### IN THE SUPREME COURT OF IOWA

# Supreme Court Case No. 07-1499

KATHERINE VARNUM, et al.	)
v. TIMOTHY J. BRIEN, in his official capacities as the Polk County Recorder and Polk County Registrar,	On appeal from the Iowa District Court for Polk County Case No. CV5965  The Honorable Robert B. Hanson, presiding
Defendant-Appellant.	) )

# PROOF BRIEF OF SOCIAL SCIENCE ACADEMICS AND ASSOCIATIONS IN SUPPORT OF PLAINTIFFS-APPELLEES

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#### STATEMENT OF INTEREST OF AMICI CURIAE

Amici curiae include the American Anthropological Association, the American Sociological Association, and other professional organizations devoted to promoting the use and understanding of science and social science in the public sphere, as well as more than fifty leading academics in sociology, statistics, psychological science, anthropology, and other fields. Each of the amici is professionally dedicated to the principles of scientific inquiry and to ensuring that research within their professions is grounded in appropriate methodology. Based on these common goals, amici share an interest in assuring that courts avoid, as the trial court properly avoided here, reliance on putative "expert" evidence that does not reflect application of scientific and professional principles. Amici's submission is aimed to ensure that the fruits and methods of their research are understood and properly used and analyzed in Iowa's courtrooms.

### **SUMMARY OF ARGUMENT**

While some gray areas of disagreement may exist as to whether the methodology used in reaching a particular empirical conclusion was adequate, a boundary exists beyond which it is no longer possible to consider opinion testimony as having been based upon recognized social science standards. As the trial court correctly concluded, under both the rules of evidence and standards used by social scientists, the conclusions proffered here by defendant's purported experts clearly fall outside of that boundary.

Amici's Motion for Leave to File Amicus Brief provides additional detail on the organizational missions and biographical backgrounds of the organizations and individual academics submitting this brief.

Specifically, the trial court properly exercised its discretion to exclude opinions from five of defendant's proffered "expert" witnesses: (i) Katherine Young; (ii) Paul Nathanson; (iii) Margaret Somerville; (iv) Allan Carlson; and (v) Steven Rhoads. While these individuals claimed various areas of expertise, at base they all offered opinions concerning the effect that same-sex marriage might have on children, families and society – subjects studied by social scientists in various disciplines including developmental psychology and sociology, and on which considerable scholarship exists. These individuals' testimony, however, was not grounded in sufficient data or reliable methodology to support their sweeping conclusions. Instead, with minor variations, each of these witnesses sought to share with the court their personal opinion, "common sense," or "moral intuition." The trial court clearly did not abuse its discretion in finding that such testimony lacked the foundational reliability required by either Iowa Rule of Evidence 702 or the professional standards used by actual social scientists, and would not be helpful in understanding the evidence or determining facts in issue.

That the proffered testimony of the excluded witnesses lacked substance is not surprising, as each witness had no appropriate experience or training in the relevant areas of social science to reach the conclusions they offered on gender, parenting, or the effects of same-sex marriage on families. The trial court's exclusion was thus fully consistent with this Court's repeated admonition that experts must be qualified to opine on the particular question propounded. Defendant and his *amici* do not – and cannot – demonstrate that the trial court abused its discretion in excluding these opinions or that

they suffered any prejudice as a result. Accordingly, this Court should affirm the trial court's exclusion of these witnesses.

#### STANDARD OF REVIEW

While the ruling below withstands scrutiny under any standard, this Court reviews decisions on the admissibility of expert testimony solely for an abuse of discretion. See, e.g., State v. Atwood, 602 N.W.2d 775, 783 (Iowa 1999); see also Proof Br. of Iowa Legislators as *Amici Curiae* ("Legislators' Br.") at 3. To reverse, a court must find not only that the trial court manifestly abused its discretion, but also that the exclusion prejudiced the complaining party. Ganrud v. Smith, 206 N.W.2d 311, 314 (Iowa 1973). Such prejudice exists only in cases of clear abuse. Iowa-Ill. Gas & Elec. Co. v. Black & Veatch, 497 N.W.2d 821, 827 (Iowa 1993).

While defendant inexplicably argues that the Court exercises blanket *de novo* appellate review when a case involves constitutional issues (Def.'s Br. at 44, 48), the cases defendant cites for this proposition merely applied *de novo* review to the merits of a constitutional claim; none of these appeals even involved evidentiary rulings.<sup>3</sup>

Given this standard, even if the testimony of defendant's proffered "experts" did not suffer from the fatal defects outlined herein, affirmance is required. Specifically, this Court has made clear that to reverse a ruling to exclude expert testimony, the complaining party must demonstrate prejudice, which exists "only in clear cases of abuse." <u>Veatch</u>, 497 N.W.2d at 827. Other than baldly claiming the existence of prejudice, defendant and his *amici* have done nothing to specify precisely how the ruling regarding the exclusion of their "expert" witnesses prejudiced their case.

See State v. Hodges (In re Hodges), 689 N.W.2d 467, 470 (Iowa 2004) (considering whether civil commitment violated Iowa and federal constitutional due process rights); Norland v. Grinnell Mut. Reinsurance Co., 578 N.W.2d 239 (Iowa 1998) (ruling on merits of equal protection challenge to state insurance-regulation scheme); Lumbermens Mut. Cas. Co. v. Dep't of Revenue & Fin., 564 N.W.2d 431 (Iowa 1997) (rejecting merits of claim that tax department's collection efforts constituted an unconstitutional taking).

When faced with predicate evidentiary questions in a case in which the merits of the claims are constitutional, appellate courts routinely apply the *de novo* standard to constitutional rulings, and the abuse-of-discretion standard to evidentiary issues. See, e.g., State v. Allen, 565 N.W.2d 333, 338 (Iowa 1997) (rejecting constitutional claim *de novo*, while separately reviewing evidentiary ruling to "giv[e] considerable deference to the trial court's exercise of its discretion").

#### **POINT I**

# SOCIAL SCIENCE EVIDENCE MUST MEET CERTAIN BASIC REQUIREMENTS TO BE CONSIDERED RELIABLE AND VALID

### A. Iowa's Standards Ensure Reliability Of Expert Opinions

Iowa law vests courts with the appropriate discretion to exclude expert testimony when – as here – proffered opinions lack a basis in "scientific, technical, or other specialized knowledge" under Iowa Rule of Evidence 702. That rule charges the trial judge with "the task of assess[ing] whether the reasoning or methodology underlying the testimony is scientifically valid and whether that reasoning or methodology properly can be applied to the facts in issue." Hutchison v. Am. Family Mut. Ins. Co., 514 N.W.2d 882, 888 (Iowa 1994); see also State v. Belken, 633 N.W.2d 786, 800 (Iowa 2001) ("The standards for admission of expert testimony relate to the ability of the analytical method to produce accurate results when properly applied."). In short, expert "evidence – whether scientific or otherwise – [must] be reliable . . . because unreliable

evidence cannot assist a trier of fact." <u>Williams v. Hedican</u>, 561 N.W.2d 817, 823 (Iowa 1997) (internal citation and quotations omitted).<sup>4</sup>

To make this determination, Iowa courts use a three-part inquiry. See Leaf v. Goodyear Tire & Rubber Co., 590 N.W.2d 525, 533-34 (Iowa 1999); Mercer v. Pittway Corp., 616 N.W.2d 602, 628 (Iowa 2000). First, the evidence must generally be relevant under Rule 402. Mercer, 616 N.W.2d at 628. Second, the evidence must be "in the form of scientific, technical, or other specialized knowledge that will assist the trier of fact to understand the evidence or to determine a fact in issue." Id. (internal citation and quotations omitted). In particular, there must be sufficient data upon which an expert opinion can be rendered that amounts to more than conjecture or speculation. See Yates v. Iowa Racing Ass'n, 721 N.W.2d 762, 774 (Iowa 2006). Third, the witness must be "qualified as an expert by knowledge, skill, experience, training or education." Mercer, 616 N.W.2d at 628. Although an expert may be qualified generally in his or her field of expertise, the Court must ensure that he or she is qualified to answer the particular question at issue. Wick v. Henderson, 485 N.W.2d 645, 648 (Iowa 1992); Ruden v. Hansen, 206 N.W.2d 713, 717 (Iowa 1973).

While Iowa courts are not required to apply the federal standards for admissibility announced in <u>Daubert v. Merrell Dow Pharmaceuticals</u>, Inc., 509 U.S. 579, 589 (1993) and its progeny, state trial courts may, in their discretion, consider the

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See also David L. Faigman, *To Have and Have Not: Assessing the Value of Social Science to the Law as Science and Policy*, 38 Emory L.J. 1005, 1081 (1989) ("The legal relevance of social science research simply cannot be divorced from its scientific credibility.") (emphasis in original).

Daubert factors if helpful in assessing the reliability of expert opinions in a particular case. Leaf, 590 N.W.2d at 532-33; State v. Hotlz, 653 N.W.2d 613, 616 (Iowa Ct. App. 2002). Accordingly, courts may look to: (1) whether and how the theory or technique is scientific knowledge that can be tested; (2) whether the theory or technique has been subjected to peer review; (3) the known or potential rate of error; or (4) whether it is generally accepted in the scientific community. Leaf, 590 N.W.2d at 533. These standards, with their emphasis on the "foundational showing of reliability," apply regardless of "whether the evidence is scientific or technical in nature." Id. at 532. This preliminary judicial inquiry into the reliability of an expert's opinion ensures that the finder of fact, overwhelmed by the "intricacies of expert discourse . . . [does not] abdicate independent analysis of the facts on which the opinion rests." State v. Harkness, 160 N.W.2d 324, 332 (Iowa 1968).

## B. The Scientific Method Similarly Ensures Reliability And Validity Of Methodology And Results

Just as courts ensure that expert testimony is sufficiently reliable to be helpful to the trier of fact, professionals in the sciences have developed principles of inquiry to evaluate research within their own fields. Here, each of defendant's excluded experts purported to offer empirical conclusions concerning same-sex marriage.

Trial courts may also consider whether expert evidence has the potential for an exaggerated impact on the fact-finding process, and in such cases may require proof of general acceptance in the scientific community. <u>Leaf</u>, 590 N.W.2d at 533-34; <u>Mercer</u>, 616 N.W.2d at 628.

This risk applies not only to expert testimony relating to the physical sciences, but also to social science. Just as jurors are susceptible to the "scientist" label, they are likely to be similarly affected by the "expert" label. See David L. Faigman, *How Good is Good Enough: Expert Evidence Under Daubert and Kumho*, 50 Case W. Res. L. Rev. 645, 648-49 (2000).

Accordingly, a brief review of the scientific method and the other hallmarks of research methods used by physical and social scientists is in order. These guideposts are appropriately considered by courts in determining whether the testimony being offered was reliable, and thus admissible. See, e.g., Williams, 561 N.W.2d at 828 (explaining that to qualify as scientific knowledge, "the reasoning or methodology [the expert] used in reaching his opinion [must be] based on scientifically valid principles. There must therefore be 'good grounds' in the record validating that opinion.").

### 1. Empirical Testing Of Scientific Theories And Results

The scientific method is generally described as: observation; hypothesis; empirical study or data collection; revision of the hypothesis as needed; further empirical study; and then repeat the process. See, e.g., R. Feynman, R. Leighton & M. Sands, *The Feynman Lectures on Physics* 2-1 (1963) ("Observation, reason, and experiment make up what we call the scientific method.") (emphasis in original); see also A.N. Strahler, *Understanding Science: An Introduction to Concepts and Issues* 55-61 (1992) ("In almost every field of science, explanatory hypotheses have evolved through numerous stages of deduction, testing and revision."). In order for scientific methodology to produce reliable results, the hypothesis must be testable through methodologically valid data collection or empirical procedures that can be duplicated by other, independent researchers. See E. Bright Wilson, Jr., *An Introduction to Scientific Research* 25-30 (1990). When the study

E. Bright Wilson, Jr. was a distinguished scientist and professor of chemistry at Harvard University who pioneered several scientific theories and received the National Medal of Science in 1976.

or data collection is complete, scientists use the resulting data to draw conclusions. <u>See generally id.</u> at 169-302 (describing the analysis of experimental data and calculating rates of error and probability). A hypothesis that survives repeated inquiry may become part of a broader scientific theory. A theory merits acceptance only if it has survived repeated efforts by independent researchers to falsify or disprove it.<sup>8</sup>

Appropriate scientific methodology also implements various controls to ensure that data are not affected by preexisting biases on the part of the researchers or the research participants. Social scientists follow a rigorous methodology to ensure the integrity of their research and conclusions. Once social scientists have designed a protocol to test a hypothesis, they examine its reliability through four factors: measurement validity (does the protocol measure what it intends to measure); internal validity (does the protocol test whether X causes Y); external validity (can the results be generalized); and analytic validity (does the conclusion follow from the data). PResearchers can also use non-experimental methods and research designs to approximate the conditions of an experiment where random assignment is not possible. Ultimately, scientists seek to measure the social world and draw conclusions about causal effects as

Experience bears out the need for such scientific validation. As one commentator explained: "we need not dwell on the lesson that experience has often proved wrong, sometimes astoundingly so, in describing the empirical world... The scientific method was developed to put common sense to more rigorous tests." David L. Faigman, *supra* note 6 at 648. Indeed, the Rule 702 standards were developed in light of the "understand[able] concern that expert testimony... can fall wholly in the realm of conjecture, speculation, and surmise." Hutchison, 514 N.W.2d at 888 (Iowa 1994) (citing Slack v. C.L. Percival Co., 199 N.W. 323, 326 (Iowa 1924)).

See Robert F. Kelly & Sarah H. Ramsey, Assessing and Communicating Social Science Information in Family and Child Judicial Settings: Standards for Judges and Allied Professionals, 45 Fam. Ct. Rev. 22, 27 (2006).

objectively as possible. While as a practical matter no research is perfect, strong research methodologies are designed to minimize the effects of a researcher's personal biases on the results and their interpretation.<sup>10</sup>

A scientist's claim to expertise depends on his or her adherence to the established methods set forth above for empirical investigators and scientists. And while professional standards require that practitioners describe their methodology and results accurately, unsupported opinion as to the reliability of a particular set of findings is no substitute for evidence that a hypothesis was verified by the scientific method.

## 2. The Importance Of Peer Review

Formal peer review is another hallmark of the scientific method and represents the professional community's effort to police itself. See generally Note, *The* "Brave New World" Of Daubert: True Peer Review, Editorial Peer Review, and Scientific Validity, 70 N.Y.U. L. Rev. 100 (discussing the role of peer review in a court's inquiry into scientific validity). The process is designed to assure a certain minimum level of quality and to prevent dissemination of unwarranted claims or personal views. Peer review begins with the submission of purported findings for publication. Scientific journals use the assistance of outside experts to "referee" proposed manuscripts – that is,

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When appropriate, physical and social scientists conducting experiments employ blind testing to offset the subject's and experimenter's potential biases. <u>See</u> Wilson, *supra*, at 43-46. Single-blind tests withhold information from subjects that might influence their behavior. Under double-blind testing, not only are the participants "blind," but also the persons testing the hypothesis are not privy to certain information such as the identities of the control and experimental groups. <u>See id.</u>; <u>see also</u> David W. Peterson & John M. Conley, *Of Cherries, Fudge, and Onions: Science and Its Courtroom Perversion*, 64 Law & Contemp. Prob. 213 (2001) (describing design of double blind trials in the context of a study of the effects of polio vaccine on children).

manuscripts written in their own field of expertise and their primary job is to provide constructive criticism so that the underlying research and methodology can be improved. In the peer-review process, referees do not know the identity of the author, and the author does not know the identity of the referee. Ultimately, the referees recommend to the editors whether the manuscript is suitable for publication, whether it may be suitable for publication after further improvement by the scientist, or whether it should be rejected outright.

Once a claim is disseminated, others in the field evaluate the claim and its underlying methodology. Members of the professional community may attempt to replicate the findings through repeated experiments or use other generally accepted methodologies to conduct related research to confirm the conclusion. Publication of those results will then generate further testing and publication. Peer review also helps the proponent of the hypothesis improve his or her methodology and interpretations of the data. Any modifications to the original hypothesis may then be vetted by additional rounds of peer review.

Significant peer review is the best way a scientific claim can garner acceptance by the professional community. When purported experts testify about research results they have not submitted for peer scrutiny, despite ample opportunity, they can and should expect heightened skepticism about the credibility of their claims.

### 3. Cumulative Results Are Preferable To A Single Study

Both natural and social science are collaborative enterprises and studies

build upon one another. Both the scientific method and the peer-review process reflect – through their emphasis on the importance of the ability to replicate results – that the cumulative results of many studies are preferable to evidence presented in a single study. See Wilson, *supra*, at 46 ("It is seldom that only one experiment is regarded as sufficient; usually repetitions are considered desirable in order to check the result and also to form a basis for estimating the precision obtained."). And by its nature, scientific evidence is cumulative: the more supporting evidence that is available, the more likely the accuracy of the conclusion.<sup>11</sup>

Courts, like professionals in the field, should consider whether a position is supported by a single experiment or has been validated by many different studies. Such an inquiry will distinguish scientists who are conveying collective scientific knowledge from those individuals advancing personal views based upon outlier experiments and data. In this way, using the scientific method to help ensure the reliability of expert opinions furthers the ultimate judicial function – to seek truth. See, e.g., Kirk v. Union Pac. R.R., 514 N.W.2d 734, 740 (Iowa Ct. App. 1994) (foundational failure of expert's methodology would impede fact finder from "accurately determining fact in issue") (emphasis in original).

Indeed, meta-analysis is a specific tool used by scientists to combine the results of several studies that address a set of related research hypotheses. John E. Hunter & Frank L. Schmidt, *Cumulative Research Knowledge and Social Policy Formulation: The Critical Role of Meta-Analysis*, 2 Psych. Pub. Pol. & L. 324 (1996).

# C. The Excluded Testimony Lacks These – Or Any Other – Hallmarks Of Reliability

None of the opinions offered by defendant's excluded experts bore any of these hallmarks of reliability. Nor did these purported experts proffer any other grounds to permit the trial court to find that their testimony was sufficiently reliable to aid the trier of fact. It was surely not an abuse of discretion for the court to exclude it.

Defendant and his *amici* now suggest that the trial court erred in imposing "scientific" requirements concerning these experts' methods and qualifications, as they could competently present opinions based on their experience or other specialized knowledge. See Def.'s Br. at 45; Legislators' Br. at 8. This argument flies in the face of both the purportedly social science conclusions offered by these "experts," as well as defendant's simultaneous characterization of their opinions as grounded in social science. See, e.g., Def.'s Br. at 46 ("comparative religion is empirical and as [sic] a secular social science approach"), 47 ("[t]he reasons offered by every witness has [sic] a well reasoned scientific or historical explanation"). Moreover, while experts can be qualified based on their practical experience (see, e.g., State v. Buller, 517 N.W.2d 711, 713 (Iowa 1994) (admitting opinion on use of dogs in arson investigations based on hands-on experience)), defendant's experts purport to testify based on academic theories and literature, not personal experience or observation. Ultimately, regardless of the source of expertise, the same Rule 702 standards apply to the admissibility of a proposed expert's opinion. See Hutchison, 514 N.W.2d at 887-88 ("[W]e refuse to impose barriers to expert testimony other than the basic requirements of Iowa rule of evidence 702 and those described by the Supreme Court in <u>Daubert</u>. The criteria for qualifications under rule 702 – knowledge, skill, experience, training or education – are too broad to allow distinctions."). <sup>12</sup>

Having failed the Rule 702 standards, Legislator *amici* further assert for the first time that the Rule 702 standards are instead inapplicable because the experts would testify to "legislative," rather than "adjudicative" facts. Legislators' Br. at 4-5. The specific conclusions defendant's experts proffered – in a failed attempt to create material factual disputes – hardly represent the sort of "general" facts, "help[ful to] the tribunal to determine the content of law and policy," that have been classified as legislative. See State v. Henz, 356 N.W.2d 538, 540 n.1 (Iowa 1984) (recognizing as a legislative fact that doctors rely on medical records prepared by other doctors to diagnose patients). Instead, the witnesses' testimony here sought to provide "the factual predicate for application of legal issues relevant to the particular case" – quintessential adjudicative facts. Welsh v. Branstad, 470 N.W.2d 644, 647-48 (Iowa 1991). Contrary to *amici*'s argument, defendant himself urges that the proffered opinions – rather than being mere

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While this Court had previously suggested that the <u>Daubert</u> factors were applicable only to scientific – as opposed to technical or other specialized knowledge, <u>see Johnson v. Knoxville Cmty. Sch. Dist.</u>, 570 N.W.2d 633, 639-40 (Iowa 1997) – this predated the Court's comprehensive ruling in <u>Leaf</u>. <u>Leaf</u> firmly commits the decision to apply the <u>Daubert</u> factors to the trial court's discretion as to whether the factors would be helpful in the particular case, regardless of "whether the evidence is scientific or technical in nature." <u>Leaf</u>, 590 N.W.2d at 532.

Even if this argument had any conceivable merit, it was waived when defendant failed to raise it before the trial court. See Peters v. Burlington N. R.R. Co., 492 N.W.2d 399, 401 (Iowa 1992) ("[I]ssues must be raised and decided by the trial court before they may be raised and decided on appeal."). In fact, defendant took the exact opposite position below by challenging certain of plaintiffs' experts pursuant to the same Rule 702 standards that Legislators now assert are somehow inapplicable to testimony from defendant's witnesses on the social effects of same-sex marriage. See, e.g., Def.'s Reply Br. in Support of Mot. for Summ. J. at 48.

"legislative fact" – "creat[e] at least a dispute of facts barring . . . summary judgment."

Def.'s Br. at 47. Defendant's insistence on the disputed nature of these facts is entirely at odds with any suggestion that the "expert" testimony represents mere "legislative fact."

See Welsh, 470 N.W.2d at 648 (the "genuine issue of material fact' required to preclude summary judgment under Iowa Rule of Civil Procedure 237(c) must involve adjudicative facts"). For these reasons, Rule 702's standards unquestionably govern.

### **POINT II**

# THE TRIAL COURT HERE APPROPRIATELY EXERCISED ITS DISCRETION UNDER IOWA LAW TO EXCLUDE DEFENSE EXPERTS

The trial court here appropriately exercised its discretion to exclude five of defendant's proposed "expert" witnesses, each of whom offered conclusions that could only be properly supported by social science, but lacked necessary qualifications and failed to employ any valid research methodology. See Ruling on Pls.' and Def.'s Mot. for Summ. J. ("Ruling") at 3-9. Under Rule 702, the trial court appropriately found that each of the witnesses' opinions were largely personal, lacked supporting methodology or data, and lay outside of their own fields of experience. Ruling at 5-9. Moreover, given the opinions offered by other witnesses whose testimony was admitted by the trial court, defendant cannot show that he suffered any prejudice from exclusion of these five experts, precluding reversal.

# A. Young And Nathanson Failed To Employ Scientific Methodology And Offered Opinions Well Outside Their Areas Of Training

Defendant offered opinion testimony from Katherine Young and Paul Nathanson – two research colleagues who study comparative religion. <u>See</u> Def.'s

Designation of Expert Witnesses ("Def.'s Designation"), ¶¶ 4, 9. 14 Young did not offer opinions from comparative religion, however, instead opining on the "[1]ikely effects of legalizing same-sex marriage on children," the "statistical differences between parenting styles of mothers and fathers" and the "fragment[ing of] children's identities." Def.'s App. Ex. H, Decl. of Katherine K. Young ("Young Decl."), ¶¶ 62-79. In turn, Nathanson submitted a number of opinion pieces summarizing his testimony that, *inter alia*, "biological parents usually protect and provide for children more effectively than non-biological ones." Nathanson Decl., Ex. 2 at 035. 15 Because these opinions ventured well beyond Nathanson and Young's own limited areas of training and research, and failed to utilize any consistent methodology to reach their conclusions, the trial court appropriately excluded the testimony.

First, the trial court found that Young and Nathanson's opinions lacked any grounding in social science methodology or empirical research, and instead amounted to personal opinions. See Ruling at 6-7. To the extent that one can divine a methodology in Young's opinions, it appears that she begins by examining a "sample of societies," to search for patterns that she then categorizes as "universal" or "nearly universal." Young

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In the interests of brevity, and given the substantial overlap in their proposed testimony, Nathanson and Young are discussed together. Indeed, two of the three articles that Nathanson submitted to summarize his testimony were co-authored with Young. Def.'s App. Ex. C, Decl. of Paul Nathanson ("Nathanson Decl."), ¶ 7.

One of the articles Nathanson submitted is entitled "Pop Goes the Family: Marriage in Popular Culture." Nathanson Decl. ¶ 6. Although this article was presented at a conference in Alberta in 2005, Nathanson is still "currently seeking a publisher for the conference proceedings, including ['Pop Goes the Family']." Nathanson Decl., Ex. 4 at 050. "Pop Goes the Family" is not Nathanson's only pop-culture work, as he frequently writes essays regarding "what movie[s] say about our culture at a particular time." Nathanson Dep. Tr. at 35:86.

Decl. ¶¶ 38-39, 42; Young Dep. Tr. at 6:7-710. <sup>16</sup> Young appears, however, to have no systematic criteria for what constitutes a pattern or determines its universality, conceding that these distinctions are not as absolute as they may sound. <u>Id.</u> at 53:128-56:132. Nonetheless, to Young, the presence of these unexplained patterns indicates they "are the elements that are very closely related to the human condition." <u>Id.</u> at 73:185. Young argues that the patterns somehow "invite explanations," Young Decl. ¶ 22, based on "whatever kind of data is relevant." Young Dep. Tr. at 8:13. While these "explanations" form the basis of Young's ultimate opinions, Young fails to specify exactly what data or sources <u>are</u> relevant to support her conclusions. At base, her testimony fails to explain any methodology or source for her opinions. <u>See Ganrud</u>, 206 N.W.2d at 314 ("[F]acts upon which the opinion is based [must be] sufficiently stated by the witness."). Instead, the "explanations" and "patterns" are a smoke screen intended to mask what amounts to Young's personal opinion.

Similarly, as the trial court noted, Nathanson explained that his methodology consists of "simply observ[ing] what people do and say about religion." Nathanson Dep. Tr. at 6:6; Ruling at 7. Nathanson specified no other method by which he reached his conclusions. While Nathanson does purport to rely on his observations of television and mass media, he concedes that scholars of popular culture "have produced no distinctive method" for their studies, because to do so "would require some sort of

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The record transcripts of Young and Nathanson's deposition do not include standard numerical references to each line of testimony, but rather are indexed by the chronological number of the question asked. Citations to these transcripts refer to the page number and question number, rather than page number and line number.

statistical analysis." Nathanson Decl., Ex. 4 at 051. Having thus failed to employ any reliable methods or supporting data, Nathanson nonetheless sought to offer far-reaching conclusions that, for example, children "surely require *at least one parent of each sex.*" Nathanson Decl., Ex. 1 at 011 (emphasis in original); see, e.g., Iowa Power & Light Co. v. Stortenbecker, 334 N.W.2d 326, 331 (Iowa Ct. App. 1983) (testimony could not be characterized as expert opinion where record revealed that insufficient data existed for expert to reach his conclusion).

Second, the lack of reliability in Young and Nathanson's testimony is confirmed by their lack of necessary qualifications in the fields of child development, sociology, or psychological science that would be necessary to offer broad opinions on the relationship between same-sex marriage and children. Ruling at 6-7. Young admitted that she had no *expertise* in the areas of anthropology, evolutionary psychology, or sociology. Young Dep. Tr. at 15:31-16:32. Young's expertise is in comparative religion – and in particular, Hinduism. Young Decl. ¶¶ 9, 18; Young Dep. Tr. at 5:5. <sup>17</sup> Similarly, while Nathanson offered opinions on the effects same-sex marriage could have on children, education, and democracy (Nathanson Decl., Ex. 3 at 034-042), he is a researcher in comparative religion (Nathanson Dep. Tr. at 4:5), and has only "read social science material, but it's certainly not [his] first recourse." Nathanson Dep. Tr. at 45:140. To explain his lack of familiarity with social science, Nathanson explained that if he wanted to write about a movie involving divorced couples, he would "look up something"

Young offers conclusions, however, on child development (Young Decl. ¶¶ 62-79), evolutionary biology and evolutionary psychology (Young Decl. ¶¶ 26-32), and anthropology (Young Decl. ¶¶ 40-41).

in the sociological literature" on the rate of divorce, which would serve as "background for [him]."  $\underline{\text{Id.}}^{18}$ 

This disconnect between their areas of expertise and the topics of their proposed opinions alone renders the testimony of Young and Nathanson improper under Rule 702. While Young and Nathanson have academic backgrounds, this "does not [] alone qualify [them] as expert witness[es]." Schlader v. Interstate Power Co., 591 N.W.2d 10, 13 (Iowa 1999) (upholding exclusion of expert's opinion for lack of methodological support, despite his "impressive academic background"). Even when witnesses are generally qualified in a field of expertise, they must also be qualified to offer an opinion on the particular question propounded. Wick v. Henderson, 485 N.W.2d 645, 648 (Iowa 1992). Accordingly, even where an expert had "impressive" qualifications as a perfusionist (a specialist in operating a heart/lung machine during surgery), he was nonetheless properly precluded from testifying as to the causes of brain damage during surgery. See Tappe v. Iowa Methodist Med. Ctr., 477 N.W.2d 396, 402 (Iowa 1991). By the same token, the trial court properly precluded Nathan and Young – researchers in comparative religion – from offering opinions on child development, psychology, social work, sociology, and anthropology.

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To the extent that Nathanson and Young offered testimony on the *religious* views of marriage, this was simply irrelevant to the trial court's determination of plaintiffs' entitlement to *civil* marriage, and thus would fail to "assist the trier of fact to . . . determine a fact in issue" within the meaning of Rule 702.

### **B.** Carlson Offered Unsupported Personal Opinions

Defendant also offered opinion testimony from Allan Carlson, who has focused his professional life on fundraising and publishing articles for conservative advocacy groups, including his current employer, The Howard Center for Family, Religion, & Society. See Carlson Dep. Tr. at 44:6-46:24. The trial court properly exercised its discretion to hold that while Carlson holds a doctorate in modern European history, he possessed no scientific, technical, or specialized knowledge that would qualify him to opine on the impact of same-sex marriage on family and child development. Ruling at 8.

Specifically, Carlson sought to opine that "common sense" and "social research" together "affirm that children do best when they are born into and reared by a family composed of their two natural parents bound in marriage." Def.'s App. Ex. A, Decl. of Allan Carlson ("Carlson Decl."), ¶ 7. Carlson's reliance on "common sense" makes clear that at base, Carlson's conclusions are based on his personal opinions. The only study Carlson has ever performed requiring data collection involved an examination of federal government charts for an article on earnings and wages. Carlson Dep. Tr. at 27:9-28:3. His conclusions here lack even that sort of objective data. Rather, Carlson relied on a database of research abstracts that were specifically compiled and maintained by his advocacy group to produce a certain result. Id. at 12:18-23. In particular, the articles in this database did not attempt to present a representative sample of all research

<sup>19</sup> See http://www.profam.org/

on what would be of interest to the readers and supporters of his socially conservative organization. <u>Id.</u> at 13:3-5.<sup>20</sup> This lack of objective data for Carlson's opinion alone supports the trial court's exercise of discretion to exclude his testimony. <u>See Holmquist v. Volkswagen of Am., Inc.</u>, 261 N.W.2d 516, 524 (1997) ("sufficient data must appear upon which an expert judgment can be made, and if absent, the opinion is incompetent").

Beyond these methodological flaws, Carlson lacked the required expertise in any social science discipline to enable him to offer conclusions on what social science research reveals regarding the impact of marriage – same-sex or otherwise – on children. Ruling at 8. History is Carlson's primary research field. See Carlson Decl. ¶ 1. Carlson has not taken any courses in any field of social science research; while in graduate school more than 20 years ago, he took a single historical research course that "included a look at statistical issues and statistical measures." See Carlson Dep. Tr. at 10:13-11:4.

Carlson testified that he would not call himself an expert in social science methodologies, instead explaining that he "developed over time an interest in it and ha[s] read books on it." Id. at 29:11-16. See Tiemeyer v. McIntosh, 176 N.W.2d 819, 824 (Iowa 1970) ("The capacity (to testify as an expert) [i]s in every case a relative one, i.e., relative [t]o the topic about which the person is asked to make his statement. The object is to be sure that the question to the witness will be answered by a person who is fitted to answer it.").

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See also http://www.profam.org/pub/archive nr.htm

## C. Defendant's "Ethicist" Margaret Somerville Offered Unqualified Opinions On Social Science Issues Outside Her Field And Lacked Any Data Or Methodology To Support Her Conclusions

Defendant offered testimony from Margaret Somerville, who claimed to be an "ethicist with expertise in . . . new technoscience, including new reproductive technologies." Ruling at 5-7; Def.'s App. F, Decl. of Margaret A. Somerville ("Somerville Decl."), ¶ 3. Somerville opined that extending marriage to individuals of the same sex would be harmful to children, who have a "right" to be both genetically created and raised by a man and a woman. See Somerville Decl., Ex. 2 at 152, Ex. 3 at 165-166, and Ex. 17 at 247. Somerville further asserted that children who are "deprived of their genetic identity [such as children with same-sex parents] . . . are harmed physically and psychologically."<sup>21</sup> Somerville Decl., Ex. 4 at 184. Nevertheless, Somerville failed to identify any ethical principles or methods that she applied to reach her conclusions; instead, Somerville admitted that she relied on "moral intuition," and "examined emotions." Somerville Dep. Tr. at 61. Somerville herself testified to her lack of familiarity with research methodology, explaining that she is "not an expert in research methods." Id. at 59. Instead, like Carlson, Somerville resorted to "common sense" as one basis for her testimony. Id. at 61. That defendant's "ethicist" and "historian" both used "common sense" as the basis for their conclusions demonstrates that both opinions

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Although she spoke generally about the damage to children who lack a connection with their genetic parents, Somerville admitted that such children may not suffer harm as measured in developmental psychology or sociological terms. Somerville Dep. Tr. at 111. She followed up by asking "what about their longing to know where they came from?" <u>Id.</u> It is difficult to see how this response is not simply re-articulating the question of whether such children suffer psychological harm.

are ultimately personal, lacking basis in any applicable methods, data or academic training. See Iowa Power, 334 N.W.2d at 331 (noting that expert conclusions must be supported by data "sufficient for the witness to reach a conclusion which is more than mere conjecture or speculation"). Courts have repeatedly refused to admit such opinions, which are connected to existing data only by the *ipse dixit* of the "expert." See, e.g., Cooper Tire & Rubber Co. v. Mendez, 204 S.W.3d 797, 801 (Tex. 2006).

Beyond the lack of methodological support for her opinions, the trial court was thus fully justified – and certainly acted within its discretion – to exclude Somerville's opinions for her failure to "possess expertise in relevant fields such as sociology, child development, psychology or psychiatry." Ruling at 7. Somerville has no training, experience, or other expertise on the physical and/or psychological effects of marriage on children (whether same-sex or opposite-sex), the specific topic on which she sought to testify. Somerville Dep. Tr. at 111 ("I'm not a developmental psychologist."), 144-45 and 191. While Legislator *amici* argue that Somerville's opinion was admissible because it related only to abstract ethical concepts such as "the procreative purpose of marriage," Legislators' Br. at 10, Somerville repeatedly emphasized that her primary concern is the actual impact of same-sex marriage on the lives of children, especially in light of the lack of a genetic link between such children and their parents. See, e.g.,

Amici the Iowa Legislators assert that the trial court erred in relying on the fact that Somerville's views are not in accord with those of other ethicists. Legislators' Br. at 12. When asked whether her conclusions on same-sex marriage represented a "matter of consensus within the field of Applied Ethics," Somerville responded, "[n]o, I think it's a matter of historical fact that marriage is being to do [sic] with having children." Somerville Dep. Tr. at 87.

Somerville Dep. Tr. at 71-72 (explaining that she objects to same-sex marriage because of what "children's rights are with respect to their family and genetic and biological origins"); Somerville Decl., Ex. 3 at 66-67 (claiming that the emphasis in marriage should be shifted from the relationship itself to the children involved). Her admitted lack of expertise on these subjects renders her opinion inadmissible as a matter of law because as the trial court recognized, not only must an expert witness be "qualified . . . by knowledge, skill, experience, training or education," Leaf, 590 N.W.2d at 533 (citing Iowa R. Evid. 402), but also she must be qualified to answer the particular question propounded, Tappe, 477 N.W.2d at 402. Somerville decidedly lacked any such qualifications. Accordingly, Iowa law supports the trial court's decision to exclude Somerville's "expert" opinions.

# D. Rhoads Lacked Sufficient Data And Expertise To Support His Opinion

The crux of Steven Rhoads's opinion is that "the optimum environment for child development (physically, psychologically, and socially) is in a family headed by the child's married biological mother and father, i.e. the traditional nuclear family." Def.'s App. Ex. E, Decl. of Steven E. Rhoads ("Rhoads Decl."), ¶ 9. However, Rhoads admits that this opinion was formed without consulting any studies on same-sex parenting, Rhoads Dep. Tr. at 97:10-98:25, and concedes that he is "no expert at all" on such

studies. <u>Id.</u> at 78:18; 81:6).<sup>23</sup> What Rhoads does present lacks any sound empirical basis; it amounts to his personal opinion.

Rhoads purports to offer testimony founded on "biological differences between men and women, the ways in which typical male and female parenting styles each contribute uniquely to the healthy development of children, and related matters." Def.'s Designation ¶ 5. However, Rhoads has no expertise or specialized knowledge in any discipline that tests whether support exists for this theory. Instead, Rhoads holds degrees in government, economics, and public policy. Rhoads Decl., Ex. 1 at 010. He has had no courses in biology or chemistry since high school, and has no formal training whatsoever in psychology, psychiatry, evolutionary biology, endocrinology, sociology, or empirical research methodology. Rhoads Dep. Tr. at 87:16-88:21. Rhoads reaches his conclusions by "do[ing] big synthetic stuff and wander[ing] into other people's territory." Id. at 15:10-12. Rhoads thus not only lacks the required qualifications to answer the question at issue, see Wick, 485 N.W.2d at 648, but his opinion is not competent, lacking "sufficient data . . . present upon which an expert judgment can be made." Iowa Power, 334 N.W.2d at 331.

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Rhoads further admits that he "do[es]n't certainly think that [the idea that different male and female interactive parenting styles are each unique and important to the outcome of a child's development] would be the consensus by any means" among social scientists and that his work would not get support from "mainstream psychologists or mainstream sociologists." Rhoads Dep. Tr. at 53:9-10; 24:23-25:1; see also Leaf, 590 N.W.2d at 533 (permitting trial courts to consider whether the scientific community generally accepts an expert's theory or technique). Rhoads does not even appear to always agree with *his own* conclusions, stating that "adoptive parents sometimes are more devoted to their kids than biological parents." Rhoads Dep. Tr. at 99:14-99:16.

### **CONCLUSION**

The trial court properly exercised its discretion to exclude defendant's experts where they failed to identify any data or reliable method that would support their conclusions, and uniformly lacked the expertise that would be required to issue their particular opinions.

Dated: New York, New York

March 26, 2008

Respectfully submitted,

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#### IN THE SUPREME COURT OF IOWA

## Supreme Court Case No. 07-1499 ON APPEAL FROM THE DISTRICT COURT OF POLK COUNTY FIFTH JUDICIAL DISTRICT, CASE NO. 5965

KATHERINE VARNUM, et al.	)
Plaintiffs-Appellees,	)
v.	) MOTION FOR LEAVE TO FILE ) AMICUS BRIEF
TIMOTHY J. BRIEN, in his official capacities as the Polk County Recorder and Polk County Registrar,	) ) )
Defendant-Appellant.	)
	, )

COME NOW the undersigned social science academics and associations, pursuant to Iowa Rule of Appellate Procedure Rule 6.18, and request permission to file the attached *amicus* brief, and in support thereof state:

1. Amici include the American Anthropological Association, the American Sociological Association, and several other non-partisan, non-profit institutions dedicated to advancing and promoting research in the social sciences, as well as the interests of gay and lesbian individuals in the sciences and social sciences. In addition, amici include over fifty individual scholars in relevant fields such as sociology, psychological science, social work, and anthropology, each of whom has studied and applied the established methods for research and inquiry within their fields. The attached appendix includes full details on the organizational

missions and biographical backgrounds of the institutions and individuals submitting this motion.

- 2. Each of these *amici* share a professional dedication to the principles of scientific inquiry and to ensuring that research within their professions is grounded in appropriate methodology. Based on these common goals, *amici* have an interest in assuring that courts avoid, as the trial court properly avoided here, reliance on putatively "expert" evidence that does not reflect application of scientific and professional principles. *Amici*'s submission is aimed to ensure that the methods of research within their fields are understood and properly used and analyzed in Iowa's courtrooms.
- 3. The *amici* seek the Court's leave to submit the attached *amicus* brief concerning the trial court's exclusion of the testimony of certain of appellant's putative experts, as well as the general professional standards that guide research within the sciences and social sciences.

4. Pursuant to Iowa Rule of Appellate Procedure Rule 6.18(1), the *amici* request permission to file and serve the attached brief, which is conditionally filed herewith, within the deadlines set for the plaintiff-appellees.

Dated: New York, New York March 26, 2008

Respectfully submitted,

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### **APPENDIX: ADDITIONAL INFORMATION ON AMICI**

#### I. INSTITUTIONAL AMICI

- The American Anthropological Association, founded in 1902, is the world's largest organization of men and women interested in anthropology. Its purposes are to encourage research, promote the public understanding of anthropology, and foster the use of anthropological information in addressing human problems.
- The American Sociological Association (ASA), founded in 1905, is a non-profit membership association dedicated to advancing sociology as a scientific discipline and profession serving the public good. With over 14,000 members, the ASA encompasses sociologists who are faculty members at colleges and universities, researchers, practitioners, and students. As the national organization for sociologists, the ASA promotes the vitality, visibility, and diversity of the discipline. Working at the national and international levels, the ASA aims to articulate science policies and implement programs likely to have the broadest possible impact for sociology now and in the future.
- The Center for Inquiry is a transnational, non-partisan, nonprofit 501(c)(3) organization that encourages evidence-based inquiry into science, medicine and health, religion, ethics, secularism and society. The Center for Inquiry aims to promote and defend reason, science and freedom of inquiry in all areas of human endeavor. Through education, research, publishing and social services, it seeks to present affirmative alternatives based on scientific naturalism.
- The Gay and Lesbian Medical Association (GLMA) was founded in 1981 as the American Association of Physicians for Human Rights with the mission of ensuring equality in health care for LGBT individuals and health care professionals. In addition to work on issues relating to cancer, hepatitis, mental health, substance abuse, and access to care for transgender persons, GLMA also addresses matters relating to health and wellness, such as marriage and family recognition. GLMA represents the interests of tens of thousands of LGBT health professionals of all kinds, as well as millions of LGBT patients. The group's membership includes approximately 1,000 member physicians, medical students, nurses, physician assistants, researchers, psychotherapists and other health professionals. While GLMA initially focused on HIV/AIDS and the issues faced by physicians coming

- out at work, GLMA has broadened its focus to become a leader in public policy advocacy related to LGBT health.
- The National Organization of Gay and Lesbian Scientists and Technical Professionals Inc. (NOGLSTP) is a nonprofit 501(c)(3) educational organization that works to eliminate stereotypes and discrimination against sexual minorities in the fields of science, technology, engineering and mathematics. The NOGLSTP seeks to engage in a dialogue with professional organizations and foster networks as well as to provide peer group support to its members. Additionally, the NOGLSTP fosters debate and exploration within the scientific community relating to the impact of science on society.
- The Society of Lesbian and Gay Anthropologists (SOLGA) of the American Anthropological Association was founded in 1988. SOLGA promotes communication, encourages research, develops teaching materials, and serves the interests of gay and lesbian anthropologists within the association.

### II. INDIVIDUAL AMICI\*\*

- Dr. Cynthia Beall is the S. Idell Pyle Professor of Anthropology at Case Western Reserve University. She received her Ph.D. from The Pennsylvania State University. Her research has been published in NATURE, the PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES, the JOURNAL OF APPLIED PHYSIOLOGY, AMERICAN ANTHROPOLOGIST, the AMERICAN JOURNAL OF PHYSICAL ANTHROPOLOGY, HUMAN BIOLOGY and elsewhere. She has been elected to fellowship in the American Association for the Advancement of Science and membership in both the National Academy of Sciences and the American Philosophical Society.
- <u>Dr. Peter Shawn Bearman</u> is the Jonathan Cole Professor of the Social Sciences and the acting chair of the Department of Statistics at Columbia University. He received his Ph.D. and M.A. in sociology from Harvard University, and his B.A. from Brown University. He is the author of HANDBOOK OF ANALYTIC SOCIOLOGY (Oxford University Press, forthcoming), and his scholarship has appeared in journals such as the AMERICAN SOCIOLOGICAL REVIEW, the AMERICAN JOURNAL OF SOCIOLOGY, SOCIAL FORCES, SOCIOLOGICAL FORUM, and SOCIAL SCIENCE

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The *amici*'s affiliations with various universities and institutions are noted for identification and information purposes only. The views expressed herein and in the attached brief are the individual views of the *amici*.

HISTORY. Dr. Bearman is the recipient of the National Institutes of Health's Pioneer Award and is an elected member of the Sociological Research Association. He has served on the editorial boards of the AMERICAN JOURNAL OF SOCIOLOGY, SOCIOLOGICAL THEORY, KINSHIP NETWORKS AND HISTORY, and SOCIAL FORCES.

- <u>Dr. Timothy Biblarz</u> is the Chair of the Department of Sociology at the University of Southern California. He received his Ph.D. in sociology from the University of Washington. Dr. Biblarz's research explores causes and consequences of social inequalities for individuals and groups in the United States over time, and over the life course, with an emphasis on family and intergenerational issues. He has published in the AMERICAN SOCIOLOGICAL REVIEW, the AMERICAN JOURNAL OF SOCIOLOGY, SOCIAL FORCES, the JOURNAL OF MARRIAGE AND THE FAMILY, and is co-author of HOW FAMILIES STILL MATTER (Cambridge University Press, 2002).
- Dr. Joan Brockman is a Professor at the School of Criminology, Simon Frasier University (SFU), and a (non-practicing) member of the Law Societies of Alberta and British Columbia. She has engaged in qualitative and quantitative research for over thirty years and has published in peerreviewed journals in both sociology and law. She evaluates applications for research funding for various granting institutions such as the Social Science and Humanities Research Council (SSHRC), the B.C. Law Foundation, and through her membership on the SFU/SSHRC Institutional Grants Committee. She has sat on the editorial boards of the CANADIAN JOURNAL OF LAW AND SOCIETY, LAW AND SOCIETY REVIEW, the CANADIAN JOURNAL OF WOMEN AND THE LAW, and the JOURNAL OF CONTEMPORARY CRIMINAL JUSTICE. She also reviews manuscripts for various peer-reviewed journals.
- Dr. Maggie Bruck is a full Professor of Psychiatry and Behavioral Sciences at Johns Hopkins University. She obtained her Ph.D. in experimental psychology in 1972 from McGill University. Over the past 35 years Dr. Bruck has published more than 100 articles, most of them in peer-reviewed journals. She is the recipient of numerous research grants to conducting scientific studies in the fields of children's language and memory, and has served on the editorial boards of APPLIED PSYCHOLINGUISTICS, the JOURNAL OF EXPERIMENTAL CHILD PSYCHOLOGY, CHILD DEVELOPMENT, and the JOURNAL OF EXPERIMENTAL PSYCHOLOGY: APPLIED. Dr. Bruck has taught numerous courses on experimental problems, research methods and measurement. She has also served as an expert witness in cases involving the reliability of children's testimony.

- Dr. Larry Bumpass is the N.B. Ryder Professor of Sociology-Emeritus at the University of Wisconsin where he has spent his career in research and teaching on the social and demographic aspects of family life in the United States. He was Co-Director of the National Survey of Families and Households, a longitudinal survey spanning 1987-2003 and the premier national data source on the family. His research on the social demography of the family includes cohabitation, marriage, the stability of unions, contraception and fertility, and the implications of these processes for children's living arrangements and subsequent life course development. He is a past President of the Population Association of America, has been Editor of its main journal DEMOGRAPHY, and served as Director of the Center for Demography and Ecology at the University of Wisconsin. Dr. Bumpass is a member of the National Academy of Sciences.
- Dr. Rodney D. Coates is a Professor in the Department of Sociology and Gerontology at Miami University of Ohio. Dr. Coates received his B.A. from Southern Illinois University, an M.A. in sociology and anthropology from the University of Illinois, and a second M.A. and Ph.D. in sociology from the University of Chicago. For 15 years, Dr. Coates directed the Black World Studies Program at Miami University. As a sociologist, Dr. Coates specializes in the study of race and ethnic relations, inequality, critical race theory, and social justice. Dr. Coates serves on the editorial boards of the AMERICAN SOCIOLOGICAL REVIEW; SOCIAL FORCES; and RACE, CLASS AND GENDER. He also is a member of the executive boards of the Southern Sociological Society and Sociologists without Borders. Dr. Coates is the immediate past chair of the Section of Race and Ethnic Minorities of the American Sociological Association, and has served in similar capacities for the Southern Sociological Society.
- <u>Dr. Philip N. Cohen</u> is an Associate Professor in the Department of Sociology at the University of North Carolina at Chapel Hill. He holds a Ph.D. in sociology from the University of Maryland at College Park, an M.A. in sociology from the University of Massachusetts at Amherst, and a B.A. from the University of Michigan, Ann Arbor. Dr. Cohen's scholarship has explored family living arrangements and childrearing, as well as gender and racial labor market inequality. Dr. Cohen serves on the editorial boards of the AMERICAN SOCIOLOGICAL REVIEW and SOCIAL FORCES.
- <u>Dr. Philip A. Cowan</u> is a Professor of Psychology Emeritus and currently Professor of the Graduate School at the University of California, Berkeley. He received his Ph.D. in Psychology from the University of Toronto. He is a former Director of the Institute of Human Development, and of the Clinical Psychology Program at Berkeley. Dr. Cowan is a co-director of three

longitudinal studies, following more than 500 families, of how couple and parent-child relationships affect children's adaptation. All three studies began with group interventions, led by mental health professionals, which had long-term positive effects on the couples, on parent-child relationships, and on their children. Dr. Cowan's research was funded continuously by the National Institute of Mental Health for 27 years. He is the author of PIAGET WITH FEELING (Holt, Rinehart, & Winston, 1978), the co-author with Carolyn Pape Cowan of WHEN PARTNERS BECOME PARENTS: THE BIG LIFE CHANGE FOR COUPLES (Basic Books, 1992), the co-editor of four additional books and monographs, and the author or co-author of more than 100 research articles published in peer-reviewed scientific journals and as chapters in books. Dr. Cowan consults widely with family research groups and reviews family research proposals at the national level in the United States, as well as in England, Israel, and Austria.

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