons of gay fathers ($OR=1.61$) and lower for sons of lesbian mothers ($OR=0.76$). Allen (2013) ruled out attendance effects as an alternative explanation of the results. However, it is possible that some children had graduated from high school and moved out of their family home, rendering the results less clear. In the Canadian data, gay (39%) and lesbian (60%) parents were more likely to have moved within the past 5 years than were married heterosexual parents (24%).

Sullins (2015a) compared children with same-sex and opposite-sex parents on ADHD, learning disability status, and intellectual disability status and found significant differences for ADHD (14 vs 7%, $p<.001$) and learning disability (14 vs 8%, $p<.05$) but not intellectual disability (1.5 vs 0.7%). In his re-analysis of Wainright, Russell, and Patterson (2004), Sullins (2015c) found that children of 20 same-sex couples had a significantly higher mean GPA than did the children of heterosexual parents.

In summary, with respect to academic performance or ratings by mothers/children, children of heterosexual parents often rated their cognitive competence higher (Golombok, *et al.*, 1997; Golombok, *et al.*, 2003; but MacCallum & Golombok, 2004, reporting the opposite), with small to medium effect sizes, than did children of lesbian mothers, despite the latter in all three studies having numerous socioeconomic and psychological advantages. Maternal ratings of children's academic competence appear to be more favorable from lesbian mothers, though controls for social desirability biases, maternal education, and race are often lacking (Gartrell & Bos, 2010). Several studies reported better academic performance, with small effect sizes, among children of heterosexual married parents compared to same-sex parents (Fedewa & Clark, 2009), but those advantages tended to be smaller after controlling for numerous variables, especially parental instability (Rosenfeld, 2010, 2013; Potter, 2012; Regnerus, 2012a, 2012b; Allen, *et al.*, 2013). Allen, *et al.* (2013) and Allen (2013) reported finding stronger unfavorable educational outcomes for children of same-sex parents. Sullins (2015a) found significant differences for ADHD and learning disability among children, with higher rates for children of same-sex families, but he also found higher GPAs for children of same-sex parents, although the sample size was very small ($n=20$) for the latter comparison. At best, it seems that the results are mixed, and while most studies seem to favor the academic performance of children from traditional families, the effect sizes are small. Many of the studies are confounded by pre-existing differences or recent changes in family structure between the groups of families that tend to obscure the causal role, if any, of parental sexual orientation. However, Sarantakos's finding of better academic performance by children of heterosexual parents, despite greater socioeconomic status for same-sex parents, agrees with some more recent reports.

Drug and alcohol use.—Although Wainright and Patterson (2006), using data on adolescents from the National Longitudinal Study of Adolescent Health (ADD HEALTH), reported no significant differences in substance use, an outcome that Patterson (2013, p. 31) and Bos (2013, p. 26) recently reaffirmed, effect sizes were consistently in one direction, a pattern that should be noted. Nine different measures of alcohol and drug use were assessed; on eight of those, 44 children of same-sex mothers scored higher than 44 children of heterosexual parents, with respect to frequency of binge drinking ($d=0.27$), problems related to alcohol use ($d=0.26$), having sex under the influence of alcohol or drugs ($d=0.26$), risky use of alcohol and drugs ($d=0.24$), frequency of getting drunk ($d=0.17$), marijuana use ($d=0.15$), and tobacco use ($d=0.05$). Scores were tied on alcohol use and nearly tied on number of three best friends who smoke. Despite the lack of statistical significance, related to the small sample size, at least four of the dif-

ferences were small to medium. Furthermore, if there truly were no differences, results should be split 50/50 positive/negative; here, Wainright and Patterson (2006) found no results on the positive side for the children of the same-sex parents (Schumm & Crow, 2010). Again, it is important to remember that the independent variable was weak, because there could have been as many as 27 non-lesbian families (Sullins, 2015c) included in the 44 so-called lesbian families, recalling Patterson's (2009) use of only 18 of the 44 couples in later analyses. If the groups were more clearly defined, it is possible that the results might have been stronger. Even so, some of the effect sizes were small to moderate in magnitude, regardless of their statistical significance.

Marquardt, Glenn, and Clark (2010) found a trend for donor-inseminated children of lesbian parents to report substance abuse problems more often (21.1%, 8 of 38) than biological children of heterosexual parents (11.0%, 62 of 563; $p < .07$, two-sided Fisher's exact test, $d = 0.15$). In her study of daughters of gay and heterosexual fathers, Sirota (1997) found a significant ($p < .001$, $d = 0.68$) difference of 44% vs 15% in drug use (Schumm, 2008, p. 290).

Another major study corroborating Sarantakos's research on drug use was by Goldberg, *et al.* (2011) who studied 17-year-old children of lesbian mothers matched with children of heterosexual parents. The lesbian families were from the U.S. National Longitudinal Lesbian Family Study. Goldberg, *et al.* concluded that "Compared to matched adolescents from a national probability sample, adolescents with same-sex parents were more likely to report occasional substance use but not more likely to report heavy use" (p. 1231). Unlike some studies in which lesbian mothers conceived their children in previous heterosexual relationships, all of these children were planned pregnancies of lesbian mothers, eliminating the issue of heterosexual divorce during the child's lifetime. To simplify reporting their results, results from sons and daughters of both groups are combined. In terms of ever having used tobacco, 27% of the lesbian mothers' children reported use compared to 14% of the heterosexual parents' children (OR = 2.24, 95%CI = 1.00, 5.05, $p = .05$, $d = 0.32$). Results for alcohol use were 80% vs 50% (OR = 4.07, 95%CI = 1.98, 8.34, $p < .001$, $d = 0.67$). Results for smoking marijuana or hashish were 60% vs. 21% (OR = 5.88, 95%CI = 2.88, 11.98, $p < .001$, $d = 0.89$). Results for using lysergic acid diethylamide (LSD), 3,4-methylenedioxy-amphetamine (MDA), mushrooms, peyote, or other hallucinogens were 21% vs 8% (OR = 3.10, 95%CI = 1.14, 8.40, $p < .05$, $d = 0.38$). Results for cocaine use by all children were 13% vs 6% (OR = 2.13, $p < .18$, $d = 0.22$), but use by daughters was different, 15% vs 6% (OR = 6.91, 95%CI = 0.79-60.4, $p < .09$, $d = 0.46$) from sons (both groups at 10%). There were no differences in use of barbiturates without a prescription or use of tranquilizers without a prescription. Overall, though, using Amato's (2012) criteria, effect sizes ranged from moderate (to-

bacco) to large (LSD, cocaine for daughters) to very large (marijuana or hashish, alcohol). Manning, *et al.* (2014) argued that there were no differences in moderate-heavy use of drugs in Goldberg, *et al.* (2011); however, results for moderate to heavy use were *not* reported by Goldberg, *et al.* (2011) for LSD, cocaine, barbiturates, or tranquilizers. Monthly to daily use was higher for daughters of lesbian mothers (tobacco, 18% vs. 5%; marijuana, 31% vs 15%; alcohol, 54% vs 46%) while results for sons were less different, except for marijuana (32% vs 25%). If marijuana or hashish use is coded from 0 to 3 for never to daily and mean scores are compared for all children, the mean scores for children of lesbian mothers are higher (0.99, $SD = 0.99$) than for children of heterosexual parents (0.47, $SD = 0.96$) and significantly ($p = .001$) different with $t_{152} = 3.26$ ($d = 0.53$). Considerable evidence has to be dismissed in order to conclude that moderate to heavy use of drugs is not an issue in Goldberg, *et al.* (2011). Again, similar to Sarantakos's research with respect to drug and alcohol use, there are other studies, including Sirota's research (Schumm, 2008) and Goldberg, *et al.* (2011), with results showing more substance use by children of same-sex parents. There was also at least one study that did *not* find an association between same-sex parenting and children's use of drugs, a small study from England involving 20 families headed by lesbian mothers and 63 headed by heterosexual families (Golombok & Badger, 2010). However, using studies from the USA (Sirota, 1997; Marquardt, *et al.*, 2010, & Goldberg, *et al.*, 2011) in a meta-analysis, the summary odds ratio was 3.05 (95%CI = 2.26, 4.11, $z = 7.34$, $p < .001$), including all seven of Goldberg, *et al.* (2011) outcomes. Using only one of Goldberg's outcomes (marijuana or hashish use) to reduce any concerns about non-independence of their seven outcomes along with the other two studies, the summary odds ratio was 4.04 (95%CI = 2.57, 6.34, $z = 6.06$, $p < .001$). Both meta-analyses indicate a significant and substantial relationship between type of family and use of problem substances.

Regnerus (2012a, 2012b) reported higher, though not always statistically significantly higher, rates of marijuana use, smoking, and drinking to get drunk among children of same-sex parents than among children of stable heterosexual parents.⁷ Schumm, *et al.* (2014) found that adult offspring of intact biological families were less likely to smoke ($d = 0.63$, $p < .05$), less likely to have used marijuana in the past year ($d = 0.54$, $p < .05$), and scored lower on a drug use scale ($d = 0.47$, $p < .05$) than adult offspring from the most stable lesbian families in

⁷Regnerus's (2012a, 2012b, 2012c) research has been the subject of extensive criticism, detailed elsewhere (Schumm, 2013; Herek, 2014; Allen, 2015; Cheng & Powell, 2015, p. 279). He defined "same-sex" based on adults who reported that their parent(s) had been involved in a same-sex romantic relationship for some time before they had been 18 years old, regardless of whether or not both "same-sex" parents had lived together or had lived with the child, a measurement approach of considerable controversy.

the NFSS, but differences between heterosexual step-families and the most stable lesbian families were small ($0.11 < d < 0.30$) and not significant. Greenan and Tunnell (2006) explained that recreational drug use is a behavioral norm within the gay community (p. 225), an issue that same-sex parents may have to deal with because such drug use may be “destructive to individuals and very destabilizing to families” (p. 230).

In summary, the preponderance of evidence, at least from studies conducted with residents of the United States, appears to indicate somewhat higher drug and alcohol use among children of LGB parents, compared to that among children of heterosexual parents. The effect sizes involved are probably in the small-to-medium range, however, and were not always significant statistically. There might be differences in outcomes, depending on the social acceptance of various drugs, with the use of alcohol and marijuana being more accepted than the use of drugs such as heroin, cocaine, or LSD. The possibility of congruence in parent-child sexual orientation as a predictive factor remains (Schumm, *et al.*, 2014); i.e., the sexual orientation of the parent or the child may not matter as much as whether the parent's and child's sexual orientations are congruent. A child whose parent has a different sexual orientation may try to medicate feelings of alienation with “acceptable means” that include alcohol and some drugs. Manning, *et al.* (2014) indicated that their “balanced review of the current social science literature” (p. 486) found that even for substance abuse, “children raised in same-sex parent families fare just as well as children raised in different-sex parent families” (p. 486). In discussing drug abuse, Manning, *et al.* (2014) cited Wainright and Patterson (2006) and Goldberg, *et al.* (2011) but minimized the importance of the latter study, stating that “adolescents from same-sex parent families have higher levels of occasional substance use, but similar levels of heavy substance use” (p. 494) compared to a matched group of adolescents from a national U.S. sample.

Sexual deviance.—Parental non-monogamy (discussed below) may set the stage for more atypical adolescent sexual behaviors. Tasker and Golombok (1997) found in their British research (in which 24% of the lesbian mothers had been involved with five or more sexual partners as their child was growing up) that daughters of lesbians, compared to daughters of heterosexual mothers, were more likely to have had unstable or multiple cohabitations with sexual partners (p. 131), have more than one sexual partner after puberty (p. 127), and to have cohabited with sexual partners after knowing them for less than 6 months (p. 131; Schumm, 2011, pp. 110–111). Also, more of the daughters of lesbian mothers had experienced between 5 and 19 sexual partners of either gender (p. 127). However, Gartrell, *et al.* (2011) found far fewer differences in sexuality as a function of parental sexual orientation, while Sullins (2015c) found lower

rates of adolescent sexual intercourse among children of same-sex parents compared to children of heterosexual parents. Aside from parental sexual orientation, it is possible that parental sexual pluralism (regardless of sexual orientation) may influence their children's later sexual values and/or behaviors.

Gender identity.—In a study of 16 lesbian families from Canada, Dundas and Kaufman (2000) found that one son of the lesbian parents “thought it would be better to be a girl” (p. 76) and “a couple of the children thought that there was no difference in male and female gender roles” (p. 76). Goldberg and Allen (2013) interviewed 11 young adults, ages 19 to 29 years, who had lesbian mothers and donor fathers, from a larger data set ($N < 50$). Of these, one self-defined as gender-queer (p. 341). Kuvallanka (2013, p. 170) reported preliminary results from her study of 30 lesbian, gay, bisexual, transgender, or gender-queer (LGBTQ) children of LGBTQ parents; of those 30 children, eight (26.7%) identified their gender as something other than male or female. Thus, in recent years there have been several cases in the literature where the children of LGBTQ parents appear to have developed a sense of gender identity somewhat independent of their actual physical gender. A recent book (Green & Friedman, 2013) illustrates the parenting practices of a growing number of LGBTQ parents who deliberately avoid telling their children if they are boys or girls, leaving that to their own decision as adults, a process called children's gender self-determination. As the editors stated, they want child-rearing to foster “a space where children are free to explore and experiment with their gender” (Green & Friedman, 2013, p. 4), although this represents a “deeply radical cultural shift” (p. 5). Differences in gender identity (or roles) among children of non-heterosexual parents may thus reflect conscious training and role modeling by their parents in some same-sex families. There may not be enough research to confirm Sarantakos's findings with respect to gender identity, but there is research that seems to fit his findings to some extent. Among their survey of 475 high school seniors, Rieger and Savin-Williams (2012) did report that “Both childhood and adolescent gender non-conformity were negatively related to well-being” (p. 611) even though gender and sexual orientation were not significant. In a study of 399 Canadians, Vanderlaan, Gothreau, Bartlett, and Vasey (2011) found higher rates of childhood cross-sex identity scores (from recall of experience) of homosexual men and women compared to heterosexual men and women ($0.38 < ES < 0.74$) and higher rates of recalled gender-atypical childhood behavior ($0.91 < ES < 1.17$), results that may suggest a link between parental and child gender identity issues. With respect to gender roles as a function of parental sexual orientation, the reader is referred to Schumm (in press) where the issue of gender roles is examined in more detail than space allows here.

Sexual orientation.—Often overlooked has been a study by Sirota (1997, 2009), discussed in Schumm (2008) and Cameron (2009), in which the daughters of 68 heterosexual fathers were contrasted in terms of several variables with the daughters of 68 gay fathers. Sirota (1997) reported substantial differences with respect to daughters' sexual orientation ($OR=17.0, p<.001$) as well as questioning their own sexual orientation ($OR=12.1, p<.001$; Schumm, 2008, 2010b). Schumm (2008, p. 289) demonstrated that a difference in parental divorce rates was not a likely factor for explaining Sirota's findings. Schumm (2010c, 2013) also found further evidence against the null hypothesis regarding child's sexual orientation with respect to lesbian or gay parenting, a result confirmed in subsequent research (Gartrell, *et al.*, 2011), although such research findings have not prevented some scholars (Johnston, Moore, & Judd, 2010) from continuing to describe such ideas as a "myth" (p. 316). Sullins (2015c) in his re-analysis of ADD HEALTH data used by Wainright, *et al.* (2004) found, with various statistical adjustments for sample weights, that children of married same-sex parents (19%) or unmarried same-sex parents (23%) tended to more often report same-sex attraction than did children of married heterosexual parents (5.5%) or unmarried heterosexual parents (7.5%), though the differences did not reach statistical significance except for the difference between married and unmarried heterosexual parents.

Corroboration of Sarantakos's Results for Same-sex Parents

The outcomes for children may have been influenced by their parents' values, role modeling, behaviors, or teaching. This section considers how same-sex parents might differ from heterosexual parents in ways that might lead to different outcomes for children (Table 3 presents a summary of these studies).

Parental values.—Sarantakos (1996a) found that same-sex parents gave their children a great deal of autonomy. Biblarz and Stacey (2010) concluded from their literature review that lesbian parents had greater "respect for children's autonomy" (p. 7). In contrast, Wald (2006) noted that children might do better with parents who "provide more monitoring and supervision of children's activities and behaviors" (p. 403). In other words, it might be that the parents were not doing as effective a job of teaching self-regulation to their children (Baumeister & Tierney, 2011), especially if they are not supported by religion (McCullough & Willoughby, 2009; Koole, McCullough, Kuhl, & Roelofsma, 2010). Kurdek and Schmitt (1988) found that gay men who had high scores on autonomy had partner relationships of shorter duration (p. 205, $ES=0.90$), so autonomy values may not translate into better parenting situations.

Bos, van Balen, and van den Boom (2004, p. 758; 2007, p. 40) developed a 23-item scale to measure pa-

rental goals for child-rearing, "qualities that are valued as important in our society," which they used in a study of 100 lesbian and 100 heterosexual families. One of the 23 items for which they provided as an example was "self-control," a term labeled "self-regulation" by many psychologists (Baumeister & Tierney, 2011, p. 9). Although the families were compared on a number of issues, the largest and most significant differences ($ES=0.55, p<.001$ for biological mothers; $ES=0.40, p<.01$ for fathers and social mothers, nonbiological lesbian stepmothers) of the 11 outcomes assessed occurred for that scale. While some may see a child learning "self-control" rather than indulgence as an "emphasis on social conformity in children" (Biblarz & Stacey, 2010, p. 7), recent research (Baumeister & Tierney, 2011) highlights such outcomes as essential for effective child socialization. A recent study (Moffitt, Arseneault, Belsky, Dickson, Hancox, Harrington, *et al.*, 2011) of adults assessed on self-control as children indicated that better self-control in childhood predicted positive outcomes in adulthood in terms of fewer criminal convictions, fewer financial problems, less chance of becoming a single parent, better physical health, and less substance abuse. The Dutch heterosexual parents were also significantly higher on structure and limit setting in the Bos, *et al.* (2007) report (biological mothers vs lesbian mothers, $ES=0.46, p<.05$; social mothers vs heterosexual fathers, $ES=0.37, p<.001$). Biblarz and Stacey (2010) also cited MacCallum and Golombok (2004) for providing evidence on "disciplinary control"; however, that study found that heterosexual mothers in two-parent families exercised less disciplinary "aggression" than did lesbian mothers ($ES=0.23$) and that children rated the quality of heterosexual maternal discipline higher ($ES=0.64$). Thus, there is corroborating evidence for Sarantakos's (1996a) research that lesbian parents may value positive child outcomes such as self-control less than heterosexual parents (favoring autonomy more) and may be less involved in providing limit setting and structure for their children, approaches to parenting that may have long-term adverse consequences for their children if the results found by Moffitt, *et al.* (2011) carry over to same-sex parenting.

Relationship stability.—Relationship stability is a sensitive topic among gay and lesbian research participants; among the 167 respondents surveyed by Johnston, *et al.* (2010), only 10 (6.0%) answered the question, "How long have you been in your current relationship?" (p. 318). Wald (2006) argued that gays or lesbians without children might have less stable relationships, absent the opportunity for marriage or civil unions. Biblarz and Stacey (2010, pp. 11–12) cited MacCallum and Golombok (2004) for tentative evidence that lesbian parents had less stable relationships than heterosexual parents. Schumm (2010d) reviewed several studies (Kivalanka & Goldberg, 2009), some of which were longitudinal (Brewaeys, *et al.*, 1997; Golombok, *et al.*, 1997;

TABLE 3
Parental Variables Associated With Parental Sexual Orientation That Corroborate Sarantakos's Research and May Mediate Associations Between Parental Sexual Orientation and Child Outcomes

Outcome	Study	Result	Effect Size	Methodology/Limitation
Parental values: autonomy or self control for child	Sarantakos (1996a)	Same-sex parents gave their children more autonomy	Not specified	Statistics not provided
	Bos, <i>et al.</i> (2007)	Parental goals for child-rearing, including "self-control" by the child as a goal	0.40–0.55*	Results not provided on each item in the 23-item scale for parental goals
		Providing the child structure and limit-setting	0.37–0.46*	
	MacCallum & Golombok (2004)	Disciplinary aggression	0.24	Comparing two-parent heterosexual family children to children of lesbian mothers
		Quality of maternal discipline (child interview)	0.66*	
Parental values: gender identity of parent, gender and sexual orientation preferences for child	Sarantakos (1998a)	Approximately half of his gay/lesbian participants (most of whom were parents) felt they were a different gender inside than their outward appearance		Small sample size
	Schumm (2010c, 2013, n.d.)	Sexual orientation: Same-sex parents more likely to express "no preference" for their children's sexual orientation identity and to encourage experimentation with same-sex sexual behavior	Estimated 32.2% in 2013	Review of literature
	Green & Friedman (2013)	Gender identity: Authors recommend that parents not tell their children if they are male or female, to allow them to decide when they grow up		Only anecdotal evidence
Same-sex couple relationship stability	Sarantakos (1996b)	Same-sex couples breaking up with three or more partners in past 5 yr.; only 19% had not broken up with anyone in the past 5 yr.; 50% of lesbians and 66% of men agreed that their cohabitations were based on "freedom rather than commitment"	66% of men 63% of lesbians	7% had broken up with six or more partners in the past 5 yr.; in a 10-yr. study, Sarantakos (1997) found 68% instability among cohabiting heterosexual couples and 23% for married heterosexual couples
	Brewaeyns, Ponjaert, Van Hall, & Golombok (1997)	By age 5 yr. of a child, 10% of lesbian parents had broken up compared to 4% of heterosexual parents	OR=3.26	Small sample sizes, results not significant statistically despite strong odds ratio
	Golombok, <i>et al.</i> (1997)	33% of lesbian parents had broken up by age 6 yr. of their child		Small sample, no heterosexual comparison group
	Tasker & Golombok (1997)	Up to 75% of lesbian mothers broke up with partners before child reached adulthood		Small sample, no comparison group of heterosexual couples
	Patterson (2001)	13% of lesbian mothers had separated since birth of child, child now age 6 yr.		No heterosexual comparison group
	VanFraussen, <i>et al.</i> (2002)	25% of lesbian couples broke up between ages 5 and 10 yr. of focal child		Heterosexual comparison group was <i>chosen</i> to replicate the same 25% instability rate
	Fulcher, Chan, Raboy, & Patterson (2002); Chan, Brooks, Raboy, & Patterson (1998)	By age 7 yr. of the child, 39% of lesbian mothers vs 6% of heterosexual parents had broken up	OR=10.1*	Small sample sizes
	Stevens, Perry, Burston, Golombok, & Golding (2003)	Of lesbian mothers by donor insemination, 40% had separated by age 7 yr. of their child; of lesbian mothers with child from previous heterosexual relationship, 61% had separated over an average of 4 years		Small sample, results for heterosexuals not reported

(continued on next page)

* $p < .05$.

TABLE 3 (CONT'D)
 Parental Variables Associated With Parental Sexual Orientation That Corroborate Sarantakos's Research and
 May Mediate Associations Between Parental Sexual Orientation and Child Outcomes

Outcome	Study	Result	Effect Size	Methodology/Limitation
	MacCallum & Golombok (2004)	43% of lesbian couples vs 13% of heterosexual couples broke up over six years, child between age 6 and 12	OR=4.95*	Small sample sizes, non-random samples
	Bos, Gartrell, van Balen, Peyser, & Sandfort (2008)	48% of lesbian mothers vs 30% of heterosexual sister mothers had broken up over ten years	OR=2.17*	
	Kuvalanka & Goldberg (2009)	Of 17 lesbian parent couples, 53% did not keep same partner throughout child's development to adolescence		Small sample, no heterosexual comparison group
	Gartrell & Bos (2010)	After 17 yr. since birth of child by donor insemination, 56% of lesbian parents had broken up		Small sample, no comparison group of heterosexual mothers provided
	Rosenfeld (2010) Potter (2012); Allen (2013, 2014); Allen <i>et al.</i> (2013)	Instability rates, often assessed indirectly by home ownership or residential mobility; Generally higher rates of instability for same-sex parents		Exact rates not always reported
Relationship conflict	Sarantakos (1996b)	Moderate to serious conflicts in current relationship	27% of gay men 31% of lesbians	No comparative rates for heterosexuals provided
	Schumm (2013)	Levels of relationship conflict; review of literature finds a few studies with higher rates for same-sex couples		Wide variation in research results
Sexual non-monogamy	Sarantakos (1998a)	Intentional monogamy in current relationship	10% of gay men 17% of lesbians	No comparative rates for heterosexuals provided
	Kurdek & Schmitt (1988); Gartrell, <i>et al.</i> (2006); Tasker & Golombok (1997); Green (2010)	Nonmonogamy appears to help stabilize same-sex relationships, contrary to its effect on heterosexual relationships		Some evidence is anecdotal; children of same-sex parents may model less monogamous behavior, although such differences may be less in more recent studies (Gartrell, <i>et al.</i> , 2011; Sullins, 2015c)
	Bigner & Jacobsen (1989)	Heterosexual fathers were more likely than gay fathers to agree that being married or having children would reduce non-monogamous behavior of parents	0.65*	Nonrandom samples
	Solomon, Rothblum, & Balsam (2005)	Having had sex outside current civil union	For gay men, 58 vs 15% for married heterosexual men*	No comparison group of cohabiting heterosexual men
Moral values	Sarantakos (1984)	Levels of religious behavior; 73% of married couples vs 33% of heterosexual cohabiting couples	0.88*	No comparative rates for gay men or lesbians
		Levels of religious belief; 94% vs 51% for heterosexual married vs cohabiting couples	1.10*	No comparative rates for gay men or lesbians
	Solomon, Rothblum, & Balsam (2004)	Levels of religious attendance	Gay men: 0.23*–0.41* Lesbians: 0.36*–0.38*	
		Importance attached to religion	Gay men: 0.26 ($p < .06$)–0.46* Lesbians: 0.28*–0.33*	
	Kurdek (2006)	Same-sex study participants far less likely than heterosexuals to rate moral values as a reason to relationship commitment or stability	>0.78	

* $p < .05$.

Tasker & Golombok, 1997; Chan, *et al.*, 1998; Patterson, 2001; Fulcher, *et al.*, 2002; VanFraussen, *et al.*, 2002; Stevens, *et al.*, 2003), in addition to MacCallum and Golombok (2004), and found that heterosexual mothers were more likely to have stable partner relationships than were lesbian mothers, although lesbians and women *without* children have similar relationship stability. Gartrell and Bos (2010, p. 30) reported that 56% of their lesbian couples had separated after 17 years, which in an earlier study (Bos, Gartrell, van Balen, Peyser, & Sandfort, 2008) appeared to reflect a higher rate than for their biological but heterosexual sisters. Furthermore, it appears that the effect size associated with lesbian couple's relationship instability and psychological outcomes in Gartrell and Bos (2010) was medium ($p < .09$), as effects that were not significant at $ps = .11$ and $.07$ were associated with an effect size of 0.49. Thus, not only do lesbian couples appear to be less stable than heterosexual couples, there is some evidence (with a medium effect size) that such instability affects the mental health of children. Potter (2012), with data from a national U.S. random sample, found much higher rates of relationship instability for same-sex parents between the birth of a child and the child reaching eighth grade. Rosenfeld (2014) also found higher rates of instability for same-sex than for heterosexual couples, and greater instability for lesbian versus gay male couples, over 4 years of his longitudinal study, although he argued that marital status could explain these differences. Bos, van Gelderen, and Gartrell (2015) reported instability rates of at least 18.2% (15/82) over 10 years for lesbian couples, but if non-respondents included couples who had separated, instability rates could have been as high as 33% [(18 + 15)/100] over 10 years. Sullins's (2015c) reanalysis of Wainright, *et al.* (2004) found a much higher rate of caretaker transitions in the past for children of married (88%) or unmarried (83%) same-sex parents ($N = 20$) than for children of unmarried (45%) or married (18.5%) heterosexual parents. He also found that the percentages of the children who had, in later ADD HEALTH waves, divorced or cohabited without marriage by ages 19–25 years were higher for children of married same-sex parents (58%) than for married heterosexual parents (36%), raising the possibility of modeling effects of parental instability, despite parental marriage, on their children. However, results were reversed, though the difference was smaller, for unmarried parents since the children of same-sex unmarried parents (35%) had lower rates than the children of heterosexual unmarried parents (48%). Space does not permit a full assessment of parental instability here, but it has been discussed elsewhere (Schumm, *et al.*, 2014).

In summary, with respect to relationship stability, cohabiting lesbian couples, at least those with children, appear to experience higher rates of instability than cohabiting heterosexual or married heterosexual couples with

children. The same social constraints that may operate to stabilize heterosexual relationships may be minimized among gay and lesbian couples; in fact, for gay male couples, sexual exclusiveness may detract from relationship stability (see below). Nevertheless, relationship turnover may jeopardize children's mental health outcomes, even when the parents are not legally married.

Relationship conflict.—Recent research appears to have confirmed Sarantakos's (1996c) findings with respect to relationship conflict. Research has suggested that rates of interpersonal violence within same-sex couples are equivalent to (Turell, 2000; Fortunata & Kohn, 2003; McClennen, 2005; Brown, 2008; Murray & Mobley, 2009; Little & Terrance, 2010; Walters, 2011) or perhaps greater (Craft, Serovich, McKenry, & Lim, 2008; Kelly, Iziemicki, Bimbi, & Parsons, 2011) than those for heterosexual couples; some research (Craft & Serovich, 2005) has reported high rates of interpersonal violence among same-sex couples without making comparisons to heterosexual couples or has reported mixed results (Irwin, 2008; Sorenson & Thomas, 2009; Stevens, Korchmaros, & Miller, 2010). Some have called for more research on the prevalence of interpersonal violence among gays and lesbians (Barner & Carney, 2011). Despite such variety of opinion, Klostermann, Kelley, Milletich, and Mignone (2011) have argued that most research has found higher rates of interpersonal violence among homosexual couples. Kay and Jeffries (2010) reported higher rates of interpersonal violence especially for gay male couples; other studies have found higher rates of violence among same-sex couples, as reviewed in more detail elsewhere (Schumm, 2013, pp. 323–326). Perhaps the most important of those studies is by Walters, Chen, and Breiding (2013), a random U.S. national survey that found higher rates of interpersonal violence for LGB persons, especially for bisexuals. Scholarly consensus may be right in the assumption that intense parental conflicts are harmful to children; research suggests greater rates of interpersonal violence among non-heterosexual partners, which might also include parents in many cases.

Sexual non-monogamy.—Wald (2006) acknowledged that “There is evidence that gay men generally are likely to have more sexual partners than heterosexual men; this is true, even for men in committed relationships. This is not true for lesbians. But none of this research looks at couples with children” (p. 405). Gay men appear to be less monogamous and sexually exclusive than heterosexuals or lesbians. It appears that “non-monogamy is often an accepted part of gay men's culture” (Solomon, *et al.*, 2005, p. 563), part of the “norms of the gay male community” with up to 82% of gay males having engaged in extradyadic sex (Peplau & Fingerhut, 2007, p. 409–410). Peplau, Fingerhut, and Beals (2004) have stated that “A distinctive feature of contemporary gay men's relationships is the tendency to form sexually open (nonmonogamous) relationships,” “Sexual exclusivity is by no

means the norm among contemporary gay couples" (p. 356), and that "sexual openness is the norm for most gay male relationships" (p. 366). It appears to be rare for gay couples to maintain a long-term sexually exclusive relationship, as Peplau, *et al.* noted when discussing research on this issue, "...100% of those couples who had been together 5 years or longer had engaged in extradyadic sexual relations" (p. 357). Bettinger (2006) has highlighted the non-monogamy or polyamory of gay male couples as well, while Redding (2008) concluded that "there seems to be little dispute in the research literature that the rates of nonmonogamy in gay and lesbian relationships are higher than in heterosexual unmarried partnerships" and "that gay men have on average a substantially greater number of sexual partners over their lifetime than do heterosexuals" (p. 163). Kurdek (1991) concluded that "Perhaps the most salient difference between homosexual and heterosexual couples revealed by previous studies is that homosexual men—especially gay partners—often engage in sex outside of the relationship with each other's knowledge" (p. 187). Kurdek and Schmitt (1988) found in their study of gay men that 54% "had had sex outside their primary relationship during the past two months" (p. 207) with that having occurred for 80% of gay men with low attachment. Shernoff (2006, p. 408) cites Johnson and Keren (1996) as stating that "Monogamy seems to be hardwired into spoken and culturally sanctioned norms for heterosexual relationships. The gay community's normative acceptance of casual sex, anonymous sex, and non-monogamy in couple relationships represents a dramatic departure from heterocentric norms and values" (pp. 238–239). When Solomon, *et al.* (2005) compared non-monogamy among same-sex and heterosexual couples, they found that women's reports were similar but that gay men in civil unions were more likely to have had sex outside their primary relationship (58 vs 15%) than were heterosexual married men.

Gartrell, Rodas, Deck, Peyser, and Banks (2006, p. 183) indicated that among the nearly half of their lesbian mothers who had separated, some children has been exposed to as many as six of their mother's new sexual partners in less than 10 years. Tasker and Golombok (1997) appeared to find (based on this author's calculations) that 24% of their lesbian mothers had five or more sexual partners over the 15 years of their longitudinal study. Kurdek and Schmitt (1988) found that sexually open gay male couples were more likely to have relationships that had lasted at least 5 years (47%, $n=17$) than sexually closed gay male couples (20%, $n=49$; $OR=3.47$, $95\%CI=1.07, 11.3$, $p<.05$, $ES=0.54$). Accordingly, Peplau (1988) argued that "for homosexuals, perhaps especially for gay men, a desire for sexual exclusivity may actually inhibit the development of a long-term relationship" (p. 36) and that "sexual openness may be more compatible with enduring homosexual commitments" (p. 37).

In terms of non-monogamy, there may be qualitative aspects of some same-sex relationships that are substantively different from heterosexual relationships in ways that might detract from stability. For example, Green (2010) studied 15 married gay men and 15 married lesbians from two cities in Canada and reported that 40% of the lesbian and 60% of the gay male spouses did "... not believe that marriage need always be monogamous. What is more, nearly half of male same-sex spouses (47%) report an explicit policy of non-monogamous practice, as did one female same-sex spouse" (p. 417). Green also noted that in his study "of those with explicitly monogamous marriages (73%), half of these latter respondents believe that it is acceptable for marriages to be non-monogamous (roughly equal by gender), while over one-fifth (22% monogamous males, 9% monogamous females) remain open to the possibility that their own marriages may one day become non-monogamous" (p. 418). Furthermore, some of his couples (at least one gay and one lesbian) not only were non-monogamous or open to non-monogamy but stated that getting married provided the security needed to make non-monogamy feasible, "Conversely, perhaps counterintuitively, some couples remain monogamous *until* they are married. For example, Karl and his spouse find that marriage creates a level of dyadic commitment that makes possible sexual exploration outside the dyad" (Green, 2010, p. 418). Because same-sex couples cannot accidentally incur a pregnancy during a sexual affair, there may be a sense of reduced barriers or "complications" from sexual affairs, as well as less risk of public exposure.

Wald (2006) argued that the presence of children altered the extramarital sexual behavior of heterosexual men and that marriage, if available, would alter such behavior among gay fathers (p. 406). However, Bigner and Jacobsen (1989) found that heterosexual fathers were more likely ($ES=0.65$, $p=.01$, p. 168) to agree that having a child would reduce extradyadic sexual activity than were gay fathers, suggesting perhaps that being married or having children would not reduce extradyadic sexual activity as much as suggested by Wald (2006).

Parental preferences for children's gender identity or sexual orientation.—There is little evidence on how same-sex parents might influence the gender identity of their children, but Green and Friedman (2013) recently published a book on how same-sex, if not all, parents should not determine the gender of their children but allow their children to be who they want to be, regardless of their actual genetic or physiological sex. Parents can have a powerful influence over children, possibly even in the area of how they might seem to choose their own gender identity. With respect to parental influence on children's sexual orientation, Schumm (2010c, 2013, n.d.) has reported a combination of anecdotal evidence and statistical evidence indicating that many same-sex parents either have no preference for the eventual sex-

ual orientation of their children (in contrast to heterosexual parents who almost always prefer that their children be heterosexual) or encourage their children to experiment with same-sex sexual behavior. An alternative way to look at this issue is to suggest that heterosexual parents try to suppress the same-sex sexual orientations of their children while same-sex parents allow their children the freedom to become who they are in terms of sexual orientation. Schumm (in press) presents more detailed information on studies in which same-sex parents reported their own preferences for the future sexual orientations of their children.

Religiosity or moral values.—Lower rates of stability among some same-sex couples might be related to an interesting finding by Kurdek (2006, p. 531). In a study of 66 gay male, 104 lesbian, and 144 heterosexual couples, he found that all of the 170 non-heterosexual participants scored *zero* on moral values as a deterrent for relationship instability, compared to that deterrent being important ($p < .01$) for many of the heterosexual participants ($ES > 0.78$). Family and children were also cited far more frequently ($p < .01$) by heterosexuals as deterrents ($ES > 1.22$, gay males; $ES > 0.76$, lesbians). Comparing heterosexuals, Sarantakos (1984, p. 98) found that 94% of married couples were committed to each other, compared to 62% of cohabitants ($OR = 9.60$, $95\%CI = 3.83, 24.1$, $p < .001$, $ES = 0.84$). He also found (1984, p. 105) that married couples felt more secure (91%) than cohabitants (43%) in their relationship ($OR = 13.4$, $95\%CI = 6.08, 29.56$, $p < .001$, $ES = 1.19$). Solomon, *et al.* (2004) in their study of same-sex couples who had obtained legal unions in Vermont and their heterosexual siblings who had married found that same-sex partners tended to have lower levels of religious involvement and to attach less importance to religion than heterosexual partners (Table 3). Thus, there are some indications that moral views may make a difference in the commitment to and stability of various dyadic relationships.

Are Sarantakos's Findings Unusual?

Patterson (2005) and Herek (2010) seemed to argue that Sarantakos (1996a) was alone in finding evidence that child outcomes are different for children of heterosexual parents versus homosexual parents. Wald (2006) seemed to think so as well, making the case that it would take only “a small number of studies finding harm” (p. 408) to meet the burden of proof to support traditional views of parenting by gay or lesbian parents. If Sarantakos's (1996a) research findings were statistical outliers or anomalies, perhaps due to the samples being from Australia and New Zealand, then perhaps it would be appropriate to ignore them. However, in the above detailed discussion, it is clear that Sarantakos's (1996a, 1996c, 1998d) findings are similar to others in the literature. There have been several other studies

showing substantial differences in, and possible harm to, children of gay, lesbian, or bisexual parents. These studies have outcomes potentially more worrisome than those discussed previously in this report.

Sirota (1997, 2009) also reported that “Women with gay or bisexual fathers were significantly less comfortable with closeness and intimacy ($t = 5.26$, $p = .0001$), less able to trust and depend on others ($t = 6.62$, $p = .0001$), and experienced more anxiety in relationships ($t = 4.37$, $p = .0001$)” (p. 289). Schumm (2010b) noted that the effect sizes associated with those outcomes were substantial at -0.90 , 1.14 , and 0.75 , respectively. Again, prior divorce rates did not explain the differences.

Another study mentioned by Patterson (2005) but interpreted in favor of the null hypothesis was Puryear's (1983) dissertation. As noted later (Schumm, 2008, p. 288), Puryear actually found substantial differences in family member drawings by children of lesbian versus heterosexual parents with odds ratios from 4.13 to 24.00 ($0.72 < ES < 1.90$) for joint or cooperative activities having been depicted more frequently among heterosexual families, as well as a non-significant medium effect size of 0.56 in favor of higher self-esteem among boys from heterosexual families. For example, 67% of the children of single-parent heterosexual mothers drew a family picture featuring a cooperative mother, compared to only 20% of the children of lesbian mothers ($OR = 8.00$, $p < .01$, $d = 1.07$). The drawings may be proxy measures of family cohesion, found by Sarantakos (1997) to be strongly associated with juvenile delinquency.

The recent study by Sullins (2015b) based on random U.S. national data (National Health Inventory Survey, NHIS) should not be overlooked; rates of emotional problems were much higher for children from many nontraditional family forms compared to rates for children from married, biological, heterosexual parents. Sullins (2015c) in his re-analysis of Wainright, *et al.* (2004) found a number of adverse results for children of same-sex parents, though those results varied with how the samples were weighted and the variables controlled statistically; perhaps the greatest surprise was that experiencing childhood sexual abuse from a parent was higher for children of married same-sex couples (38%) than for the other three groups (0% to 7%). It may be relevant that the studies that have found the largest adverse associations with gay or lesbian parenting have been research based on child or other adult reports, rather than parental reports. Further associations found between child outcomes and parental sexual orientation are detailed elsewhere (Schumm, n.d.).

The Quality of Sarantakos's Research

To assess the relative quality of Sarantakos' (1996a) research, criteria must be selected. Lerner and Nagai (2001) used the following criteria to judge quality of the quantitative homosexual parenting studies they reviewed,

although their criteria remain useful for any research topic in social science: (A) failure to reject the null hypothesis leads to acceptance of the null hypothesis, (B) was there a heterosexual comparison group, (C) were there controls for extraneous variables, (D) were measures reliable, (E) were the measures used by others, (F) was the sample a probability sample, (G) were inferential statistics used, (H) was the sample size adequate, and (I) was there adequate power? With 58 children in each group (Sarantakos, 1996a), the power would have been 76% for detecting an effect size of $d=0.50$ (Cohen, 1988, p. 37) between the two groups. Remarkably, noting that Amato (2012) cites as large any effect size of 0.60 or greater, from Table 1, 78% of Sarantakos's results achieved that magnitude or more, some as high as 3.75. Sarantakos (1996a) would not have met Criteria D, E, or F but would have met Criteria A (used a valid null hypothesis), B (had a heterosexual control group), C (matched children and adults on key variables), G (did use inferential statistics, although with a non-probability sample), H (sample size of 58 children of heterosexual parents and 58 children of gay or lesbian parents), and I (had 76% power for detecting a medium effect size). Of the 49 studies reviewed by Lerner and Nagai (2001), 28 included statistical comparisons of children or parents on the basis of sexual orientation, as was done by Sarantakos (1996a). Only one (Cameron & Cameron, 1996) of those 28 studies had a larger sample size than Sarantakos (1996a).⁸ All of the 49 studies reviewed failed to meet three or more of Lerner and Nagai's criteria, ranking the Sarantakos (1996a) study among the best of the total group for quality research on this topic published through 1997. Among the 13 studies on same-sex parenting published since 2001 (Schumm, 2010e), six have had sample sizes smaller than Sarantakos's (1996a), and none had samples larger than 259.

⁸Cameron's studies are another example of how extremely difficult it is (inter- and intrapersonally) to achieve objectivity on socially contested topics. It is common to see comments about Dr. Paul Cameron like "Stacey and Biblarz (2001) note that Paul Cameron, an opponent of gay fatherhood, was not only denounced by the American Sociological Association, but he was also expelled from the American Psychological Association for willfully misrepresenting research on the punitive effects of gay male parenting on children. Despite the psychological community's condemnation of Cameron's unethical practices, numerous publications and court proceedings have continued to rely upon his research (Stacey & Biblarz, 2001)" (Canning, 2005, pp. 41-42). Stacey and Biblarz (2001) did say, "Even though the American Psychological Association expelled Paul Cameron, and the American Sociological Association denounced him for willfully misrepresenting research ... his publications continue to be cited ..." (p. 161). However, Dr. Cameron questioned Dr. Canning and his committee members on the accuracy of that statement and they had a correction inserted into the dissertation copy on page 119 as follows: "Paul Cameron was not expelled from the American Psychological Association or the American Sociological [sic], nor is there any evidence that he 'willfully misrepresented research'. Toby Canning and his dissertation committee (Malcolm Gray, Bob Jacobs, Cyd Strickland, and Thomas Vail) sincerely regret these inaccuracies. We acknowledge that Dr. Cameron's extensive research on homosexuality and homosexual parents (e.g., 38 articles listed on PubMed) appears in peer-reviewed

Marks (2012) also reviewed the quality of Sarantakos's research and drew several conclusions. Marks observed that Sarantakos (1996a) was one of the largest studies with children of same-sex parents reporting children's developmental outcomes as of 2005. It was one of the most comprehensively triangulated studies (using four data sources—"teachers, tests, observations, and child reports" (Marks, 2012, p. 743)—ever conducted on same-sex parenting. It was also one of only a few studies to ever use three comparison groups of children having married heterosexual, cohabiting heterosexual, and same-sex parents. Marks (2012) also highlighted the quality of Sarantakos's research in his book (2000d), which featured outcomes for adult children of lesbian and gay parents, used multiple comparison groups (including cohabiting heterosexual parents), evaluated several important outcomes, and assessed outcomes for children of gay fathers.

Sarantakos has been criticized for where he published some of his results (i.e., *Children Australia*) and for using teacher reports. It could be countered that an Australian might be expected to publish in Australian journals. Teacher reports are important complements to parent reports, and if the study or teachers were so strongly biased one would not expect the children of same-sex parents to score higher ($ES=0.54$, a medium size effect) on at least one academic topic than the children of heterosexual parents.

*Was Sarantakos biased against LGBT persons, couples, or parents?—*As far as researcher biases go, Sarantakos (1998b, 1999b) published reports on same-sex marriage and appeared to be in favor of its legalization in Australia. Comments in his reports indicate respect for LGBT persons. Sarantakos (1996b) stated that "Still, homosexuals are denied the right to adopt children in many countries (Dullea, 1988), a practice that is a clear case of discrimination" (p. 60) and "Homosexuality is becoming increasingly acceptable, and there is evidence refuting many of the traditional stereotypes about homosexuality and homosexual couples" (p. 62). Therefore, his

journals." Although Paul Cameron's research has been criticized (Herek, 1998; Schumm, 2000), it should not be ignored. As one example of double standards often applied by those holding strong opinions on controversial topics (Redding, 2013), Herek (1998) criticized Cameron's surveys for having only a 20% response rate ("unacceptably low," p. 227) and for using very small subsamples ("too small to permit reliable analysis", p. 231, citing a subsample of five cases used by Cameron) and for including respondents who may not have understood the questions (p. 242); yet today, other scholars (e.g., Lin & Lundquist, 2013; Kreager, Cavanagh, Yen, & Yu, 2014; McClendon, Kuo, & Raley, 2014; McWilliams & Barrett, 2014; Umberson, Thomeer, Kroeger, Lodge, & Xu, 2015) favorably cite research in top-tier journals (Rosenfeld & Thomas, 2012; Rosenfeld, 2014; Weisshaar, 2014) that had only a 13% response rate, had at least one subsample of only four participants (same-sex married persons with a child, less than 1% of the more than 470 same-sex couple participants), and included nearly 100 dead persons as part of "stable" couples. Criticism must be careful and standards equitable for progress to be made.

research does not appear to have been animated by a bias against LGBT persons, couples, or parents.

Conclusion

Like any research, Sarantakos's 1996 study had limitations. Nevertheless, its quality appears comparable or better than much research of the same time period, even better than some that has been done since 2001. He does not appear to have a bias against LGBT persons, couples, or parents. His research found differences between children from same-sex and heterosexual families in terms of academic performance, sexual orientation, sexual or criminal deviance, gender identity, and drug use. His research also highlighted several possible mediating variables between sexual orientation of parents and child outcomes, including parental values (with respect to autonomy and possibly self-regulation), parental relationship stability, family conflict or interpersonal violence, and sexual non-monogamy. The importance of many of those same factors has been supported in subsequent research. It is possible that I could be accused of "confirmation bias" (Ioannidis, 2012), finding research to support Sarantakos, but there are not supposed to be *any* studies done before 2011, other than Sarantakos (1996a), that *could* allow such confirmation (Patterson, 2005; Herek, 2014; Manning, *et al.*, 2014).

Consequently, Sarantakos' research should not be dismissed or disregarded merely because it has been singled out for criticism by a few scholars (Patterson, 2005; Wald, 2006; Redding, 2008; Herek, 2010) who did not recognize much of his other research and did not report the magnitudes of the observed effects, while other scholars (Manning, *et al.*, 2014) simply did not mention his research. Because his results have been replicated in recent research, his findings cannot be attributed to a cohort effect in which adverse outcomes associated with same-sex parenting might have declined in recent decades even if they had been present earlier. Furthermore, there is other recent evidence regarding outcomes not assessed by Sarantakos (e.g., Sullins, 2015b, with respect to emotional problems in children) that has tended to support his rejection of the null hypothesis concerning gay and lesbian parenting outcomes or parenting practices. Sarewitz (2012) stated that "Alarming cracks are starting to penetrate deep into the scientific edifice. They threaten the status of science and its value to society. And they cannot be blamed on the usual suspects— inadequate funding, misconduct, political interference, an illiterate public. Their cause is bias, and the threat they pose goes to the heart of research" (p. 149). While Sarewitz and others (Ioannidis, 2005, 2012) are mainly concerned about false positives and replication failures, the situation with Sarantakos demonstrates another type of bias, the political success of false negatives, in which positive results are overlooked systematically or heavily criticized when reported. A liberal bias in so-

cial science has been observed by many scholars (Duarte, Crawford, Stern, Haidt, Jussim, & Tetlock, *in press*; Schumm, *in press*) but as Allen (2015) has noted, the checks and balances normally associated with rigorous science may have been applied even less often in the same-sex parenting literature than in social science in general, and as a result "the literature is flawed in terms of bias from a number of sources" (p. 158). It is hoped that this review of the work of Sarantakos and related research literature will serve to reduce such bias.

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