

## Gender Based Comparative Analysis of Psychological Capital in R & D Organizations

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### Abstract:

*This research paper critically examines gender based comparison of psychological capital in R & D organizations. For the purpose of the above said research paper, a sample of 140 working professionals of R & D Organizations viz male (70) and female (70) aged 22-55 years are selected. Psychological capital scale developed by Luthans (2007) was administered in order to attain their overall psychological capital score. Data was analysed using 't test'. Results indicated significant difference in male and female professionals of R & D organizations in sub-dimensions of psychological capital viz. Self-Efficacy. Male professionals are high in self- efficacy comparison to female professionals.*

**Keywords:** Psychological capital, R & D Organizations, gender of Professionals

### I. INTRODUCTION

Research and Development (R&D) work is a driving force of the global economy and the main source of innovation, at least on a scientific basis (Ángel & Sánchez, 2009; Dewett, 2007). The self-image of R&D professionals is usually that of men who make things work, avoid waste of time, capital, and labour, and are independent in thought and action. When an occupational group sees itself, and is seen by others, as playing the critical role in the achievement of broader societal goals, it tends to demand quite different kind of authority relationships as compared to those that are seemingly performing less critical roles (Kakar, 1971, 1977; Zheng, Khoury, & Grobmeier, 2010). The emerging and relatively new construct of psychological capital can have a significant impact on the Gender of professionals in R & D organizations. This research paper examines the gender based comparison of psychological capital in R & D organizations.

Psychological Capital provides us with a new human resource development approach to help professionals build the critical resources they need in today's stress-filled workplace (Avey et al., 2009). Psychological Capital has been defined as "an individual's positive psychological state of development characterized by: self-efficacy, optimism, hope, and resilience" (Luthans, Youssef, & Avolio, 2007). Psychological capacities can positively influence employee presentation of performance and behaviours.

**Self-efficacy** beliefs nourish perceptions of self-competence (Bandura, 1997; Deci & Ryan, 2000). Self-efficacy is characterized by extra effort and tenacious perseverance in accomplishing a given task. Employees high on efficacy display (and continue to display) work effort even when faced with difficult situations. Such individuals tend to believe that they have the ability to deal with situations presented to them to arrive at success. As a result, these individuals are likely to view potential work hindrances as resolvable and challenges that are achievable rather than as disproportionately difficult.

**Hope:** Individuals with higher levels of hope have the agented capacity to set and pursue goals in such a way that they stay motivated throughout the pursuant process (Avey, Patera, & West, 2006). Hopeful individuals are more likely to have established functional goals, providing them with directed motivation to work towards said goals on a daily basis. They are capable of setting realistic but challenging goals and expectations and then reach out for those aims through self-directed determination, energy, and perception of internalized control (Snyder, 2002). Hopeful professionals also possess the 'way power' and are capable of generating alternative paths to their desired destinations should the original ones become blocked.

**Optimistic** individuals form an expectancy perspective and expect good things to happen to them leading to significant cognitive and behavioural implications (Carver & Scheier, 2003). Given the external attribution of negative events, when faced with negative outcome, optimistic individuals will likely attribute the failure to external causes or to individuals around them and avoid reduction in their effort (Seligman, 1998). They continue to remain positive and confident about their future. Their optimistic explanatory style allows them to positively view and internalize the good aspects of their lives not only in the past and the present, but also into the future (Luthans et al., 2007).

**Resilient** individuals have a firm acceptance of reality, a deep belief, often reinforced by strongly held values, that life is meaningful, and an astounding ability to improvise and adapt to significant changes (Masten, 2001; Luthans et al., 2007). They use adversities as a 'springboard' to reach higher ground. Resilience is, also, characterized by a staunch view of reality (Coutu, 2002) that promotes emotional stability (Masten and Reed, 2002) and provides positive coping (Fredrickson, Tugade, Waugh and Larkin, 2003).

### Objectives:

1. To study the significant difference of psychological

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capital across male and female professionals of R & D organizations.

- To study the significant difference of psychological capital on various sub dimensions across gender viz male and female professionals of R & D organizations.

## II. METHOD

### Sample:

The sample comprised 140 male (70) and female (70), aged 22-55 year old employees of R & D organizations.

### Measures:

**Psychological Capital scale (Luthans et al. 2007):** The Psychological Capital scale developed by Luthans et al (2007) comprises four sub dimensions: self efficacy, hope, optimism and resiliency. The 24 item version has been used for this study. It is a 6 point likert scale with options ranging from 1 (strongly disagree) to 6 (strongly agree) but for item no. 13, 20 and 23 it should be reversed 6 (strongly disagree) to 1 (strongly agree). The sub scores from each scale are added to get an overall score, with higher score reflecting high psychological capital. This instrument has demonstrated strong psychometric properties in confirmatory factor analyses in multiple studies (Luthans et al., 2005; Luthans, Avolio, Avey, Norman, 2007) and acceptable internal reliability was demonstrated in this study  $\alpha = .92$  (hope  $\alpha = .87$ , efficacy  $\alpha = .87$ , resilience  $\alpha = .72$ , optimism  $\alpha = .78$ ).

### Procedure:

The participants (R & D professionals) for the study were personally contacted and requested for cooperation after briefly introducing the aim of the study. Some participants obliged to complete the measures immediately thereby allowing the investigator to ensure that the participant gave responses to all the items. Instructions were given to the participants only after forming adequate rapport. Others requested time, in which case, the responses were collected through e-mails.

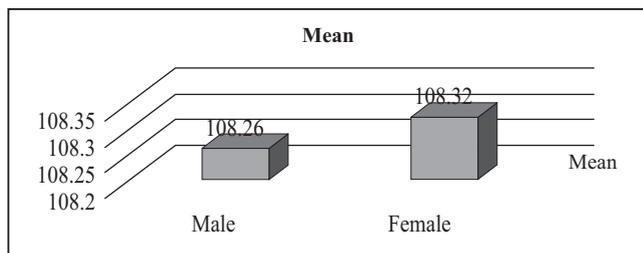
### Results:

Results of the study in respect to psychological capital; across gender viz. Male and female professionals of R & D organizations are depicted in the following section.

**Table No. 1:** Means, SD and t value across gender of R & D professionals (males and females) on psychological capital.

Gender	Mean	SD	t- value
Male professionals	108.21	11.36	-.059
Female professionals	108.32	11.66	

Figure 1.1 Means and SD across gender of R & D professionals (males and females) on psychological capital.



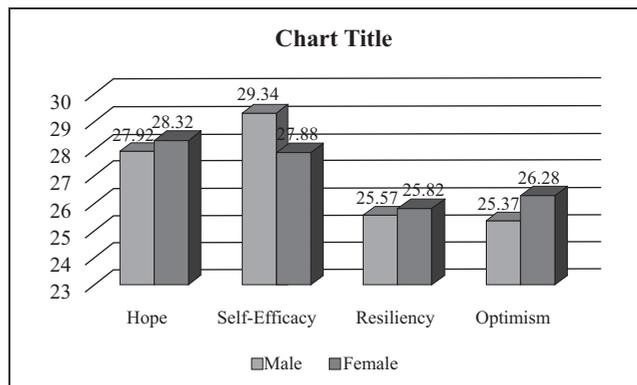
As depicted in Table 1 and Graph 1.1, In R & D organizations Psychological Capital is highest amongst female professionals, where (M= 108.32, SD=11.66), compared to male professionals where (M=108.26, SD=11.36). and the t value is -.059 which is not significant. Means in R & D organizations both male and female professionals have no difference in the context of psychological capital.

**Table 2.** One-way ANOVA of sub dimensions of Psychological Capital.

Dimensions	Male		Female		t value
	mean	SD	Mean	SD	
hope	27.92	4.11	28.32	4.56	-.545
Efficacy	29.34	3.76	27.88	4.30	2.130*
resiliency	25.57	4.20	25.82	3.78	-.381
optimism	25.37	3.94	26.28	4.58	-1.265

\*=p<0.05,

Figure 2.1: Graph depicting Means of sub-dimensions of psychological capital across male and female professionals of R & D Organizations.



As depicted in Table 2 and Graph 2.1, in the sub dimension of psychological capital, female professionals (M= 28.32, SD= 4.56) of R & D organizations are higher in hope in comparison to male professionals (M= 27.92, SD= 4.11) but t value is -.545 which is non-significant it means hypothesis are rejected so there is no difference between male professionals and female professionals regarding hope in the organization. In self efficacy male professionals (M= 29.34, SD= 3.76) of R & D organizations are higher than female professionals (M= 27.88, SD= 4.30) and the t value is 2.130 which is significant at 0.05 level, so the hypothesis is retained means male and female have different perspective regarding self efficacy.

In the Resiliency, female professionals (M=25.82, SD= 3.78) are higher in comparison to male professionals (M= 25.57, SD= 4.20) but the t value is -.381 which is non-significant, so the hypothesis is rejected and in the sub dimension Optimism, female professionals (M= 26.28, SD= 4.58) are highly optimistic comparison to male professionals (M= 25.37, SD= 3.94) in R & D Organizations but t value is -1.265 which non significant so there is no difference in optimism of professionals.

### III. DISCUSSION

The aim of the present research was to study the gender based comparison of psychological capital in R & D organizations. According to the findings of the study, there is no significant difference in male and female professionals of R & D organization in Psychological Capital, (Refer Table 1). It was also found that male professionals have significantly higher level of Self- Efficacy as compared to the female professional in R & Organizations which means male professionals put extra effort and tenacious perseverance in accomplishing a given task. They have the ability to deal with situations presented to them to arrive at success. In another 3-sub dimension hope, Resiliency and Optimism in psychological capital have no difference in the professionals of R & D Organizations which means both male and female employees are able to established functional goals, providing them with directed motivation to work towards said goals on a daily basis. They are capable of setting realistic but challenging goals and expectations and then reach out for those aims through self-directed determination, energy, and perception of internalized control and both are positive and confident about their future. They also expect good things to happen to them leading to significant cognitive and behavioural implications. All the employees including male and female have a firm acceptance of reality, a deep belief, often buttressed by strongly held values, that life is meaningful, and an astounding ability to improvise and adapt to significant changes (Refer Table 2).

When compared with previous research (Mustafa Nadeem Kirmani , Firdos Jahan, 2015), the results were found to be no significant difference in both the group on the overall measure of PsyCap.

In the present research, male professionals have significantly higher level of Self- Efficacy as compared to the female professionals. These findings are consistent with the previous research (M. Lakshmi Narasimha , L. K. Reddy, 2017), studied the impact of emotional maturity, intelligence and self-efficacy on the academic achievement of teacher trainees. The result shows that there is a significant difference between male and female trainees with regard to emotional maturity, intelligence and self-efficacy. Reyes. J.J, et. al (2014), compared female and male college students' academic self-efficacy in their study. A significant difference found between men and women regarding their perceived self-efficacy, suggest that any effort to improve perceived self-efficacy must take gender into consideration. Rajesh Kumar and Roshan Lal (2006) examined the role of self-efficacy and gender differences among the adolescents as revealed by intelligence test. Analysis of variance was applied and the F-ratio revealed significant effect of self-efficacy. Significant gender differences were also found. Lars Fallan & Leiv Opstad (2016). Examined the self-efficacy levels and self-efficacy strength for male and female students in a course in Principle of Economics. The study reveals that female students have significantly lower self-efficacy level and self-efficacy strength than their male peers. The main contributions of this study are showing the need to go beyond gender to get a more complete picture of the differences in self-efficacy between female and male students. We should be cautions to conclude that self-efficacy is uniformly affected by gender.

### IV. CONCLUSION

It can be concluded from the findings of the present research paper that male professionals have significantly higher level of Self- Efficacy as compared to the female professional. These findings are in accordance with previous researches (Mustafa Nadeem Kirmani , Firdos Jahan, 2015, M. Lakshmi Narasimha , L. K. Reddy, 2017, Reyes.J.J, et. al 2014, Rajesh Kumar and Roshan Lal 2006 & Lars Fallan & Leiv Opstad 2016).

However, this study brings to light the role of only Profession in determining psychological capital, Future research could explore more of subjective factors such as socio-economic status marital adjustment, age etc. critical in determining psychological capital amongst R & D professionals.

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