

ARE WOMEN REALLY MORE RISK-AVERSE THAN MEN? A RE-ANALYSIS OF THE LITERATURE USING EXPANDED METHODS

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Abstract

While a substantial literature in economics and finance has concluded that ‘women are more risk averse than men’, this conclusion merits investigation. After briefly clarifying the difference between making generalizations about groups, on the one hand, and making valid inferences from samples, on the other, this essay suggests improvements to how economists communicate our research results. Supplementing findings of statistical significance with quantitative measures of both substantive difference (*Cohen's d*, a measure in common use in non-Economics literatures) and of substantive overlap (the *Index of Similarity*, newly proposed here) adds important nuance to the discussion of sex differences. These measures are computed from the data on men, women and risk used in 35 scholarly works from economics, finance and decision science. The results are considerably more mixed and overlapping than would commonly be inferred from the broad claims made in the literature, with standardized differences in means mostly amounting to considerably less than one standard deviation, and the degree of overlap between male and female distributions generally exceeding 80%. In addition, studies that look at contextual influences suggest that these contribute importantly to observations of differences both between and within the sexes.

References



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Barber, B.M. and Odean, T. (2001) Boys will be boys: gender, overconfidence, and common stock investment. *The Quarterly Journal of Economics* 116(1): 261–292.

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Baron-Cohen, S. (2003) *The Essential Difference: The Truth about the Male and Female Brain*. New York: Basic Books.

[Google Scholar](#)

Barsky, R.B., Juster, F.T., Kimball, M.S. and Shapiro, M.D. (1997) Preference parameters and behavioral heterogeneity: an experimental approach in the health and retirement study. *The Quarterly Journal of Economics* 112(2): 537–579.

[Web of Science®](#) | [Google Scholar](#)

Beckmann, D. and Menkhoff, L. (2008) Will women be women? Analyzing the gender difference among financial experts. *Kyklos* 61(3): 364–384.

[Web of Science®](#) | [Google Scholar](#)

Bellemare, C., Krause, M., Kröger, S. and Zhang, C. (2005) Myopic loss aversion: information feedback vs. investment flexibility. *Economics Letters* 87: 319–324.

[Web of Science®](#) | [Google Scholar](#)

Bernasek, A. and Shwiff, S. (2001) Gender, risk, and retirement. *Journal of Economic Issues* 35(2): 345–356.

[Web of Science®](#) | [Google Scholar](#)

Blau, F.D., Winkler, A.E. and Ferber, M.A. (2010) *The Economics of Women, Men and Work*. Upper Saddle River, NJ: Pearson Prentice Hall.

[Google Scholar](#)

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Bruhin, A., Fehr-Duda, H. and Epper, T. (2010) Risk and rationality: uncovering heterogeneity in probability distortion. *Econometrica* 78(4): 1375–1412.

[Web of Science®](#)  | [Google Scholar](#) 

Byrnes, J.P., Miller, D.C. and Schafer, W.D. (1999) Gender differences in risk taking: a meta-analysis. *Psychological Bulletin* 125(3): 367–383.

[Web of Science®](#)  | [Google Scholar](#) 

Carr, P.B. and Steele, C.M. (2010) Stereotype threat affects financial decision making. *Psychological Science* 21: 1411–1416.

[PubMed](#)  | [Web of Science®](#)  | [Google Scholar](#) 

Charness, G. and Genicot, G. (2009) An experimental test of inequality and risk-sharing arrangements. *Economic Journal* 119: 796–825.

[Web of Science®](#)  | [Google Scholar](#) 

Charness, G. and Gneezy, U. (2004) Gender, framing, and investment. *Mimeo (citation from Charness and Gneezy 2012; work not located)*.

[Google Scholar](#) 

Charness, G. and Gneezy, U. (2010) Portfolio choice and risk attitudes: an experiment. *Economic Inquiry* 48(1): 133–146.

[Web of Science®](#)  | [Google Scholar](#) 

Charness, G. and Gneezy, U. (2012) Strong evidence for gender differences in risk taking. *Journal of Economic Behavior & Organization* 83(1): 50–58.

[Web of Science®](#)  | [Google Scholar](#) 

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Cross, C.P., Copping, L.T. and Campbell, A. (2011) Sex differences in impulsivity: a meta-analysis. *Psychological Bulletin* 137(1): 97–130.

[PubMed](#) | [Web of Science®](#) | [Google Scholar](#)

Dindia, K. (2006) Men are from North Dakota, women are from South Dakota. In K. Dindia and D.J. Canary (eds.), *Sex Differences and Similarities in Communication* (pp. 3–18). New York: Routledge.

[Web of Science®](#) | [Google Scholar](#)

Dohmen, T., Falk, A., Huffman, D., Sunde, U., Schupp, J. and Wagner, G.G. (2011) Individual risk attitudes: measurement, determinants, and behavioral consequences. *Journal of the European Economic Association* 9(3): 522–550.

[Web of Science®](#) | [Google Scholar](#)

Dreber, A. and Hoffman, M. (2007) 2D:4D and risk aversion: evidence that the gender gap in preferences is partly biological. *Mimeo (citation taken from Charness and Gneezy 2012; work not located)*.

[Google Scholar](#)

Dreber, A., Rand, D.G., Garcia, J.R., Wernerfelt, N., Lum, J.K. and Zeckhauser, R. (2010) Dopamine and risk preferences in different domains. *Working Paper Series, Harvard University, John F. Kennedy School of Government*.

[Google Scholar](#)

Duncan, O.D. and Duncan, B. (1955) A methodological analysis of segregation indexes. *American Sociological Review* 20(2): 210–217.

[Web of Science®](#) | [Google Scholar](#)

Durlak, J.A. (2009) How to select, calculate, and interpret effect sizes. *Journal of Pediatric Psychology* 34(9): 917–928.

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Eliot, L. (2009) *Pink Brain, Blue Brain: How Small Differences Grow into Troublesome Gaps—And What We Can Do About It*. Boston: Houghton Mifflin Harcourt.

[Google Scholar](#) 

Eriksson, K. and Simpson, B. (2010) Emotional reactions to losing explain gender differences in entering a risky lottery. *Judgment and Decision Making* 5(3): 159–163.

[Web of Science®](#)  | [Google Scholar](#) 

Ertac, S. and Gurdal, M.Y. (2012) Deciding to decide: gender, leadership and risk-taking in groups. *Journal of Economic Behavior & Organization* 83(1): 24–30.

[Web of Science®](#)  | [Google Scholar](#) 

Fehr-Duda, H., Gennaro, M.D. and Schubert, R. (2006) Gender, financial risk, and probability weights. *Theory and Decision* 60: 283–313.

[Web of Science®](#)  | [Google Scholar](#) 

Fellner, G. and Sutter, M. (2004) How to overcome the negative effects of myopic loss aversion—an experimental study. *Mimeo, MPI Jena (citation from Charness and Gneezy 2012; work not obtained)*.

[Google Scholar](#) 

Finucane, M.L., Slovic, P., Mertz, C.K., Flynn, J. and Satterfield, T.A. (2000) Gender, race, and perceived risk: the ‘white male’ effect. *Health, Risk & Society* 2(2): 159–172.

[Web of Science®](#)  | [Google Scholar](#) 

Flynn, J., Slovic, P. and Mertz, C.K. (1994) Gender, race, and perception of environmental health risks. *Risk Analysis* 14(6): 1101–1108.

[CAS](#)  | [PubMed](#)  | [Web of Science®](#)  | [Google Scholar](#) 

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Gong, B. and Yang, C.-L. (2012) Gender differences in risk attitudes: field experiments on the matrilineal Mosuo and the patriarchal Yi. *Journal of Economic Behavior & Organization* 83(1): 59–65.

[Web of Science®](#) | [Google Scholar](#)

Gray, J. (1993) *Men are from Mars, Women are from Venus*, New York: HarperCollins.

[Google Scholar](#)

Harris, C.R., Jenkins, M. and Glaser, D. (2006) Gender differences in risk assessment: why do women take fewer risks than men? *Judgment and Decision Making* 1(1): 48–63.

[Web of Science®](#) | [Google Scholar](#)

Henrich, J., Heine, S.J. and Norenzayan, A. (2010) The weirdest people in the world? *Behavioral and Brain Sciences* 33(2/3): 1–23.

[PubMed](#) | [Web of Science®](#) | [Google Scholar](#)

Holt, C.A. and Laury, S.K. (2002) Risk aversion and incentive effects. *The American Economic Review* 92(5): 1644–1655.

[Web of Science®](#) | [Google Scholar](#)

Huber, C. (2013) Measures of effect size in Stata 13. *The Stata Blog*. Available at <http://blog.stata.com/2013/09/05/measures-of-effect-size-in-stata-13/>. (Last accessed January 12, 2012).

[Google Scholar](#)

Hyde, J.S. (2005) The gender similarities hypothesis. *American Psychologist* 60(6): 581–592.

[PubMed](#) | [Web of Science®](#) | [Google Scholar](#)

Hartog, J., Ferrer-i-Carbonell, A. and Jonker, N. (2002) Linking measured risk aversion to individual characteristics. *Kyklos* 55(1): 2–26.

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Khemlani, S., Leslie, S.-J. and Glucksberg, S. (2009) Generics, prevalence, and default inferences. In N. Taatgen and H. v. Rijn (eds.), *Proceedings of the 31st Annual Conference of the Cognitive Science Society* (pp. 443–448). Austin, TX: Cognitive Science Society.

[Google Scholar](#) 

Kristof, N. D. (2009) *Mistresses of the Universe*. New York: New York Times. Available at http://www.nytimes.com/2009/02/08/opinion/08kristof.html?_r=0 (Last accessed August 16, 2012).

[Google Scholar](#) 

Lagarde, C. (2010) Women, power and the challenge of the financial crisis. *International Herald Tribune*: Op-Ed. Available at <http://www.nytimes.com/2010/05/11/opinion/11iht-edlagarde.html> (Last accessed August 11, 2012).

[Google Scholar](#) 

Langer, T. and Weber, M. (2004) Does binding or feedback influence myopic loss aversion? An experimental analysis. *CEPR Discussion Paper Series*. London: Center for Economic Policy Research.

[Google Scholar](#) 

Levin, I.P., Snyder, M.A. and Chapman, D.P. (1988) The interaction of experiential and situational factors and gender in a simulated risky decision-making task. *The Journal of Psychology and Financial Markets* **122**(2): 173–181.

[Web of Science®](#)  | [Google Scholar](#) 

Lindquist, G.S. and S ave-S oderbergh, J. (2011) “Girls will be Girls”, especially among boys: risk-taking in the “Daily Double” on jeopardy. *Economics Letters* **112**(2): 158–160.

[Web of Science®](#)  | [Google Scholar](#) 

Martell, R.F., Lane, D.M. and Emrich, C. (1996) Male-female differences: a computer simulation. *American Psychologist* **51**(2): 157–158.

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Morris, N. (2009) Harriet Harman: 'If only it had been Lehman Sisters'. *The Independent*. London. Available at <http://www.independent.co.uk/news/uk/home-news/harriet-harman-if-only-it-had-been-lehman-sisters-1766932.html> (Last accessed August 11, 2012).

[Google Scholar](#) 

Nelson, J.A. (2013) Not-so-strong evidence for gender differences in risk taking. Working Paper, Department of Economics, University of Massachusetts Boston.

[Google Scholar](#) 

Nelson, J.A. (2014). The power of stereotyping and confirmation bias to overwhelm accurate assessment: the case of economics, gender, and risk aversion. *Journal of Economic Methodology*, 21(3): 211–231.

[Google Scholar](#) 

Olen, H. (2012) *Pound Foolish: Exposing the Dark Side of the Personal Finance Industry*. New York: Portfolio/Penguin.

[Google Scholar](#) 

Olofsson, A. and Rashid, S. (2011) The white (male) effect and risk perception: can equality make a difference? *Risk Analysis* 31(6): 1016–1032.

[PubMed](#)  | [Web of Science®](#)  | [Google Scholar](#) 

Olsen, R.A. and Cox, C.M. (2001) The influence of gender on the perception and response to investment risk: the case of professional investors. *The Journal of Psychology and Financial Markets* 2(1): 29–36.

[Web of Science®](#)  | [Google Scholar](#) 

Powell, M. and Ansic, D. (1997) Gender differences in risk behaviour in financial decision-making: an experimental analysis. *Journal of Economic Psychology* 18: 605–628.

[Web of Science®](#)  | [Google Scholar](#) 

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Ronay, R. and Kim, D.-Y. (2006) Gender differences in explicit and implicit risk attitudes: a socially facilitated phenomenon. *British Journal of Social Psychology* 45(2): 397-419.

[PubMed](#) | [Web of Science®](#) | [Google Scholar](#)

Sandberg, S. (2013) Speak up, believe in yourself, take risks. *CNN Opinion*. Available at <http://www.cnn.com/2013/03/18/opinion/sandberg-take-risks/> (Last accessed March 18, 2013).

[Google Scholar](#)

Schubert, R., Brown, M., Gysler, M. and Brachinger, H.W. (1999) Financial decision-making: are women really more risk-averse? *American Economic Review* 89(2): 381-385.

[Web of Science®](#) | [Google Scholar](#)

Stanley, T.D. (2001) Wheat from chaff: meta-analysis as quantitative literature review. *Journal of Economic Perspectives* 15(3): 131-150.

[Web of Science®](#) | [Google Scholar](#)

Stanley, T.D., Doucouliagos, H., Giles, M., Heckemeyer, J.H., Johnston, R.J., Laroche, P., Nelson, J.P., Paldam, M., Poot, J. and Pugh, G. (2013) Meta-analysis of economics research reporting guidelines. *Journal of Economic Surveys* 27(2): 390-394.

[Web of Science®](#) | [Google Scholar](#)

Sunden, A.E. and Surette, B.J. (1998) Gender differences in the allocation of assets in retirement savings plans. *The American Economic Review* 88(2): 207-211.

[Web of Science®](#) | [Google Scholar](#)

Tanaka, T., Camerer, C.F. and Nguyen, Q. (2010) Risk and time preferences: linking experimental and household survey data from Vietnam. *American Economic Review* 100(1): 557-571.

[Web of Science®](#) | [Google Scholar](#)

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Reject Non-Essential

Yu, F. (2006) Information availability and investment behavior. *Mimeo, University of Chicago. (citation from Charness and Gneezy 2012; work not obtained).*

Zakzanis, K.K. (2001) Statistics to tell the truth, the whole truth, and nothing but the truth: formulae, illustrative numerical examples, and heuristic interpretation of effect size analyses for neuropsychological researchers. *Archives of Clinical Neuropsychology* 16: 653–667.

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