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Statistical and Research Terms to Avoid in Family Law in 2024

Michael Saini, PhD, MSW, RSW¹

With the approaching year-end of 2023, the anticipation builds for the upcoming announcements from various dictionaries, including authoritative sources such as the Oxford English Dictionary (<https://www.oed.com>) and Merriam-Webster (<https://www.merriam-webster.com/>), about the release of their annual addition of novel words and updates into their lexicons for the year 2024. This juncture presents a valuable opportunity for legal and mental health professionals to reflect upon the evolving language employed throughout the past year in the context of family law. Notable linguistic developments encompass the emergence of terms like "concept creep," "legal abuse," and "parenting plan evaluations," alongside the fading usage of phrases such as "sole custody," "visitation," and "child custody evaluations." Observing these linguistic shifts serves as a lens through which one can gain insights into the transformative dynamics within the realm of family law.

Within the scope of family law, a critical facet deserving re-evaluation pertains to utilizing statistical and research terms, as their imprecise usage may contribute to confusion or misinterpretation. Therefore, it becomes imperative for legal and mental health professionals to adopt a discerning approach when employing statistical concepts in the context of family law. This necessitates the use of language that is not only precise but also steering clear of terms that might introduce ambiguity or misunderstanding.

¹ Presenter Bio: Professor Michael Saini is a full professor at the Factor-Inwentash Faculty of Social Work and cross-appointed with the Faculty of Law at the University of Toronto. He holds the endowed Factor-Inwentash Chair in Law and Social Work, the Co-Director of the combined J.D. / M.S.W. program, and the Children and Families Field of Study Coordinator. Prof. Saini is the President-Elect of the Association of Family and Conciliation Courts (AFCC), a Board Member of Access for Parents and Children of Ontario (APCO), Family Mediation Canada (FMC), the Canadian Coalition of the Rights of the Child (CCRC) and an Associate Fellow of the International Academy of Family Lawyers. In 2019, he was awarded the Association of Family and Conciliation Courts' Stanley Cohen Distinguished Research Award, sponsored by the Oregon Family Institute.

In light of this, the following curated list of statistical and research terms merit avoidance in family law discourse as we enter 2024 (and beyond):

- **Empirical data:** The term "empirical data" is often misunderstood.² In the social sciences, all data are empirical when they are based on observation or experience.³ Misperception can arise from incorrectly equating "empirical" with "experimental" or "quantitative." However, non-quantified impressions from qualitative observations can qualify as empirical data.⁴ Family law practitioners should distinguish numerical data by referring to them as "quantified data" and exploratory data as "qualitative." This distinction clarifies that all research data, regardless of form, are fundamentally empirical and rooted in observation or experience.
- **Statistical proof:** The term "statistical proof" should be avoided in family law due to its potential to mislead.⁵ In legal contexts, "proof" implies a definitive conclusion, but statistical significance does not guarantee certainty in the research context. Statistical evidence is typically probabilistic rather than conclusive. The term "statistical proof" may create unrealistic expectations of certainty, leading to misunderstandings. Family law practitioners should avoid language that conveys absolute proof statements, such as "research says," and instead use more tentative terms, such as "research suggests."
- **"Gold standard":** Within the social sciences, authentic "gold standards" are exceedingly rare, if not entirely absent.⁶ All research methods, even those demonstrating high levels of internal validity for their designated purposes, inherently possess some degree of fallibility in controlling for all threats to the internal validity of the design. For example, there can be confusion between perfect matching and estimations of the control groups to serve as matching controls since the randomization is less likely to be balanced when the sample size is small or heterogeneous.⁷ Family law practitioners should be cautious in reporting RCTs of the risks of error, bias, and the potential threats to the internal validity of these designs so that they are not fooled by less-quality gold.

² Hornig, S., & Grady, C. (2003). Misunderstanding in clinical research: distinguishing therapeutic misconception, therapeutic misestimation, & therapeutic optimism. *IRB: Ethics & Human Research*, 25(1), 11-16.

³ Schutz, A. (2017). Concept and theory formation in the social sciences. In *Research Design* (pp. 25-36). Routledge.

⁴ Saini, M., & Shlonsky, A. (2012). *Systematic synthesis of qualitative research*. OUP USA.

⁵ Finkelstein, M. O. (2009). *Basic concepts of probability and statistics in the law* (p. 65). New York, NY, USA:: Springer.

⁶ Lilienfeld, S. O., Sauvigné, K. C., Lynn, S. J., Cautin, R. L., Latzman, R. D., & Waldman, I. D. (2015). Fifty psychological and psychiatric terms to avoid: a list of inaccurate, misleading, misused, ambiguous, and logically confused words and phrases. *Frontiers in Psychology*, 6, 1100.

⁷ Bruhn, M., & McKenzie, D. (2009). In pursuit of balance: Randomization in practice in development field experiments. *American economic journal: applied economics*, 1(4), 200-232.

- **Validated measure:** Practitioners relying solely on validated measures to assess their clients has long been considered problematic.⁸ While standardized tools offer a standard assessment, they may not capture the full complexity of individual experiences or unique contexts. Overreliance on validated measures might overlook important nuances, cultural variations, or evolving factors that impact the accuracy of assessments.⁹ Additionally, the validation process has inherent biases and may not encompass the breadth of diverse perspectives. Family law practitioners should balance the use of validated measures with qualitative insights, considering the limitations and potential biases of any assessment tool to ensure a comprehensive understanding of the subject being evaluated.
- **Statistical significance (p-value):** While statistical significance is a key aspect of research, overemphasizing it can lead to potential pitfalls.¹⁰ Relying solely on statistical significance may ignore practical significance and real-world relevance. A finding can be statistically significant but not necessarily meaningful in a broader context. Moreover, p-values, a standard metric for statistical significance, are sensitive to sample size and can be influenced by factors like multiple testing.¹¹ This can lead to false positives or overlook meaningful trends. Family law practitioners should interpret statistical significance within the broader context of effect size, practical importance, and the specific characteristics of the studied population to avoid overreliance on statistical significance alone.
- **$p < 0.000$.** A p-value less than 0.000 is a very small p-value, suggesting strong evidence against the null hypothesis.¹² However, it's essential to recognize that the specific numerical value of the p-value doesn't convey the practical significance or size of the effect. While extremely small p-values indicate statistical significance, researchers should consider effect sizes and contextual relevance for a comprehensive interpretation. Additionally, cautious interpretation is needed, especially when dealing with multiple comparisons, as very small p-values may arise by chance. Family law practitioners should discuss the importance of the research while avoiding the specific p-values to provide the reader with a more thorough understanding of the findings.

⁸ Emery, R. E., Otto, R. K., & O'donohue, W. T. (2019). A critical assessment of child custody evaluations: Limited science and a flawed system. In *Clinical Forensic Psychology and Law* (pp. 199-230). Routledge.

⁹ Meyer, G. J., Finn, S. E., Eyde, L. D., Kay, G. G., Moreland, K. L., Dies, R. R., ... & Reed, G. M. (2001). Psychological testing and psychological assessment: A review of evidence and issues. *American psychologist*, *56*(2), 128.

¹⁰ Cunningham, M. R., & Baumeister, R. F. (2016). How to make nothing out of something: Analyses of the impact of study sampling and statistical interpretation in misleading meta-analytic conclusions. *Frontiers in psychology*, *7*, 1639.

¹¹ Greenland, S., Senn, S. J., Rothman, K. J., Carlin, J. B., Poole, C., Goodman, S. N., & Altman, D. G. (2016). Statistical tests, P values, confidence intervals, and power: a guide to misinterpretations. *European journal of epidemiology*, *31*, 337-350.

¹² Lilienfeld, S. O., Sauvigné, K. C., Lynn, S. J., Cautin, R. L., Lutzman, R. D., & Waldman, I. D. (2015). Fifty psychological and psychiatric terms to avoid: a list of inaccurate, misleading, misused, ambiguous, and logically confused words and phrases. *Frontiers in Psychology*, *6*, 1100.

- **Type I / II Errors:** Relying solely on discussions of Type I and II errors may lead practitioners to overlook the broader context of statistical hypothesis testing.¹³ Focusing excessively on minimizing one type of error can inadvertently increase the risk of the other. Additionally, these errors are contingent on assumptions about sample size, effect size, and significance levels, which may only sometimes align with the practical significance of findings. Family law practitioners should consider a nuanced approach beyond fixating on error rates to ensure a more comprehensive and meaningful interpretation of statistical results.
- **Percentages:** When reporting research findings, percentages can be powerful tools for conveying information but may present challenges when misinterpreted or used without context. Raw percentages may lack crucial details, and their significance depends on the base value or sample size. Additionally, percentages can be manipulated to create misleading impressions. Considering the entire data set, providing context, and avoiding conclusions solely from percentages are essential.¹⁴ For a more comprehensive understanding, percentages should be used with other measures, and their interpretation should account for the specific context and characteristics of the presented data. Family law practitioners should avoid presenting percentages without context to ensure accurate interpretation.
- **Statically Reliable:** Relying solely on "statistically reliable" without considering the broader context may pose challenges. While statistical reliability is crucial, it doesn't guarantee the findings' practical significance or real-world applicability. A result can be statistically reliable but not necessarily meaningful or replicable in diverse settings. Moreover, focusing solely on reliability might overlook potential biases or limitations in the study design. Family law practitioners should complement statistical reliability assessments by considering the contextual relevance of the study's scope and applicability to ensure a more comprehensive and accurate interpretation of the research.
- **Variance Explained:** The term "variance explained" may be misleading when the predictor is merely a correlate, not a cause of the criterion variable.¹⁵ A more neutral alternative like "variance predicted" would accurately convey the concept without implying a causal relationship. Depending solely on "variance explained" can lead practitioners to overstate the practical significance of their findings. While a high percentage suggests a well-fitting model, it doesn't guarantee real-world importance. A model may explain variance without capturing crucial nuances or relevant factors. Family law practitioners should consider the broader context, potential confounders, and the substantive meaning of the explained variance.

¹³ Good, P. I., & Hardin, J. W. (2012). *Common errors in statistics (and how to avoid them)*. John Wiley & Sons.

¹⁴ Throsby, K., & Alexander, F. (Eds.). (2008). *Gender and interpersonal violence: Language, action and representation*. Springer.

¹⁵ Kock, N., & Lynn, G. (2012). Lateral collinearity and misleading results in variance-based SEM: An illustration and recommendations. *Journal of the Association for information Systems*, 13(7).

- **Reliable and Valid:** The widespread use of the term "reliable and valid" in research is criticized for oversimplification.¹⁶ Exclusively relying on "reliable and valid" assessments may create false confidence. Reliability ensures consistency; a measure can be consistently wrong if it lacks validity. Validity captures accuracy, which is crucial for meaningful inferences. By overemphasizing one at the expense of the other, there is the risk of misleading interpretations. Family law practitioners should balance both concepts, recognizing that a reliable but invalid measure can yield consistently flawed results. Additionally, the contextual relevance of reliability and validity to the specific study objectives must be considered.
- **Moderator/Mediator:** The terms "moderator" and "mediator" can lead to misinterpretations. While mediators have a specific role in alternative dispute resolution, and moderators are typically needed to help facilitate conference presentations,¹⁷ these terms have very different meanings in the research context. In research terms, mediators explain the process between variables, while moderators influence the strength or direction of relationships.¹⁸ Misidentifying one for the other can distort findings. Overemphasizing these roles may oversimplify complex relationships or ignore other influential factors. Family law practitioners should shift away from terms like "moderator" and associated terms like "interaction effect," "simple main effect," and "simple slope" to the more descriptive and straightforward "conditional effects." This adjustment minimizes linguistic confusion and emphasizes the core concept — the conditional nature of certain effects under specific conditions.

Avoiding these statistical and research terms helps to reduce scholar advocacy, which includes the intentional or unintentional use of research language and social science research to legitimize advocacy claims at the cost of misrepresenting research findings.¹⁹ Family law professionals should be mindful of the risk of imprecision when using statistical and research terms in family law matters. When research is presented, family law professionals should report the research tentatively, clearly, and accurately so that interpretations of research are handled with care.²⁰

¹⁶ Maxwell, J. A. (2017). The validity and reliability of research: A realist perspective. *The BERA/SAGE handbook of educational research, 1*, 116-140.

¹⁷ Salem, P. (2023) Personal Communication.

¹⁸ Igartua, J. J., & Hayes, A. F. (2021). Mediation, moderation, and conditional process analysis: Concepts, computations, and some common confusions. *The Spanish Journal of Psychology, 24*, e49.

¹⁹ Emery, R. E., Holtzworth-Munroe, A., Johnston, J. R., Pedro-Carroll, J. L., Pruett, M. K., Saini, M., & Sandler, I. (2016). "Bending" evidence for a cause: Scholar-advocacy bias in family law. *Family Court Review, 54*(2), 134-149.

²⁰ Association of Family and Conciliation Courts (2018) Guidelines for the Use of Social Science Research in Family Law. Retrieved online at [https://www.afccnet.org/Portals/0/PDF/AFCC%20Guidelines%20for%20the%20Use%20of%20Social%20Science%20Research%20in%20Family%20Law%20\(1\).pdf?ver=GO_nGCdSk6NYfKFiCGGkpg%3D%3D](https://www.afccnet.org/Portals/0/PDF/AFCC%20Guidelines%20for%20the%20Use%20of%20Social%20Science%20Research%20in%20Family%20Law%20(1).pdf?ver=GO_nGCdSk6NYfKFiCGGkpg%3D%3D)



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