

## Replication of Quotation Errors

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The authors of the special article “The effects of marriage, civil union, and domestic partnership laws on the health and well-being of children,” (SA)<sup>1</sup> published in the July 2006 issue of *Pediatrics*, imply that their work is new with up-to-date references. In fact, major sections are taken verbatim from the 2002 American Academy of Pediatrics’ (AAP) technical report (TR)<sup>2</sup> without direct attribution. All but six sentences on page 359 and several sentences on page 360 of the SA are copied exactly, or nearly so, from the TR. The TR is listed as a resource near the end of the SA (page 361); one assumes the purpose of this listing is additional information for the reader, not a source of quotes for the authors. The TR is not a good resource for readers or authors as it has quotation errors extensive enough to invalidate the document.

Using criteria similar to that employed by Evans et al<sup>3</sup> to identify major errors in quotation of references, footnoted statements in the TR were examined for such errors. There are 31 references which are cited 46 times in the text. Three of these references were excluded: an unclear citation, a book which was not original research and had no page numbers cited,<sup>4</sup> and a meta-analysis<sup>5</sup> (excluded for technical reasons). 43 footnotes to 28 references remained for examination. In 22 out of 43 footnotes (51 percent) the reference is misquoted. Fifteen references are cited once with eight total misquotations. Eleven references are cited twice, and misquoted a total of eleven times. Two references are cited three times each with a total of three misquotations. Of the 28 references examined, 16 (57 percent) were misquoted at least once. Examples of quotation errors are presented in the Table.

The TR contains nine citations that do not address the stated assertions. Two statements misrepresent data by citing a reference that has findings in direct opposition to the statement and citing a study on children aged three to nine to support an assertion about outcomes of adult children. One reference contains details in case reports that conflict with the footnoted text. Two cited articles partially support their corresponding statements, but the statements are misleading because they do not report all pertinent results. Conclusions are made that “no difference” exists between study and control groups, yet eight supporting citations refer to studies either without a control group for comparison or noting differences between groups, along with similarities.

In addition, four instances were noted in which a reference cited elsewhere in the TR had findings conflicting with a particular assertion; these observations are not included in the quantitative results.

Replicated statements in the SA have footnotes that are the same, different, absent, or additions compared to the TR. On brief perusal, ten of the quotation errors from the TR are repeated in the SA. Two examples are listed in the Table, as well as a statement with a quotation error in the TR which has a different citation error in the SA.

**Examples of Quotation Errors in the Technical Report and Special Article\*\***

Text in TR/SA (page in TR/SA)†	Discrepancies between text and reference(s)
<p><i>few differences have been found in <u>the research from the last 2</u> [research conducted over the last 3] decades comparing L and H mothers' self-esteem, psychological adjustment, and attitudes toward child rearing. (342/359) Flaks et al<sup>6</sup> and Green et al<sup>7</sup> cited.</i></p>	<p>Flaks et al<sup>6</sup> compared L and H couples on parenting skills and relationship quality. The specific issues in the text were not studied. Green et al<sup>7</sup> compared children with L vs. H mothers. The mothers had <u>differences</u> in cohabitation, plans for remarriage and more children, feminist and religious activity, psychosexual development, part of the psychological testing, and time holding their infants. Mothers' self-esteem was not studied.</p>
<p><i>They report similar role conflicts, social support networks, and coping strategies. (342/359) Patterson<sup>8</sup> and Patterson<sup>9</sup> cited. Note: "They" refers to L and H mothers.</i></p>	<p>Neither study has a H control group. Patterson<sup>8</sup> compares L mothers to their partners on various measures. Patterson<sup>9</sup> studies children of L mothers, not mothers themselves.</p>
<p><i>In <u>1</u> [one] study, children of H parents saw themselves as being somewhat more aggressive than did children of <u>Ls</u> [L parents], and they were seen by parents and teachers as more bossy, negative, and domineering. Children of L parents saw themselves as more lovable and were seen by parents and teachers as more affectionate, responsive, and protective of younger children, compared with children of H parents. (343/359) TR cites Steckel<sup>10</sup> and Tasker.<sup>11</sup> SA cites Patterson<sup>8</sup></i></p>	<p>Text findings are found in Steckel.<sup>10</sup> Tasker<sup>11</sup> does not address these specific issues. Patterson<sup>8</sup> reports Steckel's findings in her introduction, but her original research findings differ from the text in that children of L mothers did not see themselves as either more or less aggressive, sociable, or likely to enjoy being the center of attention than did children of presumed H mothers in a normal sample.<sup>8</sup></p>

\*\*Abbreviations for designated groups: "lesbian" = L, "heterosexual" = H

†Text differences between the Technical Report (TR)<sup>2</sup> and Special Article (SA)<sup>1</sup> are underlined in the TR and placed in brackets [ ] in the SA.

Does carelessness in quoting references imply problems with other aspects of scientific reporting? In this case, there is cause for concern, as the methodology in most of the referenced original research works is not of the quality to elicit the definitive conclusions about same-sex parenting made in the TR and SA. Methodological flaws include problems with sampling, types of measures used, management of extraneous variables, improper group matching, and vague definitions.

Nonprobability samples were used in all published original scientific research studies referenced in the TR and in all but one of 19 such references in the SA. Findings from such studies cannot be generalized or taken as conclusive. One additional presumed original research reference<sup>12</sup> in the SA was not assessed for sample type, as it is in a British professional society journal that is not accessible through PubMed or the university library.

The SA highlights two recent publications from population-based samples.<sup>13, 14</sup> However, in one of these studies,<sup>13</sup> over half of the experimental group was recruited by snowball sampling (recruiting research subjects through subjects' acquaintance networks) and was not part of the original population-based sample. In addition, groups were not well-matched with respect to occupation and education, and some subjective measures were employed.

The extent of major quotation errors in the TR violates the AAP's standard for evidence-based medicine<sup>15</sup> by the extent of the misrepresentation of data, unsupported or misleading statements, and failure to disclose conflicting evidence contained within the report's own references. Some of these errors have been replicated in a subsequent publication.<sup>1</sup> The multitude of defects in studies only show that many flawed studies together yield a weight of flawed evidence, which is not an adequate foundation for promoting social policy change.

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## REFERENCES

1. Pawelski JG, Perrin EC, Foy JM, et al. The effects of marriage, civil union, and domestic partnership laws on the health and well-being of children. *Pediatrics*. 2006 Jul;118(1):349-364.
2. American Academy of Pediatrics, Perrin EC, Committee on Psychosocial Aspects of Child and Family Health. Technical report: coparent or second-parent adoption by same-sex parents. *Pediatrics*. 2002 Feb;109(2):341-344.
3. Evans JT, Nadjari HI, Burchell SA. Quotational and reference accuracy in surgical journals. A continuing peer review problem. *JAMA*. 1990 Mar 9;263(10):1353-1354.
4. Barret RL, Robinson BE. *Gay Fathers*. Lexington, Massachusetts: Lexington Books; 1990.
5. Allen M, Burrell N. Comparing the impact of homosexual and heterosexual parents on children: meta-analysis of existing research. *J Homosex*. 1996 32(2):19-35.
6. Flaks DK, Ficher I, Masterpasqua F, Joseph G. Lesbians choosing motherhood: a comparative study of lesbian and heterosexual parents and their children. *Dev Psychol*. 1995 31(1):105-114.

7. Green R, Mandel JB, Hotvedt ME, Gray J, Smith L. Lesbian mothers and their children: a comparison with solo parent heterosexual mothers and their children. *Arch Sex Behav*. 1986 Apr;15(2):167-184.
8. Patterson CJ. Children of lesbian and gay parents. *Adv Clin Child Psychol*. 1997 19:235-282.
9. Patterson CJ. Children of the lesbian baby boom: behavioral adjustment, self-concepts, and sex-role identity. In: Greene B, Herek GM, eds. *Lesbian and Gay Psychology: Theory, Research, and Clinical Applications*. Thousand Oaks, CA: Sage Publications; 1994:156-175.
10. Steckel A. Psychosocial development of children of lesbian mothers. In: Bozett FW, ed. *Gay and Lesbian Parents*. New York, NY: Praeger Publishers; 1987:75-85.
11. Tasker F. Children in lesbian-led families: a review. *Clin Child Psychol Psychiatry*. 1999 4(2):153-166.
12. Barrett H, Tasker F. Growing up with a gay parent: views of 101 gay fathers on their sons' and daughters' experiences. *Educ Child Psychol*. 2001 18(1):62-77.
13. Golombok S, Perry B, Burston A, et al. Children with lesbian parents: a community study. *Dev Psychol*. 2003 Jan;39(1):20-33.
14. Wainright JL, Russell ST, Patterson CJ. Psychosocial adjustment, school outcomes, and romantic relationships of adolescents with same-sex parents. *Child Development*. 2004 Nov/Dec;75(6):1886-1898.
15. Koriath T. Academy changes procedure for development of policy statements. *AAP News*. 2002 March 1, 2002;20(3):113-a-.