An alternate view of the glass cliff: Is she pushed or does she volunteer?

Dr Terry R. Sloan
School of Business, University of Western Sydney, Sydney, Australia
Email: t.sloan@uws.edu.au

Dr Kathryn J. Hayes
School of Business, University of Western Sydney, Sydney, Australia
Email: kate.hayes@uws.edu.au

Dr Abigail N. James
Rockhouse Associates, Orange, Virginia
Email: ajames@anj-online.com

ABSTRACT
Data mining psychometric measures for a multi-national sample of 8,759 adults (including 445 female and 973 male leaders), led to abductive research to develop an alternate explanation for studies positing that women comprise the preferred candidates for leadership positions associated with high probabilities of failure. Drive to Improvise™ (DI) scores were analyzed to explore the traits shared by senior managers and executives who occupied precarious positions. Results confirmed significantly higher DI in both female and male leaders, and that female leaders showed significantly higher DI than their male peers. Female leaders may knowingly accept difficult but personally motivating leadership roles, providing an alternate explanation of the glass cliff construct - agentic women are neither naïve nor passive when accepting demanding leadership roles.

Keywords: women and work; diversity at work; gender in organisations; workforce diversity
INTRODUCTION

The global, enduring imbalance in gender representation in management and leadership positions is well documented despite concerted social and legislative efforts to reduce this gender gap (Ainsworth et al 2010; Eagly et al 2012; Halford & Leonard, 2001; Jordan et al 2007; Oakley, 2000; Pichler et al 2008). Current data (United Nations Statistics Division, 2012) show no geographic region achieves equality in female and male representation in management and legislative positions. This gender imbalance in leadership roles affects an overwhelming majority of the world’s population and work organizations.

Institutional and cultural factors clearly have potential to restrict women’s participation in work and government. In several Middle Eastern countries cultural and structural barriers to female participation are obvious (Metcalfe, 2008). Similar, if more subtle cultural and structural factors operate in western democracies. Important factors leading to the under-representation of women in leadership positions include gender stereotyping, recruitment and promotion biases, the quality of leadership opportunities available, sexism, and in-group favoritism (Hogue & Lord, 2007; Ryan & Haslam, 2007). Additionally, Oakley (2000) identifies training, career development, and compensation practices as structural barriers; and gendered leadership and communication styles, “old boy” networks, behavioural double-binds, tokenism, and power dynamics as behavioural and cultural factors impeding women’s progress to higher management and leadership positions. Oakley also notes that, of all explanations offered to account for the lack of women in senior management positions, gender-based analyzes of organizational power arrangements best explain the huge percentage gaps between women in middle and top management, and between women and men in top management.

The genesis of this paper is an interesting finding from data mining a 8,759 record data set: higher-level managers appeared more open to creative thought, and more willing to take the risks required for innovation. This was followed by a surprising discovery - the data showed females in senior management and executive positions were consistently higher improvisers across all age ranges when compared to males in the similar roles (reference removed for blind peer review). This finding is investigated and extended
using an abductive research framework in which the researchers alternate between glass cliff, attribution and agency theories, and the data set.

Abduction (or retroduction) is a form of logical inference, and concerns the search for hypotheses to explain evidence and account for reliable data (Carnielli, 2006). Abductive research designs start with empirical observations and then move repeatedly between data and theory to interpret findings and develop potentially useful propositions for testing in future research (Dubois & Gadde, 2002; Freeman et al 2012). The phases of the abductive research process used in this investigation, and reported in the following sections of this paper, were:

Phase 1: Data mining discovery led to a search for theories relevant to the data – the glass cliff construct.

Phase 2: Review and critique of extant of glass cliff theory revealed neglect of individual factors and female agency. Research questions were developed for investigation by comparing results from the full data set with those from subsets of the data.

Phase 3: Data was interrogated using research questions from phase 2 to test and extend original findings.

Phase 4: Proposition created that the individual factors that propel women through the glass ceiling may interact with contextual factors to result in women occupying precarious leadership positions.

Phase 5: A future research agenda is developed to test these propositions.

Precarious Leadership Positions as a New Barrier – The Glass Cliff

Judge’s provocative article in The Times newspaper (2003, Nov.11) claiming that, “companies that decline to embrace political correctness by installing women on the board perform better than those that actively promote sexual equality at the very top” has spurred scholars to investigate correlations between female occupation of leadership positions categorized as “precarious” and a range of financial and experimental measures. Ryan and Haslam (2005) responded with an extensive analysis of UK stock prices and female board appointments, concluding that rather than causing poor company performance, consistently poor stock market results preceded the appointment of female board members. This led Ryan and Haslam to posit the existence of another obstacle to women’s progress, the glass cliff, suggesting that women as a group comprise the preferred candidates for leadership positions associated with high
probabilities of failure. Their analysis led Ryan and Haslam to conclude:

…in addition to confronting a glass ceiling and not having access to a glass elevator, they [women] are also likely to be placed on a glass cliff. … if, upon finding themselves in a leadership position, they fail (as they are more likely to than men because their positions are more precarious), they may be singled out for blame and humiliation, at the same time that the unpropitious conditions of their appointment are overlooked (2005: 88).

The enthusiasm for management science glass metaphors continues, and the “glass slipper” has been created to describe systematic disadvantage associated with occupational segregation (Ashcraft, 2013).

**Extant Glass Cliff Research**

While Ryan, Haslam, and their research collaborators (Haslam & Ryan, 2008; Haslam et al 2010; Ryan & Haslam, 2005, 2006, 2009; Ryan et al 2008; Ryan et al 2010; Ryan et al 2007; Wilson-Kovacs et al 2006) have referred to the glass cliff as a phenomenon, the existence of glass cliffs is contested. Adams et al (2009) found no evidence of glass cliffs in their archival study of US CEO appointments while Rosette and Tost (2010) report that when success was internally attributed women leaders were evaluated as more agentic (that is, exercising active control over their lives) and more communal than male leaders, and were evaluated most favorably on overall leader effectiveness. These favorable ratings were restricted to women in top-level positions in organizations, and did not apply to women in middle management roles, suggesting a female leadership advantage, but only for women occupying executive leadership positions. The need for further research is clear, as Hunt-Earle (2012: 45) notes:

   The limited author base of the existing research in support of the glass cliff and the conflicting results of current archival studies … indicate that further research into the issue of the glass cliff is required.

Glass cliff investigations to date have treated women employed outside the home as a largely homogenous group. While Ryan and Haslam (2005) clearly state their intent to move away from personality and individual differences as explanations for female leadership experiences and shift the focus to contextual factors, we assert that this approach neglects important characteristics needed for an
accurate understanding of how some women have breached the glass ceiling. We do not doubt the existence and action of systemic and substantial barriers to women wishing to advance in work organizations. However, employees vary in their skills, motivations, and leadership styles, and neither structural nor psychological analyses in isolation are likely to permit accurate understandings of women in leadership. As Ryan et al (2007) state, any attempt to uncover the “one true” basis of the glass cliff phenomenon is likely to prove fruitless and later acknowledge (Ryan & Haslam, 2009: 14), “Gaining insight into these diverse manifestations of the glass cliff also requires investigation of the phenomenon’s psychological underpinnings”.

**Attribution Theory and Glass Cliff Studies**

Several explanatory, experimental research studies examining the glass cliff share a weakness. Using university students and other groups to predict the gender of leaders who would be appointed to positions likely to support success or ensure failure (Bruckmüller & Branscombe, 2010; Bruckmüller & Branscombe, 2011; Hunt-Earle, 2012; Ryan et al 2011; Ryan, et al., 2010) may well reveal more about attributions made by experimental subjects than about gender and leadership. Building upon Heider’s (1958), Weiner’s (1980) and Kelley’s (1967) work, attribution theory uses locus of control, stability, and controllability as bases for the attribution of causality. The fundamental attribution bias refers to the tendency of observers to overestimate internal causes and underestimate external causes when explaining an outcome, especially negative outcomes for others, and members of out-groups. Attributions made by experimental subjects, combined with assumptions of female passivity expose some explanations proposed for glass cliffs as gender-based shibboleths. Consequently, experimental studies of the glass cliff concept are likely to demonstrate attribution biases, particularly in cross gender analyses. While the glass cliff construct may possess high face validity, current explanations should be questioned.

**Stereotypical Management Skills, Agency and Female Leadership**

One trait frequently linked with success in business is that of the agentic personality (Bandura, 2006). Agentic individuals are associated with personality traits of innovation, open-mindedness, and thinking prospectively (Wojciszke et al 2009). A meta-analysis of constructs related to job attitudes revealed that
those who showed commitment to the organization were also likely to be proactive and to demonstrate personal initiative (Thomas et al 2010). Agency, in the workplace, is linked to initiative and taking calculated risks (Minbashian et al 2009) and is used to describe individuals who are committed to the task at hand, because they feel they are in control.

Research indicates that the agentic woman is discriminated against because she violates the stereotype of niceness; a woman with less feminine characteristics, who can be described as androgynous, is not perceived positively, despite having the same agentic behaviour which is viewed in males as a business asset (Halford & Leonard, 2001; Rudman & Glick, 2001). However, women have reported that in order to succeed in management, they have to repress their emotions and assume characteristics, such as being controlling, usually associated with men (Priola, 2007). A contemporaneous study of agentic women discovered that they were perceived as competent but lacking in social skills when compared with men with similar agentic traits (Phelan et al 2008). For the agentic woman her social skills are considered more important than her competence to perform the job, whereas for an agentic man, social skills and competence were regarded as equally important.

Until fairly recently, it has been assumed that women lacked the leadership skills necessary to succeed in management, or that they would not be interested in developing those skills. Consequently few women have risen to the top or, in the common parlance, broken through “the glass ceiling” (Hoobler et al 2009).

As of January 2012, there were just 18 women CEOs of US Fortune 500 companies and a total of 35 CEOs of Fortune 1000 companies (Petrecca, 2011). In US companies, women comprised 46.7% of the labor force, 51.4% of management and professions, and 13.5% of executive officers of Fortune 500 companies, revealing clear links between gender and leadership positions (Catalyst, 2010). Some industries and countries are more open than others. In the US finance and insurance industry, women comprise 57.5% of the labor force, but only 1.3% of the CEOs (Catalyst, 2010). In Canada, 47.3% of the labor force is women (3.8% of CEOs); in Australia 45.3 % of the labor force (3% of CEOs); in Europe the percentage of the labor force varies from 53.9% in Estonia to 40.4% in Greece, but only 9 (1.8%) of the CEOs of the Financial Times 500 are women. These and similar figures
from other countries suggest that women are treated fairly at the entry level of work, but are not being promoted past middle management to higher levels at the same rate as men - the evidence is clear that promotion barriers exist (Ainsworth, et al., 2010; Ely & Padavic, 2007; Jordan, et al., 2007; Oakley, 2000).

Assertions have be made that not all women are being discriminated against, but only those women with certain personality traits such as aggression (Yuracko, 2004), and even when women perform top management roles, they were seen to be more successful in caretaking roles whereas men were seen to be more successful in agentic roles (Prime et al 2009). Furthermore, a large body of work concerning women in leadership (Koenig et al 2011; Metz, 2009; Nelson & Levesque, 2007; Prime, et al., 2009) highlights stereotypes that women do not have the mental toughness or competitiveness to succeed in the executive ranks of business regardless of their leadership ambitions. Recent research suggests women are seen as better able to deal with the problems that may arise in a company in times of crisis and that a changed management style, associated with a woman, might in fact save the company (Bruckmüller & Branscombe, 2010). Our critique of the class cliff literature to date reveals how contextual foci have characterized women as a homogenous group, neglecting important differences between individuals. This paper begins to address this neglect.

We now summarize the key features of the psychometric tool used to measure and record individual differences (the Instinctive Drives™ (I.D.TM) System ) that were then analyzed by data mining in Phase 1 of the research (citation removed for blind peer review) and again in Phase 3.

**Gender and the Instinctive Drives™ System**

The I.D.TM system has been used since 1991 to help people identify, and then work and live in congruence with their innate motivations, or Instinctive Drives™ (Burgess, 2007). The reliable and validated (Fitzgerald et al 2005) 40-item questionnaire, individual profile report and I.D.TM strategies that comprise the I.D.TM system have been used by over 9,000 individuals. The majority of the people who are using the I.D.TM system are working adults and their 4 digit I.D.TM profile number, along with demographic data including age, gender, and job title have been recorded by Link-up International Pty Ltd, the
company that develops, markets, and administers the I.D.™ system.

The I.D. System™ has demonstrated significantly high levels of test-retest reliability (Chapman, 2008b; Fitzgerald, et al., 2005), with research comparing the test-retest reliability of the Myers-Briggs Type Indicator (MBTI) (Myers et al 1999) and the I.D. System™ (Burgess, 2007) finding the I.D. System™ to have superior test-retest reliability (Chapman, 2008b).

An individual’s I.D.™ records their attraction to, or desire to avoid four categories of activities in their work and lives, and the four Instinctive Drives can be summarized as follows (Burgess, 2007: 6):

The Instinctive Drive to **Verify™** (The need to make sure you’re doing the right thing, and then doing it right); the Instinctive Drive to **Authenticate™** (The need for your personal involvement and environment to be congruent and transparent); the Instinctive Drive to **Complete™** (The need for harmony and efficiency in everything) and the Instinctive Drive to **Improvise™** (The need for excitement and animation to energize you to perform at your best). Each drive is a continuum, with the opposite poles representing a “need to avoid” or a “need to use” that particular drive (Burgess, 2007: 7). Each person’s I.D.™ profile is composed of four digits, measuring on a scale from one to nine the intensity of that individual’s motivation to use or avoid using each of the four Instinctive Drives™, as represented in Figure 1.

<Insert Figure 1 around here>

This paper focuses on the Drive to Improvise™ in women employed outside their homes, and analyses job title and the industry they work in to provide data relevant to questions regarding women and glass cliffs. There is a clear connection between the Drive to Improvise™ and risk tolerance. Individuals who are characterized by a strong Drive to Improvise™ are described as unafraid to take risks and are willing to “fail their way to success” experimenting until they find the right solution (Burgess, 2007). Improvisation in business settings involves effort and risk in departing from previously tested organizational solutions (Chelariu et al 2002; Moorman & Miner, 1998).

**Pushed to the Cliff's Edge or Jumping at the Chance to Improvise?**

Previous literature frequently depicts women leaders as passive. An obvious question needs to be asked,
“Why would women who have successfully demonstrated the ability to negotiate gendered hazards to career advancement, suddenly become naïve when offered a glass cliff position?” Ryan et al (2007) propose two continua to categorize the theories generated by readers of an on-line article to explain glass cliffs. One continuum ranges from processes that are pernicious to those that are benign, the other concerns whether the processes represent deliberate or inadvertent discrimination. Nevertheless, both continua represent women as passive and unthinking cogs in organizational processes and contexts. Is it possible that women with high Drives to Improvise™ may weigh the advantages and risks of a glass cliff position before accepting an opportunity they interpret as a chance to test and prove themselves?

It is worth noting that the companies who had appointed women into the glass cliff positions during a stock market downturn enjoyed a subsequent growth in their share prices under female leadership (Ryan & Haslam, 2005). The women who accepted, or maybe even sought out precarious leadership roles may regard themselves as successful leaders rather than passive victims, as substantiated by subsequent stock market performance. We now develop the research questions employed to examine individual factors likely to influence motivations and choices in accepting precarious leadership positions.

**Research Questions**

Psychometric data for mining, finance, information technology and not-for-profit sector employees was analysed before focusing on a large, US based, Information Technology multinational organization in order to examine the stability of differences in I.D. Drive to Improvise™ scores for senior executive women. As the phase one data mining was conducted on the whole data set it is possible that the finding that senior and executive women showed significantly highly levels of the I.D. Drive to Improvise™ may not be consistent across a range of variables including industry sector, age, organisational roles and within single organisations. If the finding is robust across these factors it would provide evidence for a role for individual propensities in female senior managers and executives accepting glass cliff positions in addition to, or instead of purely contextual factors. Research questions regarding organizational role, risk, age and gender follow.

**Research Question 1:** Does risk tolerance differ between employees in different industry sectors?
Research Question 2: Does risk tolerance differ based upon the organizational role of the occupant?

Research Question 3: Does risk tolerance differ based upon the gender of individuals occupying different organizational roles?

METHOD

Participant Selection

Link-up International Pty Ltd., the company that develops, markets, and administers the I.D.™ system, provided a de-identified data set containing I.D.™ profiles, demographic information, and self-reported job titles for 8,759 respondents. 6,456 of these respondents could be classified into Executive, Manager of Managers, Manager of People, Manager of Things, Senior Support, Junior Support and Consultant categories. Examples of job titles that each category represents are presented in Table 2.

<Insert Table 1 around here>

Analysis of one large organization is preferable to possibly atypical samples resulting from small groups selected from a large number of organizations, and here 1,987 of the respondents worked in the same multinational information technology organization. That the company is representative of the full data set is also demonstrated by the geographic spread of the respondents (see Table 2). Thus, further analysis was performed on this organisation as the “TechCo” data subset.

<Insert Table 2 around here>

Procedure

As the I.D.™ data for the individual drives approximately conform to a normal distribution, ANOVA tests were used to examine research question 1 and one-sided t-tests of difference between sample means provided appropriate statistical tests to study research questions 2 and 3.

RESULTS

As can be seen from Table 3, although slightly biased towards males, the full data set, and the TechCo subset have large female cohorts, enabling valid statistical analysis. A similar male to female ratio was found in the full data set as in the TechCo subset, as shown in Table 3.

<Insert Table 3 around here>
Examining the age ranges of participants shows the samples are large enough to enable meaningful statistical analysis of subgroups (with the sole exception of males in a senior support role, where n=12). Table 4 reveals typical twenty-first century gender distributions across managerial levels; junior support roles are dominated by females and the senior management roles are male dominated. With the exception of the young (17-34) Manager of People age group, gender ratios for all managerial levels show a consistent pattern.

<Insert Table 4 around here>

The data set was predominantly composed of I.D.™ profiles from people working in four industries; information and communications technology companies were represented by 2,828 profiles, mining employees provided 626 profiles, 554 people worked in finance and 167 data set entries represented members of not-for-profit organizations. A comparison of the I.D.™ profiles across the main industry groupings in the data set (see Figure 2) indicated that the information technology industry was not atypical and a that company in this sector would be useful for detailed, comparative analyses.

<Insert Figure 2 around here>

ANOVA analysis of the mean Drive to Improvise across these four industry groupings found there was a significant difference between these means, indicating industry based differences in the mean Drive to Improvise™ exists. For this and all further analyses listed in this paper, p values were less than 0.01. When comparing the I.D™ profiles (see Figure 3) of managerial groups it is apparent that while there are differences across all drives, differences are most apparent in the Drive to Improvise™. Subsequent analysis concentrates on the differences in this drive across occupational, age and gender groups.

<Insert Figure 3 around here>

Analysis of the Drive to Improvise™ scores across managerial levels reveals that as the organizational level of the position increases so does the mean Drive to Improvise™ score of individuals occupying these roles. Figure 4 illustrates that for all levels, with the exception of senior support roles, employees over 55 are on average less driven to Improvise™. While these age related findings are interesting they are beyond the scope of the current research, but present opportunities for future investigation.
When we compare the Improvise™ drives of managers of managers and executives (MMEs) (see Figure 5), we find that for all but the 17-34 age range in the manager of managers cohort, the mean Drive to Improvise™ scores of female MMEs is higher than the mean Drive to Improvise™ scores for the corresponding male MMEs. This suggests that female managers at senior organizational roles have individual characteristics that support risk-taking, and they are more willing to take risks.

The trends observed in the full data set were also apparent from the analysis of the TechCo data (see Table 5). Again female MMEs recorded higher mean Drive to Improvise™ scores than their male equivalents. It is interesting to note that the Drive to Improvise™ is also the most variable of the four instinctive drives, but that this variation between individuals does not significantly differ between the genders.

The t-tests performed on the data displayed in Figures 3 – 5 and in Table 5 result in the following statistically significant findings: (1) Drive to Improvise™ mean scores are higher for MMEs than all other employees, regardless of gender; (2) Female MMEs have higher risk tolerance than other women, using the mean Drive to Improvise™ as a proxy for risk tolerance and (3) For all but the youngest age range (17 – 34 years) of the manager of managers group, female MMEs recorded statistically significantly higher Drive to Improvise™ means than men in comparable positions. The higher mean value for young male MMEs may be due to many of these individuals having leading roles in small, relatively recently established innovative businesses. For example, only five of the fifty two young male MMEs were employed by TechCo. The robustness of the findings is supported by further analyses comparing mean Drive to Improvise™ scores for MME and non-MME employees working in TechCo with those of the full data set.

Similarly, analyses of female MME and non-MME employees in TechCo and the full data set replicate
the findings when the data is analyzed for this organization alone.

The results indicate significantly higher Drives to Improvise™ in both female and male leaders than the non-executive population. Furthermore, female managers of managers and executives showed significantly higher Drives to Improvise™ than their male peers. Thus, phase four concludes with the proposition that the same individual factors that propel women through the glass ceiling may interact with contextual factors to result in women occupying precarious leadership positions.

DISCUSSION

Discussion of Findings

The analysis supports previous research suggesting a psychological propensity for risk in women occupying leadership positions. This finding is robust across four industry sectors; has relevance for theory and practice; and leads us propose an important role for individual differences in glass cliff experiences. Quantitative analysis of the data set shows women in MME positions have higher Drive to Improvise™ scores than all other employees, and those over the age of 34 have higher Drive to Improvise™ scores than their male MME peers. This is consistent with agentic views of female executives, but raises questions for glass cliff explanations depicting female managers as passive and risk-averse. The finding that TechCo female executives have high risk tolerance is consistent with the pattern observed in the entire data set, and with previous research showing women are not risk-averse (Adams, et al., 2009; Daruvala, 2007; Iqbal, O, & Baek, 2006). Compensation analyses support an agentic view of female senior managers (Bowlin & Renner, 2008; Jordan, et al., 2007) revealing that in contrast to the significant pay gaps found at lower levels of organizations, women and men in top management teams receive comparable compensation. Executive women appear to be individually successful in avoiding gender based salary and promotion discrimination.

Alternate Explanations and Strengths and Limitations of the Findings

Other factors besides individual attraction to risk could result in women occupying precarious leadership
positions. These include organizational politics and tokenism. Tokenism may operate through executive males selecting women who are visible by virtue of their high Drive to Improvise™ behaviour, and because of this, are recognized as similar to the male members of the high Drive to Improvise™ executive group. If legislation forces the appointment of a token woman to a senior position, high Drive to Improvise™ women may be the most attractive candidates. However, if female senior managers are tokens, putting them in precarious positions makes little sense. The risk of tokenistic behaviour being exposed if the most senior woman in the organization complains about a precarious appointment suggests that token women would be given safe not hazardous leadership positions. Research assessing the frequency of female and male perceptions of negative career impact resulting from organizational politics is recommended later in this section.

A limitation of this research is its purely quantitative approach - mixed method approaches to the questions raised for future research can address this weakness. Furthermore, whether or not the women in the data set occupied glass cliff positions is not known. However, this research uses appropriate methods to add individual differences to the glass cliff debate and show that executive women appear to relish risk and challenge. The size and quality of the data set represents another strength of the work. While, the proprietary nature of the I.D.™ system limits comparisons with other tools, analysis of psychometric data for a large group of employees, differentiating between staff, management, and leadership roles, has been achieved. Furthermore, a large number of women in executive, and manager of manager positions have provided direct data, in contrast to the methods, sample sizes and sample composition of several previous glass cliff studies (for example, Hunt-Earle, 2012; Rink, Ryan, & Stoker, 2013; Ryan, et al., 2011; Wilson-Kovaes, et al., 2006)

**A Research Agenda to Test Individual Factors as Explanations of the Glass Cliff**

Ryan and her research collaborators (2007) have made intriguing discoveries by focusing on contextual factors regarding some leadership positions women occupy. The findings reported in this paper show the value of adding psychological differences to glass cliff research. One useful next step would be to interview women leaders such as the Australian ex-state premiers already identified in the glass
cliff literature (Ryan, et al., 2010) about their motivations, and the degree of choice and agency they exercised when accepting what were clearly doomed leadership positions. Understanding the positions they rejected as well as accepted and their reasons for doing so would complement third party attributions with emic insights from women who have occupied glass cliff positions. Further, research to date appears to ignore the experience of men in precarious leadership positions. Investigating the frequency with which men report occupation of precarious leadership positions, and the control they felt in accepting those positions, would help assess if glass cliffs are reserved for women. Surveying women and men in middle and senior management positions for their views on their career to date, including ranking their current and previous positions for degree of difficulty on a “can’t fail” to “can’t win” continuum, then comparing male and female results in single sex and mixed organizations would provide valuable data about the gender frequency of precarious leadership. Future research on glass cliffs could also incorporate physical size, race, and sexual orientations in addition to gender. Research is currently underway to extend the results of this paper by examining ID™ profile differences in women working as part of a team or in solitary roles.

Implications for Practice

For women to appear in upper management roles at similar rates to their current occupation of lower and middle management positions, businesses need a method to determine what traits are found in successful executives and how to help able individuals acquire the skills connected with those traits. Evidence that women can be successful in leadership positions is found in the growing number of women-owned businesses. In 2009 one in five U.S. firms with a revenue of over one million dollars and 40% of all privately owned firms were owned by a woman (Center for Women's Business Research, 2011). Women have the skills and the ability to succeed in their own businesses, suggesting a need for large organizations to focus on middle-management women, provide practical career coaching and ensure they are considered for promotion as ways of getting more women through the glass ceiling.

Implications for Theory: Gender, Power Theories, and the Glass Cliff Construct

Returning to Oakley’s (2000) assertion that power perspectives provide the most useful frame for analysis
of gender imbalances at work, by introducing individual factors we add a post-structural power perspective to the primarily contextual research on glass cliffs to date. Gender disadvantage and discrimination in work organizations have been described using a range of power theories including liberal, structuralist, and post-structuralist perspectives (Halford & Leonard, 2001) and it is possible that all three forms of power described above operate simultaneously within contemporary work organizations. Rather than dominant male groups exercising absolute control over female MMEs, our research suggests power in leadership positions may be complex and decentralized rather than a sovereign possession. Furthermore, glass cliffs are highly likely to be time and context dependent; using only contextual factors to study them may result in the same myopia shown in Judge’s original (2003) newspaper article. While space constraints preclude lengthy considerations of the power theory implications of high Drive to Improvise™ scores for female MMEs, this research starts to address the neglect of explanations by incorporating the actions and decisions of individuals in the glass cliff literature.

**CONCLUSION**

We have demonstrated that examining individual differences enriches glass cliff research. The data analysed in this work has supported discovery, in contrast to previous glass cliff investigations in which data has been passive, that is, directed by what the research set out to find (Dubois & Gadde, 2002). The abductive approach employed in this work has developed an alternate explanation for the glass cliff phenomenon, and a detailed agenda for future research to investigate the proposition that the same individual factors that propel women through the glass ceiling may interact with contextual factors to result in women occupying precarious leadership positions.

Our findings show senior and executive women leaders record high Drives to Improvise™, associated with increased innovativeness and tolerance for risk. Further study, and particularly qualitative analysis of interviews with women at different organizational levels regarding their emic views of the reasons for accepting challenging, even seemingly impossible positions, have potential to illuminate a vital question regarding women and glass cliffs, “Is she pushed or does she volunteer?”
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TABLES AND FIGURES

FIGURE 1
Example of I.D.™ Profile

4739

Use Verify Use Authenticate Use Complete Use Improvise
Avoid Verify Avoid Authenticate Avoid Complete Avoid Improvise

Use Improvise and Authenticate & Avoid Complete
### TABLE 1
Examples of Dataset Job Classifications

<table>
<thead>
<tr>
<th>Job Classification</th>
<th>Related Job Titles</th>
</tr>
</thead>
<tbody>
<tr>
<td>Executive</td>
<td>CEO, CFO, Dealer Principal, General Manager, Managing Director, Owner, Partner, President</td>
</tr>
<tr>
<td>Manager of Managers</td>
<td>Associate Director, Director, HR Director, IT Director, Marketing Director, Principal, Senior Manager, State Manager, Sr. Manager</td>
</tr>
<tr>
<td>Manager of People</td>
<td>Business Manager, Commercial Manager, Finance Manager, Manager, Office Manager, Operations Manager, Sales manager, Financial Controller, HR Manager, Marketing Manager</td>
</tr>
<tr>
<td>Manager of Things</td>
<td>Business Analyst, Engineer, Financial Analyst, IT Engineer, IT Manager, Product Manager, Program Manager, Sales Rep, Senior Accountant, Tax Accountant, Tax Manager</td>
</tr>
<tr>
<td>Senior Support</td>
<td>Executive Assistant, Paraplanner</td>
</tr>
<tr>
<td>Junior Support</td>
<td>Administration, Administrative Assistant, Administrator, Personal Assistant, Product Specialist, Receptionist</td>
</tr>
<tr>
<td>Consultants</td>
<td>Consultant, Sales Consultant, Sales Specialist, Senior Consultant</td>
</tr>
</tbody>
</table>
TABLE 2  
Distribution of Respondents

<table>
<thead>
<tr>
<th>Country</th>
<th>Full Dataset</th>
<th>TechCo</th>
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</thead>
<tbody>
<tr>
<td>Australia</td>
<td>4539</td>
<td>93</td>
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<tr>
<td>E &amp; SE Asia</td>
<td>159</td>
<td>89</td>
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<tr>
<td>New Zealand</td>
<td>391</td>
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<td>Other</td>
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<td>Other Europe</td>
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<td>94</td>
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<tr>
<td>United Kingdom</td>
<td>159</td>
<td>91</td>
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<tr>
<td>United States</td>
<td>2079</td>
<td>1138</td>
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### TABLE 4
Gender Distribution

<table>
<thead>
<tr>
<th>Gender</th>
<th>Full Dataset (%)</th>
<th>TechCo Dataset (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>4831 (56)</td>
<td>1072 (55)</td>
</tr>
<tr>
<td>Female</td>
<td>3838 (44)</td>
<td>884 (45)</td>
</tr>
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</table>
### Table 4
Participants by Age Ranges across Managerial Levels – Whole Dataset

<table>
<thead>
<tr>
<th>Age Range</th>
<th>Junior Support</th>
<th>Senior Support</th>
<th>Manager of Things</th>
<th>Manager of People</th>
<th>Manager of Managers</th>
<th>Executive</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>F</td>
<td>M</td>
<td>F</td>
<td>M</td>
<td>F</td>
<td>M</td>
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<tr>
<td>17-34</td>
<td>153</td>
<td>21</td>
<td>27</td>
<td>9</td>
<td>348</td>
<td>387</td>
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<tr>
<td>35-44</td>
<td>53</td>
<td>9</td>
<td>42</td>
<td>3</td>
<td>234</td>
<td>386</td>
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<tr>
<td>45-54</td>
<td>60</td>
<td>6</td>
<td>16</td>
<td>0</td>
<td>101</td>
<td>165</td>
</tr>
<tr>
<td>55+</td>
<td>13</td>
<td>1</td>
<td>6</td>
<td>0</td>
<td>24</td>
<td>50</td>
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<tr>
<td>Total</td>
<td>329</td>
<td>37</td>
<td>91</td>
<td>12</td>
<td>707</td>
<td>987</td>
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</table>
FIGURE 2
Mean I.D. System™ Profiles by Industry
FIGURE 3
Instinctive Drive™ Means across TechCo Managerial Levels

[Graph showing Means across TechCo Managerial Levels with different levels marked as Junior Support, Senior Support, Manager of Things, Manager of People, Manager of Managers, and Executive.]
FIGURE 4

Drive to Improvise™ Mean Scores by Age Range and Managerial Level – Full Data Set

- Junior Support
- Senior Support
- Manager of Things
- Manager of People
- Manager of Managers
- Executive
FIGURES

Drive to Improvise™ Scores: Male and Female Managers of Managers and Executives by Age Range - Full Data Set
<table>
<thead>
<tr>
<th></th>
<th>Verify I.D.™ Score</th>
<th>Authenticate I.D.™ Score</th>
<th>Complete I.D.™ Score</th>
<th>Improvise I.D.™ Score</th>
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</thead>
<tbody>
<tr>
<td><strong>Female</strong></td>
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<tr>
<td>Mean</td>
<td>6.04</td>
<td>5.11</td>
<td>4.48</td>
<td>4.44</td>
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<tr>
<td>Std Dev</td>
<td>1.50</td>
<td>1.34</td>
<td>1.56</td>
<td>1.96</td>
</tr>
<tr>
<td><strong>Male</strong></td>
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<td>Mean</td>
<td>6.02</td>
<td>5.34</td>
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<td>4.47</td>
</tr>
<tr>
<td>Std Dev</td>
<td>1.50</td>
<td>1.28</td>
<td>1.51</td>
<td>1.97</td>
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<tr>
<td><strong>Female Exec</strong></td>
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<td>Mean</td>
<td>5.79</td>
<td>4.95</td>
<td>3.61</td>
<td>5.62</td>
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<td>1.24</td>
<td>1.31</td>
<td>1.80</td>
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<tr>
<td><strong>Male Exec</strong></td>
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<td>Mean</td>
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<tr>
<td>Std Dev</td>
<td>1.44</td>
<td>1.27</td>
<td>1.46</td>
<td>1.93</td>
</tr>
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</table>
FIGURE 6
Comparison of Mean Drive to Improvise™ Scores for Managers of Managers and Executives and Other Employees in TechCo and the Full Data Set
TABLE 6
Comparison of Mean Drive to Improvise™ Scores for Managers of Managers and Executives and Other Employees in TechCo and the Full Data Set

<table>
<thead>
<tr>
<th></th>
<th>18-34yrs</th>
<th>35-44yrs</th>
<th>45-54yrs</th>
<th>55+yrs</th>
</tr>
</thead>
<tbody>
<tr>
<td>TechCo</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MMEs</td>
<td>4.7</td>
<td>5.2</td>
<td>5.3</td>
<td>5.9</td>
</tr>
<tr>
<td>TechCo</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Others</td>
<td>4.1</td>
<td>4.4</td>
<td>4.4</td>
<td>4.1</td>
</tr>
<tr>
<td>All MMEs</td>
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<td>5.2</td>
<td>5.2</td>
<td>4.7</td>
</tr>
<tr>
<td>All Others</td>
<td>4.0</td>
<td>4.4</td>
<td>4.3</td>
<td>4.0</td>
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</table>
FIGURE 7
Comparison of Mean Drive to Improvise™ Scores for Female Managers of Managers and Executives and Other Female Employees in TechCo and the Full Data Set
### TABLE 7
Comparison of Mean Drive to Improvise™ Scores for Female Managers of Managers and Executives and Other Female Employees in TechCo and the Full Data Set

<table>
<thead>
<tr>
<th></th>
<th>18-34yrs</th>
<th>35-44yrs</th>
<th>45-54yrs</th>
<th>55+yrs</th>
</tr>
</thead>
<tbody>
<tr>
<td>All Female MMEs</td>
<td>5.1</td>
<td>5.7</td>
<td>5.6</td>
<td>4.9</td>
</tr>
<tr>
<td>All Other Females</td>
<td>4.0</td>
<td>4.4</td>
<td>4.3</td>
<td>4.4</td>
</tr>
<tr>
<td>TechCo Female MMEs</td>
<td>3.3</td>
<td>5.5</td>
<td>5.9</td>
<td>5.9</td>
</tr>
<tr>
<td>TechCo All Other Females</td>
<td>3.9</td>
<td>4.3</td>
<td>4.5</td>
<td>4.3</td>
</tr>
</tbody>
</table>