



## **GENDER AND FINANCIAL RISK: THE U.S. AND BRAZIL**

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### **Abstract:**

*This study intends to add to the debate whether differences in risk behaviours exist between genders. These results are used to inform the conversation about the role of gender in management and leadership. The design is an investment game in which participants could gain or lose money from investing in a hypothetical risky asset. Participants were first paid \$10 to complete a survey. They could then invest any or all of this \$10 in a risky asset with a known probability of gaining and losing. After winnings from the first round of investments were dispersed, a second chance to invest in the same asset was offered. The findings suggest that there is no difference between genders in their willingness to invest into the risky asset. This held true for the pooled data and for the U.S. and Brazil data separately. It is often assumed that the inherent risk behaviours differs between genders and, often times, this information is used when making promotion or hiring decisions. The methodology offers a unique approach to measuring financial risk taking at an individual level. The investment game included salient rewards and subjects were in a setting where other factors could be controlled.*

**Key words:** *Risk, gender, leadership, Brazil*

### **1. Introduction**

Across the world, women are significantly underrepresented in leadership and management in business and political governance, representing only 14.6% of Fortune 500 Executive Officer positions in 2013, 21% of senior management positions across seven major industrialized countries and 22% of parliamentary positions worldwide (Catalyst, 2014; Grant Thornton, 2014; United Nations, 2015).

Eagly and Carli (2007) explain that the demands of family life, leading to underinvestment in social capital at the higher tiers of the office, acts as a barrier to

entry for women to leadership and management. They also add that stereotypical perceptions of male and female leadership hinder them. For instance, more people consider men to be better than women at negotiating profitable deals and taking risks (PewResearchCenter, 2015).

Within the context of effective management, Gandz and Seijts (2013) explain that being able to handle risk well is one of the qualities of a good leader. Executives are increasingly considering risk management to be significant in today's dynamic world (KPMG, 2013). In addition, several studies have found a positive and significant relationship between effective risk management and firm performance (Damodaran, 2007; McShane et al., 2014; Walls, 2005). This leads to the following types of questions: Are men better suited for these roles, given their propensity to take on more risk than women? Are women too risk averse to effectively work with the uncertainties that come with such positions? Essentially, is there a gender difference in risk perception, thus affecting subsequent risk behavior, which could impact the persons' proficiency in leadership and management?

Men and women have been found to assess risk differently, with women being, on average, more risk-averse than men due to factors like discrepancies in confidence levels and emotional responses (Byrnes *et al.*, 1999). Nevertheless, studies show that such gender differences in risk perception and behavior is small or non-existent between men and women in management and other professional roles (Atkinson *et al.*, 2003; Johnson and Powell, 1994). This suggests that these observed differences within the general population might have been due to discrepancies in the mediums of economic opportunity like education, experience, wealth, etc. rather than inherent gender traits.

The following study attempts to add to the gender differences in risk literature by analyzing data from a survey and investment game that a sample of students from the U.S. and Brazil participated in. The findings suggest that difference in gender does not have an impact on risk perception.

The paper begins with a review of the literature, which is followed by an explanation of the experimental design and procedure and a discussion of the results. It ends with a conclusion that summarizes the findings, discusses its implications and limitations, and suggests future directions for research.

## **2. Literature Review**

### *Women in Leadership and Management*

Much fewer women than men are in leadership and management positions in both business and political governance. For instance, worldwide, only 24% of senior management positions are held by women, while only 10 serve as heads of state and 14 as heads of government (United Nations, 2015).

Many factors are cited to explain the lack of women in leadership positions. One line of thought is that, due to societal norms, women are expected to be in charge of most of the household production activities like child rearing and managing of the

home (Boudet *et al.*, 2013). These activities not only keep them away from participation in the labor market but also from attaining management positions due to the loss of human capital and lack of experience. (Anderson *et al.*, 2002; Gough and Noonan, 2013).

In addition, according to Eagly and Carli (2007) men are usually linked with traits that connote leadership like assertion and control, while women are linked with communal qualities that are more related to compassion, thus skewing the evaluation of female leadership. Eagly *et al.* (1992) reviews research on the evaluation of women and men in leadership roles, to find that women were devalued relative to their male counterparts when they carried out their duties in stereotypically masculine styles. Also, analysis of survey data showed that 18% of the public perceive men to be more capable at negotiating profitable deals and 34% perceive men to be better at risk-taking than women. On the other hand, only 7% consider women to be better at negotiating profitable deals and 5% think that women are better risk-takers (PewResearchCenter, 2015). This demonstrates the persistence of negative perceptions with respect to females in leadership and management.

#### *Gender Differences in Risk Perception*

Several studies do show that men and women perceive risk differently (Croson and Gneezy, 2009; Harris *et al.*, 2006). For instance, Charness and Gneezy (2012) examine data from 15 sets of experiments with one underlying investment game across different countries. They found that women were more financially risk averse than men because they invested less. Byrnes *et al.* (1999) conducted a meta-analysis of 150 studies and found greater risk taking in men. However, they also found this gender gap to be growing smaller over time.

Many explanations are offered to account for this disparity. Lundeberg *et al.* (1994) studied responses from male and female students with respect to their confidence levels about their answers on their tests. She found both men and women to be overconfident. However, men were found to be more overconfident than women. Such kinds of highly overconfident individuals perceive risk to be more controllable, thus making them less risk-averse. Additionally, it is argued that men and women have different emotional responses. Upon reviewing the literature on gender differences in fear, Mclean and Anderson (2009), find that women report greater fear than men. Men and women experience and deal with stress in different ways as well, as indicated by Matud (2004) who found higher scores of chronic and minor daily stress in women when compared to men. Finally, Arch (1993) concludes that men tend to perceive risky situations as challenging thereby encouraging participation, while women tend to perceive risky situations as threats thereby encouraging avoidance.

#### *Gender, Risk and Management*

However, upon studying people in management and other professional roles, such gender differences in the perception of risk was found to be small or non-existent

(Atkinson *et al.*, 2003). For instance, Johnson and Powell (1994) study respondents from a “non-managerial” population and a “managerial” population to find both sexes displaying similar risk propensity in “managerial” populations and dissimilar risk propensity (women being more risk-averse than men) in “non-managerial” population. This suggests the evolution of risk evaluation as women gather more education, experience, wealth, etc.

#### *Non-Gender Risk Factors*

Several other factors may affect one’s perception of risk apart from gender. For instance, studies have found entrepreneurs to have a higher risk propensity than non-entrepreneurs (Begley and Boyd, 1988; Carland *et al.*, 1995; McGrath *et al.*, 1992). Stewart and Roth (2001 and 2004) conducted a meta-analytic review of the literature to find that managers were more risk averse than entrepreneurs. However, in light of opposing results by Brockhaus (1980) and Miner and Raju (2004), Low and MacMillan (2007) suggested that it might be more insightful to say that entrepreneurs have more ability to manage risk where they view some situations to be less risky which would be viewed by others to be very risky.

Certain demographic characteristics have also been found to be related to a person’s attitude towards risk. For instance, age has been found to be inversely related to risk-taking behavior (Nicholson *et al.*, 2005; Pålsson, 2006). Also, many have found that those who are married tend to be less risk tolerant or engage in less risky behavior than the unmarried (Halek, 2001; Hallahan, 2004). Finally, whites have been found to be less risk averse than other non-white groups (Brown, 2007; Fang *et al.*, 2013). Others have found a “white male effect” where white men were found to be more risk tolerant than white women and other ethnic categories of both sexes (Flynn *et al.*, 1994; Kahan *et al.*, 2007).

### **3. Methodology**

Seventy eight students were recruited from economics courses at the University of New Mexico (UNM) and 54 students were recruited from a variety of courses at *Universidade Católica de Brasília* (UCB) in Brasília, DF Brazil. Four sessions were conducted in a one-week span at UNM and three sessions were held at UCB over a two week span. Students received very limited information regarding the nature of the study during recruitment. They were made aware that they had an opportunity to receive as much as US\$40 or R\$40 (R\$ will denote Brazilian *Reais*) for participating. Thanks to the Latin American and Iberian Institute at the University of New Mexico for the financial support of this study.

Once participants entered the experimental area and were seated, they were given the initial instructions. Each participant was told they were being paid US\$/R\$10 (in US\$/R\$1 denominations) for completing a survey, hence, giving them the impression that they were going to “earn” the money. All monies in the experiment sessions were conducted using actual monetary notes, not experiment or game

money. This tactic of paying the respondent to complete the task, which was also used by Eckel and Grossman (2008), was implemented to account for the house money effect. As described by Thaler and Johnson (1990), the presence of the house money effect implies that participants may make riskier choices if they have experienced a recent financial gain.

The survey consisted of a subset of questions from the Entrepreneurial Attitudes Orientation (Robinson *et al.*, 1991). Upon completing the survey, participants were then informed that they would have the opportunity to invest in a risky asset. Participants could invest any portion of their earnings into this asset, of which they had a 60% chance of gaining and a 40% chance of losing from their investment. For example, if a participant chose to invest US\$/R\$7 and lost, he/she would be left with US\$/R\$3. However, if he/she gained from the investment he/she would receive the US\$/R\$7 plus an additional amount equal to the investment amount. Therefore, he/she would receive US\$/R\$14. The expected payout from round 1,  $E(P_1)$ , can be seen in equation (1), where  $0 < x_1 < 10$  is the chosen round 1 investment. The expected payout for round 1 is always greater than the US\$/R\$10 survey payment because the probability of gaining from the investment is larger than the probability of losing and the gain/loss amount is equal to the investment amount. The expected payout for round 2,  $E(P_2)$ , is shown in equation (2), where  $Y$  is the starting value after the gain and/or loss from round 1 has been realized.  $0 < x_2 < 20$  is the chosen round 2 investment amount. The final expected payout is equal to the expected payout from round 2 because the participants did not know of the second round of play when making the round 1 decision.

$$E(P_1) = .6(10 + x_1) + .4(10 - x_1) \quad (1)$$

$$E(P_2) = .6(Y + x_2) + .4(Y - x_2) \quad (2)$$

The probability of gaining or losing from the investment was dictated by allowing the participants to choose a card from a stack of 10 playing cards. The stack was comprised of the ace through the 10 of spades. A draw of an ace through six represented a gain and a draw of seven through ten represented a loss.

Once the gains and losses had been accounted for and dispersed to all participants, they were given the opportunity to invest in the same risky asset again with identical probabilities of gaining or losing. Theoretically, some participants could have zero money to invest if they invested all of their money in the first round and lost. On the other hand, if someone invested all of his/her money in the first round and gained, then he/she would begin the second round with a total of US\$/R\$20 to invest. The stack of playing cards was used again to determine if a participant gained or lost from the investment. Once this round was over and the gains and losses were ascertained and disbursed, the participants received a receipt and were free to go. The sessions in Brazil were conducted in Portuguese.

#### 4. Results

To measure willingness to take on risk, participants were categorized as risky based on what percentage of their money was invested in the risky asset. Table (1) shows the investment percentage by gender and location. These results include the investment decisions from both rounds. The percentages reported in Table (1) is the percentage of total money which was invested in round 1 and 2 determined by  $[(x_1 + x_2)/(10 + T)] * 100$ .

**Table 1: Investment Percentage by Gender and Location**

US	Mean	Std. Dev.	N
Male	50.28%	23.871	46
Female	44.41%	20.938	32
<b>Brazil</b>			
Male	45.35%	11.111	26
Female	45.95%	16.667	28
<b>Pooled</b>			
Male	48.50%	23.387	72
Female	45.12%	19.072	60

Overall, males invested 48.5% of their money and females invested 45.12%. In Brazil, females invested at a higher rate than males, where males invested 45.35% of their money and females 45.95%. Males in the U.S. invested 50.28% of their money and females invested 44.41%. However, none of these differences were statistically significant. Also, the differences in means were tested between U.S. vs Brazil males and U.S. vs Brazil females and there was no statistically significant difference between their respective investment choices.

As some of the previous literature suggests there are other variables which could cause a variation in an individual's risk taking propensity. In an attempt to control for these other factors, an ordinary least squares regression was employed. Please see equation (3) for the model specification.

$$investperc = \alpha + \beta_1 investperc + \gamma_1 entrepreneurial + \beta X + \beta_{brazil} + \mu_{female} \quad (3)$$

*investperc* is the investment percentage as described in the preceding discussion. The *entrepreneurial* variable is a continuous variable ranging from 0 to 10 based on the subjects' responses to the Entrepreneurial Attitude Orientation. This is a commonly used tool to measure entrepreneurial attitudes and is found to be over 70% reliable in predicting who is an entrepreneur (Robinson *et al.*, 1991). The vector *X* contains the demographic indicators of age, marital status and ethnicity. Marital status is a binary variable equal to 1 for married and 0 for not. Ethnicity was categorized as white and non-white and was included as a binary control. The reason for including all of the non-

white variables into one category is due to the differences in the way ethnicity is reported in the U.S. and Brazil. Some categories, such as Moreno, is commonly used in Brazil but not in the U.S. Also, Hispanic is a category common in the U.S. but not in Brazil. Therefore, some of the ethnicity variables had a very small sample size. The control variable, *brazil*, is also a binary equal to 1 if the observation is from Brazil and 0 if from the U.S. Finally, the variable of most interest in the model is *female*. The value of this variable is 1 if the individual is female and 0 if male.

The summary statistics of the variables can be seen in Table 2. From this sample, the average EAO score was 6.324. Around 10% of the sample was married which is expected since all of the participants were college students. This is also why the average age is just over 23 years. 54.5% of the sample were male and 47% were white. About 41% of the data was generated from the experiment in Brazil.

**Table 2: Summary Statistics**

Variable	Mean	Std. Dev.
investperc	46.966	21.520
entrepreneurial	6.324	0.839
married	0.106	0.309
Male	0.545	0.500
White	0.470	0.501
Brazil	0.409	0.494
Age	23.402	7.055
Observations	132	

Table 3 presents the results from the regression. The results suggest that the more entrepreneurial an individual is the more likely they are to take financial risks. This finding is discussed in more detail in Barber III (2015). Also, white individuals invested at a significantly higher rate than non-whites. There was no strong difference between countries as seen in the previous descriptive statistics. The coefficient for the gender variable was not found to be statistically significant. Therefore, it reinforces the finding that, in this sample, there was no difference in the risk taking tendencies between males and females. The regression attempts to control for other factors that may influence risk taking and the earlier finding was still supported. It is important to note that the explanatory power of the regression model is low due to data limitations.

**Table 3: Regression Results**

VARIABLES	investperc
entrepreneurial	5.959** (2.374)
married	-7.199 (7.505)
male	2.281

	(3.622)
brazil	-0.665
	(4.023)
age	0.333
	(0.319)
white	6.590*
	(3.780)
Constant	-1.810
	(16.83)
Observations	132
R-squared	0.099
Standard errors in parentheses	
*** p<0.01, ** p<0.05, * p<0.1	

## 5. Conclusion

Upon examining students in Brazil and the U.S. this study found no support for differences in financial risk taking among genders. Males were more likely than females to invest at a higher rate in the risky asset; however, this difference is not statistically significant. This result held true for the pooled data as well as for the U.S. and Brazil data separately. Therefore, these findings, along with papers that have found similar results, might suggest that statistically discriminating against women in the workforce on the basis of their presupposed risk propensity (as in being more risk averse than men) is not efficacious. In fact, several studies have found a positive and significant relationship between gender diversity at the board level, and firm performance as measured by the Tobin's Q, Return on Equity, Return on Assets, etc. (Campbell and Minguez-Vera, 2008; Erhardt *et al.*, 2003; Lückerath-Rovers, 2013; Smith *et al.*, 2006). Carter *et al.* (2003) extends the conceptual case for diversity in the workplace in general, summarized by Cox and Blake (1991) and Robinson and Dechant (1997), to board diversity. He explains that it increases creativity, innovation and effective problem solving due to the availability of a broader perspective and heterogeneity in opinion that can lead to better decisions.

However, due to a small sample of students as the basis for the data in this experiment, careful attention must be paid when attempting to generalize the results. Each group from the U.S. and Brazil was not nationally representative due to only being chosen from amongst university students. In addition, other control variables that could affect risk perception like knowledge/intelligence, personal facets, religious beliefs, etc. were not included in the analysis due to data limitations. It is also important to note that this study adds to the unsettled debate about gender differences in risk perception by studying individual behavior. A future research agenda could include a more representative sample which would lead to the ability of more robust hypothesis testing.



## **6. References**

- Arch, E. C. (1993), "Risk-taking: a motivational basis for sex differences", *Psychological Reports*, Vol. 73 No. 1, pp. 3-11.
- Atkinson, S. M., Baird, S. B., and Frye, M. B. (2003), "Do female mutual fund managers manage differently?", *Journal of Financial Research*, Vol. 26 No. 1, pp. 1-18.
- Anderson, D. J., Binder, M., and Krause, K. (2002), "The motherhood wage penalty: Which mothers pay it and why?", *American Economic Review*, Vol. 92 No. 2, pp. 354-358.
- Barber III, D. (2015), "An experimental analysis of risk and entrepreneurial attitudes of university students in the U.S. and Brazil", Forthcoming: *Journal of International Entrepreneurship*.
- Begley, T. M., and Boyd, D. P. (1988), "Psychological characteristics associated with performance in entrepreneurial firms and smaller businesses", *Journal of Business Venturing*, Vol. 2 No. 1, pp. 79-93.
- Boudet, A. M., Petesch, P., Turk, C., and Thumala, A. (2013), "On norms and agency: Conversations about gender equality with women and men in 20 countries", World Bank Publications, Washington, D.C.
- Brockhaus, R. H. (1980), "Risk taking propensity of entrepreneurs", *Academy of Management Journal*, Vol. 23 No. 3, pp. 509-520.
- Brown, D. A. (2007), "Pensions and risk aversion: The influence of race, ethnicity, and class on investor behavior", *Lewis and Clark Law Review*, Vol. 11, pp. 385.
- Byrnes, J. P., Miller, D. C., and Schafer, W. D. (1999), "Gender differences in risk taking: A meta-analysis", *Psychological Bulletin*, Vol. 125 No. 3, pp. 367.
- Campbell, K., and Mínguez-Vera, A. (2008), "Gender diversity in the boardroom and firm financial performance", *Journal of Business Ethics*, Vol. 83 No. 3, pp. 435-451.
- Carter, D. A., Simkins, B. J., and Simpson, W. G. (2003), "Corporate governance, board diversity, and firm value", *Financial Review*, Vol. 38 No. 1, pp. 33-53.
- Catalyst (2014). "Quick Take: Women in the United States", available at: <http://www.catalyst.org/knowledge/women-united-states> (accessed 12 July 2015).
- Carland III, J. W., Carland Jr, J. W., Carland, J. A. C., and Pearce, J. W. (1995), "Risk taking propensity among entrepreneurs, small business owners and managers", *Journal of Business and Entrepreneurship*, Vol. 7 No. 1, pp. 15.
- Charness, G., and Gneezy, U. (2012), "Strong evidence for gender differences in risk taking", *Journal of Economic Behavior and Organization*, Vol. 83 No. 1, pp. 50-58.
- Cox, T.H., and Blake, S. (1991), "Managing cultural diversity: Implications for organizational competitiveness", *The Executive*, pp. 45-56.
- Croson, R., and Gneezy, U. (2009), "Gender differences in preferences", *Journal of Economic Literature*, Vol. 47 No. 2, pp. 448-474.
- Damodaran, A. (2007), *Strategic Risk Taking: A framework for risk management*, Pearson Prentice Hall, New Jersey.
- Eagly, A. H., Makhijani, M. G., and Klonsky, B. G. (1992), "Gender and the evaluation of leaders: A meta-analysis", *Psychological Bulletin*, Vol. 111 No. 1, pp. 3.
- Eagly, A. H., and Carli, L. L. (2007), *Through the Labyrinth: The truth about how women become leaders*, Harvard Business Press, New York.
- Eckel, C. C., and Grossman, P. J. (2008), "Men, women and risk aversion: Experimental evidence", *Handbook of Experimental Economics Results*, Vol. 1 No. 7, pp. 1061-1073.

- Erhardt, N. L., Werbel, J. D., and Shrader, C. B. (2003), "Board of director diversity and firm financial performance", *Corporate Governance: An international review*, Vol. 11 No. 2, pp. 102-111.
- Fang, M. C., Hanna, S. D., and Chatterjee, S. (2013), "The Impact of Immigrant Status and Racial/Ethnic Group on Differences in Responses to a Risk Aversion Measure", *Journal of Financial Counseling and Planning*, Vol. 24 No. 2. pp. 63.
- Flynn, J., Slovic, P., and Mertz, C. K. (1994), "Gender, race, and perception of environmental health risks", *Risk Analysis*, Vol. 14 No. 6, pp. 1101-1108.
- Gandz, J. and Seijts, G. (2013), "Leadership and Risk Culture", available at: <http://iveybusinessjournal.com/publication/leadership-and-risk-culture/> (accessed 8 April 2015).
- Gough, M., and Noonan, M. (2013), "A review of the motherhood wage penalty in the United States", *Sociology Compass*, Vol. 7 No. 4, pp. 328-342.
- Grant Thornton, (2014), "Women in Business: From Classroom to Boardroom", available at: [http://www.grantthornton.global/globalassets/insights/article-pdfs/2014/ibr2014\\_wib\\_report\\_final.pdf](http://www.grantthornton.global/globalassets/insights/article-pdfs/2014/ibr2014_wib_report_final.pdf) (accessed 8 April 2015).
- Halek, M., and Eisenhauer, J. G. (2001), "Demography of risk aversion", *Journal of Risk and Insurance*, Vol. 68 No. 1, pp. 1-24.
- Hallahan, T. A., Faff, R. W., and McKenzie, M. D. (2004), "An empirical investigation of personal financial risk tolerance", *Financial Services Review*, Vol. 13 No. 1, pp. 57-78.
- 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*, Vol. 1 No. 1, pp. 48-63.
- Johnson, J. E., and Powell, P. L. (1994), "Decision making, risk and gender: are managers different?", *British Journal of Management*, Vol. 5 No. 2, pp. 123-128.
- Kahan, D. M., Braman, D., Gastil, J., Slovic, P., and Mertz, C. K. (2007), "Culture and identity-protective cognition: Explaining the white-male effect in risk perception", *Journal of Empirical Legal Studies*, Vol. 4 No. 3, pp. 465-505
- KPMG (2013), "Expectations of Risk Management Outpacing Capabilities-It's Time for Action", available at: <http://www.kpmg.com/Global/en/IssuesAndInsights/ArticlesPublications/risk-management-outpacing-capabilities/Documents/expectations-risk-management-survey.pdf>
- Low, M. B., and MacMillan, I. C. (2007), "Entrepreneurship: Past research and future challenges", *Entrepreneurship: Concepts, Theory and Perspective*, pp. 131-154.
- Lückerath-Rovers, M. (2013), "Women on boards and firm performance", *Journal of Management and Governance*, Vol. 17 No. 2, pp. 491-509.
- Lundeberg, M. A., Fox, P. W., and Punčohaf, J. (1994), "Highly confident but wrong: Gender differences and similarities in confidence judgments", *Journal of Educational Psychology*, Vol. 86 No. 1, pp. 114.
- Matud, M. P. (2004), "Gender differences in stress and coping styles", *Personality and Individual Differences*, Vol. 37 No. 7, pp. 1401-1415.
- McGrath, R. G., MacMillan, I. C., and Scheinberg, S. (1992), "Elitists, risk-takers, and rugged individualists? An exploratory analysis of cultural differences between entrepreneurs and non-entrepreneurs", *Journal of Business Venturing*, Vol. 7 No. 2, pp. 115-135.
- McLean, C. P., and Anderson, E. R. (2009), "Brave men and timid women? A review of the gender differences in fear and anxiety", *Clinical Psychology Review*, Vol. 29 No. 6, pp. 496-505.

- McShane, M. K., Nair, A., and Rustambekov, E. (2011), "Does enterprise risk management increase firm value?", *Journal of Accounting, Auditing and Finance*, Vol. 26 No. 4, pp. 641-658.
- Miner, J. B., and Raju, N. S. (2004), "Risk propensity differences between managers and entrepreneurs and between low-and high-growth entrepreneurs: a reply in a more conservative vein", *The Journal of Applied Psychology*, Vol. 89 No. 1, pp. 3-13.
- Nicholson, N., Soane, E., Fenton-O'Creevy, M., and Willman, P. (2005), "Personality and domain-specific risk taking", *Journal of Risk Research*, Vol. 8 No. 2, pp. 157-176.
- PewResearchCenter, (2015), "Women and Leadership", available at: <http://www.pewsocialtrends.org/2015/01/14/women-and-leadership/>
- Pålsson, A. M. (1996), "Does the degree of relative risk aversion vary with household characteristics?", *Journal of Economic Psychology*, Vol. 17 No. 6, pp. 771-787.
- Renn, O. (1998), "The role of risk perception for risk management", *Reliability Engineering and System Safety*, Vol. 59 No. 1, pp. 49-62.
- Robinson, G., and Dechant, K. (1997), "Building a business case for diversity", *The Academy of Management Executive*, Vol. 11 No. 3, pp. 21-31.
- Robinson, P. B., Stimpson, D. V., Huefner, J. C., and Hunt, H. K. (1991), "An attitude approach to the prediction of entrepreneurship", *Entrepreneurship Theory and Practice*, Vol. 15 No. 4, pp. 13-31.
- Smith, N., Smith, V., and Verner, M. (2006), "Do women in top management affect firm performance? A panel study of 2,500 Danish firms", *International Journal of Productivity and Performance Management*, Vol. 55 No. 7, pp. 569-593.
- Stewart Jr, W. H., and Roth, P. L. (2001), "Risk propensity differences between entrepreneurs and managers: a meta-analytic review", *Journal of Applied Psychology*, Vol. 86 No. 1, pp. 145.
- Stewart Jr, W. H., and Roth, P. L. (2004), "Data quality affects meta-analytic conclusions: a response to Miner and Raju (2004) concerning entrepreneurial risk propensity", *The Journal of Applied Psychology*, Vol. 89 No. 1, pp. 14-21.
- Thaler, R. and Eric J., (1990), "Gambling with the House Money and Trying to Break Even: The Effects of Prior Outcomes on Risky Choice", *Management Science*, Vol. 36 No. 6, pp. 643-660.
- United Nations (2015), "Women in Politics: 2015", available at: [http://ipu.org/pdf/publications/wmnmap15\\_en.pdf](http://ipu.org/pdf/publications/wmnmap15_en.pdf)
- Walls, M. R. (2005), "Corporate risk-taking and performance: A 20 year look at the petroleum Industry", *Journal of Petroleum Science and Engineering*, Vol. 48 No. 3, pp. 127-140.
- Wood, W. (1993), "Sex differences in intensity of emotional experience: a social role interpretation", *Journal of Personality and Social Psychology*, Vol. 65 No. 5, pp. 1010-1022.