A Study of Locus of Control among Officers Working in Defence Central Public Sector Manufacturing Company in Bangalore

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Abstract: Locus of control developed by Rotter [1] is considered to be an important aspect of reinforcement and personality. This paper aims to study the Locus of control of officers employed in a defence public manufacturing company in Bangalore and to explore correlation between demographic profile like age, experience, marital status, education and locus of control. For conducting this study LOCO inventory developed by Udai Pareek [2] having 30 items, with 10 items each for internality, externality (others) and externality (luck). The study consisted of total of 57 respondents, consisting of 54 male and 03 female employed in Bangalore. The results obtained after analysis reveal that the officers exhibit a higher level of internality than externality (chance). They believe in their inner abilities and attribute their success/failure to their own capabilities, rather than luck, chance and/or fate.

Key words: Internal • External • Personality psychology • Neuroticism

INTRODUCTION

Locus of Control has gained considerable importance in today’s scenario in personality psychology. The concept was developed by Julian B. Rotter in 1954. Locus of control is the extent to which an individual determines the outcomes by internal factors (ie. Personal effort and ability) as opposed to external factors (ie. Fate or chance or destiny). It reflects the degree to which individuals actually have control over the environment. Some people believe that they are master of their fate and life. They are referred to as internals. While some people believe that they are puppets of fate or whatever happens to them are due to external factors or chance. Such people are known as externals. Individuals with internal locus of control are more active in their lives to pursue career goals.

In a nutshell, locus of control is a one-dimensional construct that stretches from internal to external. The question that arises is whether an internal or external locus of control is sought after. Literature suggests that it is psychologically healthy to have control over the things or events that one can change.

Literature Review: As per Rotter [3, 4] locus of control is a broad construct meant to study human behaviour in different situations and it is the extent to which people can deal with or control events that affect them. Locus of control is a psychological construct that encourages change in individuals or groups and help in interpreting behavioural problems and domain specific measures [5]. Rotter [6] regards locus of control as a hierarchical construct with internal or general locus of control occupying the highest level.

Judge and colleagues [7-10] introduced the term core self-evaluation concept and identified locus of control as one of the four traits to qualify as a core-trait. Four dispositional traits are included in the concept of core self-evaluation: self-esteem, self-efficacy, locus of control and neuroticism. According to Judge, Locke and Durham
[7], these specific traits indicate a single, higher order factors that forms the basis for other. The concept signifies assessment that people make about their worthiness, competence and capabilities ranging from positive to negative self-appraisals. People with positive core self-evaluations struggle for right reasons and get the right results and both these increases job and life satisfaction [10]. Core self-evaluation has a direct relationship with job complexity (actual attainment of challenging jobs) and perceptions of job characteristics (eg. task variety, autonomy, feedback and identity) such that job characteristics and job complexity mediate the relationship between core self-evaluation and job satisfaction [8]. As per Findley & Cooper [11], locus of control means person’s belief about control over events occurred in life.

Many similar constructs developed during 1960s apart from locus of control such as perceived control, self-efficacy [12], personal causation, helplessness and explanatory style, causal attribution and personal competence each of which deals with perceived casualty and control [5]. Though there is some overlap in the meaning among these variables, locus of control helps in understanding individual’s perception of causes of events in life and perceived control over success or failure.

**Social Learning Theory:** The concept of internal versus external control of reinforcement was developed by Rotter [3] and is based on Rotter’s [1] social learning theory (SLT). Rotter [1] named his theory as social learning since it is focused on human behaviour in social situations as well as needs required for their satisfaction by reinforcements. SLT is a molar theory of personality that aims to unite two significant theories of psychology - the stimulus-response or reinforcement theory and cognitive or field theory [6]. The theory provides a conceptual framework for the development of the nature and effects of reinforcement. Rotter’s social learning theory [1] consists of four components: behavioural potential, expectancy, reinforcement value and psychological situation. In SLT, the concept of reinforcement acts to strengthen the expectancy that a particular behaviour will be followed by that reinforcement in the future. Once the expectancy for such a behaviour-reinforcement sequence is built up, the failure of the reinforcement to occur will reduce the expectancy.

The SLT provides model to be used in the prediction of behaviour. This model consists of four components: behaviour, expectancy, reinforcement and psychological situation. The general formula for behaviour is that the probability for behaviour to occur in a specific situation is a function of expectancy that the behaviour will lead to a particular reinforcement and the value of that reinforcement.

**Behaviour:** It is defined as the probability for behaviour to occur in a specific situation by an individual. The behaviour used is the one with the highest potential for reinforcement.

**Expectancy:** It is defined as the probability for behaviour to occur in a specific situation is a function of expectancy that the behaviour will lead to a particular reinforcement. Rotter [1] defines it as a probability held by the subject that any specific reinforcement or group of reinforcements will occur in any given situation or situations. Expectancies Can Be Generalized or Specific. Expectancies generalise from a specific situation to a series of related situations. A generalised expectancy for related situations has functional properties and constitutes one of the important classes of variables in psychology. A generalised expectancy regarding the nature of the relationship between one’s own behaviour and its results might affect a variety of behavioural choices in life situations. Generalised expectancy when combined with specific expectancy determines behaviour and the reinforcement value.

**Reinforcement:** Reinforcement acts to strengthen an expectancy that a particular behaviour will lead to reinforcement in future. When reinforcement is contingent upon the individual’s behaviour, then its occurrence will increase expectancy and conversely its non-occurrence will reduce expectancy. Rotter [1] distinguished between internal and external reinforcement. Internal reinforcement is individual’s experience that a past event is valuable for him while external reinforcement is the occurrence of an event that has some reinforcement value for an individual.

**Psychological Situation:** It determines both expectancies and reinforcement values. The probability of occurrence of a particular behaviour in some particular situations must take into account alternative behaviours available in the same situation.

**Internals vs Externals:** Locus of control is one of the most prominent personality variable studies in a number of work and organisational settings. According to Julian
"Internal control" is the concept used to describe the belief that control of future outcomes lies primarily in oneself or the event is contingent upon his own behaviour or personal characteristics, while "external control" refers to the concept that reinforcement or outcome is a function of fate/chance/destiny or is unpredictable. Rotter [3] identified four types of beliefs in externals: powerful others, luck or chance, fate and a belief that the world is too complex to be predicted. This definition clearly draws a line between two categories of individuals: internals and externals. Some people feel that they are personally responsible for the things that happen to them and they are called internals while others feel that their outcomes in life are determined by external forces beyond their control and they are known as externals [11]. In other words locus of control is often regarded as ‘internal-external’ attitudes. As per Spector [12,13], individual’s success, failures and outcomes are controlled by individual’s actions and behaviours is referred to as internals whereas individual’s success, failures and outcomes are controlled by other forces like chance, luck or fate is referred to as externals.

According to Judge, Locke and Durham [7], internals can control a broad series of factors in their lives. Internals possess better social behavior and can communicate better as well as attentive to others than externals [14]; on the other hand externals are hesitant to go against others due to normative reasons [15]. People with internal locus of control are more capable of controlling their negative moods or securing positive outcomes and feelings or of both [17]. Internals are better capable of controlling their negative moods or securing positive outcomes and feelings or of both [17]. Internals possess better social behavior and can communicate better as well as attentive to others than externals [14]; on the other hand externals are hesitant to go against others due to normative reasons [15]. People with internal locus of control are more capable of controlling their negative moods or securing positive outcomes and feelings or of both [17].

Internals prefer participative management and took part in goal setting more confidently than externals [18]. In a study conducted on social work professionals Singh [19] found that role efficacy and emotional intelligence were positively associated with their internal locus of control but negatively related to their external locus of control.

Srivastava [20] conducted a study on managers of private sector to find the moderating effect of locus of control and organisational support on managerial effectiveness and job burnout. She found that job burnout has a negative impact on managerial effectiveness and mangers with an internal locus of control are more satisfied with their jobs and are more committed towards their organisation. the reason for this is that managers believe that they are masters of their fate and situations and hence are more focussed in their work. She also found that internal locus of control has moderating effect on managerial effectiveness and job burnout.

The question that arises is whether an internal or external locus of control is sought after. Literature suggests that it is psychologically healthy to have control over the things or events that one can change. Hence, internal locus of control seems to be mostly sought after. Research has found the following trends:

- Males seem to be more internal than females.
- As people grow older, they tend to become more internal [21, 22].
- People in higher positions tend to be more internal [23]

Objectives of the Study:

- Analysis of Internal scores (I), External (Others) scores (E-O), External (Chance) scores (E-C)
- Analysis of Loco Inventory Scores using Ratio Analysis
- Mean & Standard Deviation of loco inventory scores
- Correlation between age, total experience, internal, external (others) and external (chance)
- One way ANOVA showing the relationship between Locus of control and demographic profile
- One way ANOVA showing the relationship between Locus of control and married people whose partner are employed
- Analysis of Locus of control with reference to different attributes

MATERIALS AND METHODS

Participants, Sampling and Procedure: The data for this study were collected during February 2013 to April 2013 from officers working in a defence public manufacturing company at Bangalore. The sample respondents were selected by using systematic random sampling. Two days in a week i.e Friday and Saturday was dedicated to collect the data. 390 nos. of officers were working in the manufacturing complex of the company at Bangalore. Confidence level and confidence interval has been considered as 95 % and 10 % respectively. Data was collected using a loco inventory developed by Udai Pareek (1992). It is 30 - item scale with 10 items each under internality, externality (others) and externality (chance). The 5-point scale is used in scoring responses ranging from “hardly feel” (0) to “strongly feel” (4). An example item is “My success or failure depends mostly on the amount of effort I put in”. The three dimensions of LOCO inventory are: Internal (I), External - Others (E-O) and External - Chance (E-C). Scores will range from 0 - 40 for
each of the three columns internality, externality (others) and externality (chance). The instrument links locus of control to seven areas:

- General
- Success or effectiveness
- Influence
- Acceptability
- Career
- Advancement
- Rewards

The Questionnaire Form Included Two Main Sections:

- The first section contains questions aiming at collecting information to identify officers i.e. demographic profile
- Second section contains the locus of control inventory items

The questionnaire was distributed to officers in hand and collected back after filling up. The respondents were asked to fill the questionnaire. Participants in this study included men and women employed in full time job, both married and unmarried, with or without kids.

Total 140 questionnaires were distributed to the participants who voluntarily participated in the survey. 40 participants did not return back the filled questionnaire. The scrutiny of the questionnaires has revealed that 43 questionnaire were not usable as they were not filled completely and hence rejected for further analysis. Finally, questionnaire of 57 officers consisting of 54 male and 03 female were taken for analysis.

The sample consisted of males (94.7%) and females (5.3%) with mean age approximately 36.22 years with a standard deviation of 11.69. Age is in between 23 to 59 years. 22 (38.6%) officers are working as a junior level officer whereas 24 (42.1%) and 11 (19.3%) officers are middle and senior level respectively. Total experience of the respondents is in the range of 06 months to 34 years with mean experience approximately 12.78 years with a standard deviation of 10.89. 34 (59.64 %) respondents are married and 23 (40.35%) are single. Academic qualification of the officers varies from Diploma to masters in engineering/Social Sciences. 51 (89%) officers are graduates in engineering. Figure 1 shows the personal profile of the officers in details.

Fig. 1: Personal profile of officers
**Analysis:** The information obtained as a result of the study has been compiled in a database formed with Minitab 14 statistical package software and Microsoft excel. Descriptive statistics including mean, percentage and standard deviation identified characteristics of the sample and their responses to each item. A principal factor analysis with varimax rotation identified characteristics of locus of control. In factor analysis, answers given to sentences scored. This study considered a factor load value of 0.30 and over efficient for the items. The minimum eigen value was considered at 1.0. The Cronbach Alpha, the inner consistency coefficient, has been calculated for the reliability of the questionnaire.

**Limitation of the Research:** This study is subjected to various limitations. First the study area was limited to manufacturing complex of defence public manufacturing company at Bangalore. Therefore, the sample is also limited to officers working in manufacturing complex; future research should study other professions and employees at different levels in the organisations.

Second the gender distribution of the sample in the study is consistent (95%) with that of the entire population; the results of the study might suffer from the generalization when compared to other industries that have equal gender distribution.

**RESULTS**

Interpretation of the factor: Principal component analysis using Minitab 14 software yielded nine factors accounting for a total of 73.7 % of the variance. The eigen value of these factors are 6.48, 3.78, 2.34, 2.13, 1.75, 1.62, 1.46, 1.43 and 1.08. The factor load values calculated by principal component factor analysis using minitab 14 software vary between 0.30 and 0.88. The alpha value calculated for reliability is determined as 0.77. According to the data, it has been determined that the loco inventory scale was a valid and reliable model for this research. For commenting on research results, locus of control is divided into three sections as internal LOC (I), External Others (E-O) and Chance (E-C).

**Analysis of Internal Scores (I):** As it is evident from Table 1, in case of internality, 17 respondents (out of sample size of 57 respondents) have scored a score of 33 or above. This implies that 30 % of the respondents are very confident of themselves. They believe in their abilities, but sometimes might not be able to assess the contingencies and difficulties that might come in their way of achieving goals. They can be unrealistic and blame themselves for any future [24].

Only 2 respondents have scored an internal score of 17 or less. This implies that 4% officers fail to put use their full potential and do not rely on their efforts to achieve goals. 17 officers have scored an internal score of 29 to 32. This shows that 30 % officers have high trust in their abilities and will mostly put them to effective use to achieve their goals. 4 officers have scored an internal score of 18 to 21. This means that 7% officers do not believe in themselves and need to take feedback from others to evaluate their strengths. 17 officers have scored an internal score ranging from 22 to 28. This implies that 30% officers are somewhere in between, with moderate trust in themselves and their abilities, at the same time not taking the blame of failure totally on themselves, but attributing it to contingencies and luck.

**Analysis of External (Others) Score (E-O):** Externality Others (E-O) means the degree to which an individual relies on significant others (boss, peers and subordinates), to achieve success/failure in the organization. As it is evident from Table 2. 15 respondents (out of the sample size of 57 respondents) in the organization have scored an E-O score of 30 to 40. This means that 26% officers exhibit dysfunctional dependence on significant others. 29 officers have scored an EO score of 21 to 29. This shows that 51% employees exhibit a realistic dependence on significant others. 6

<table>
<thead>
<tr>
<th>Scores</th>
<th>Frequency</th>
<th>Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>17</td>
<td>2</td>
<td>4</td>
</tr>
<tr>
<td>18 to 21</td>
<td>4</td>
<td>7</td>
</tr>
<tr>
<td>22 to 28</td>
<td>17</td>
<td>30</td>
</tr>
<tr>
<td>29 to 32</td>
<td>17</td>
<td>30</td>
</tr>
<tr>
<td>33 to 40</td>
<td>17</td>
<td>30</td>
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</table>

<table>
<thead>
<tr>
<th>Scores</th>
<th>Frequency</th>
<th>Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>16</td>
<td>7</td>
<td>12</td>
</tr>
<tr>
<td>17 to 20</td>
<td>6</td>
<td>11</td>
</tr>
<tr>
<td>21 to 29</td>
<td>29</td>
<td>51</td>
</tr>
<tr>
<td>30 to 40</td>
<td>15</td>
<td>26</td>
</tr>
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</table>

<table>
<thead>
<tr>
<th>Scores</th>
<th>Frequency</th>
<th>Percentage (%)</th>
</tr>
</thead>
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<tr>
<td>10</td>
<td>9</td>
<td>16</td>
</tr>
<tr>
<td>11 to 20</td>
<td>33</td>
<td>58</td>
</tr>
<tr>
<td>21 to 30</td>
<td>13</td>
<td>23</td>
</tr>
<tr>
<td>31 to 40</td>
<td>2</td>
<td>4</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Scores</th>
<th>Frequency</th>
<th>Percentage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>E-O</td>
<td>E-C</td>
</tr>
<tr>
<td>1673</td>
<td>1433</td>
<td>968</td>
</tr>
</tbody>
</table>

2011
officers have scored an E-O score of 17 to 20. This shows that 11% officers exhibit an independent orientation. Only 7 officers have scored an E-O score of 16 or below. This shows that 12% officers exhibit a counter-dependent orientation with significant others.

**Analysis of External (Chance) Score (E-C):** As far as interpretation of scores on Externality Chance (E-C) is concerned, the simple rule is ‘the lower, the better’. As is evident from Table 3, 09 respondents (out of the sample size of 57 respondents) have scored an E-C score of 10 or below. This implies that 16% officers may not be able to tackle frustration when unforeseen contingencies or situations come up. This might affect them in the achievement of a goal. 33 officers have scored an E-C score of 11 to 20. This means that 58% officers are more likely to tackle such frustration, as they do not completely believe in the power of luck, fate and/or chance. As they exhibit a moderate level of externality chance, they are able to handle such unforeseen situations better than individuals with an E-C score of 10 or below. 13 officers have scored an E-C score of 21 to 30. This implies that 23% officers are more likely to attribute failure/success to luck, fate and/or chance and are more likely to handle unforeseen situations with a ‘not my fault’ attitude.

**Analysis of Loco Inventory Scores Using Ratio Analysis:**
Table 5: shows that I/E-O for 57 officers in the organization is 1.17, which is greater than 1, the officers exhibit a higher level of internality than externality (others). Officers believe in their inner abilities and attribute their success/failure to their own capabilities, rather than the influence of their boss, peers and subordinates. Officers can largely determine what matters to them in the organization and believe that most of the times, they alone are responsible for getting, or not getting rewards and promotions. Believing in the power of ‘self’ to achieve success in the organization is their MANTRA. Their competence and hard work are the two primary determinants of their performance in any endeavor.

I/E-C is 1.73 which is greater than 1 indicates that the officers exhibit a higher level of internality than externality (chance). They believe in their inner abilities and attribute their success/failure to their own capabilities, rather than luck, chance and/or fate. They can largely determine what matters to them in the organization and believe that most of the times, they alone are responsible for getting, or not getting rewards and promotions. This shows a ‘never-say-die’ attitude of employees towards difficult and tenuous tasks and also their readiness to defer gratification.

<table>
<thead>
<tr>
<th>I/E-O</th>
<th>I/E-C</th>
<th>I/(E-O + E-C)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.17</td>
<td>1.73</td>
<td>0.70</td>
</tr>
</tbody>
</table>

**Table 6: Mean & Std. Deviation of loco inventory scores**

<table>
<thead>
<tr>
<th></th>
<th>E-O</th>
<th>E-C</th>
<th>E-L</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean</td>
<td>29.35</td>
<td>25.14</td>
<td>16.98</td>
</tr>
<tr>
<td>Standard Deviation</td>
<td>5.93</td>
<td>7.6</td>
<td>6.87</td>
</tr>
</tbody>
</table>

I/(E-O + E-L) is 0.70, which is less than 1. Contrary to the observation in the first and second ratios, where officers exhibited a higher level of internality than externality (others) and externality (chance), this ratio brings to the fore a higher level of externality (others & chance) than internality.

**Mean & Standard Deviation of Loco Inventory Scores:**
Table 6: shows that sample size exhibits an acceptable level of internality, externality (others) and externality.

**Correlation Between Age, Total Experience, Internal, External (Others) and External (Chance):** Table 7 reveals that there is positive significant relationship between External (others) LOC and age & total experience respectively as P value is less than 0.05.

There is a partial negative correlation between Internal LOC and age & total experience but relationship is notsignificant as P value is more than 0.05. The correlation between External (chance) and Internal, External (chance) and External (others) is significant. This indicates that external and internal locus of control characteristics of officers is not independent to each other. Partial negative correlation exists between Internals and External (Others). Partial positive correlation exists between External (Others) and External (Chance).

**One Way ANOVA Showing the Relationship Between Locus of Control and Demographic Profile:**
Table 9: reveals that there is a significant variance between External (Others) LOC and managerial level & marital status while there is no significance variance between LOC and education.

**One Way ANOVA Showing the Relationship Between Locus of Control and Married People Whose Partner Are Employed:**
Table 11 shows that there is no significance variance between LOC and married officers having employed partners or/ and children.
Table 7: Correlation of age and total experience with internal, external (others) and external (chance)

<table>
<thead>
<tr>
<th>Variables</th>
<th>Age</th>
<th>Total Experience</th>
<th>Internal</th>
<th>External (Others)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Experience</td>
<td>R 0.987</td>
<td>0*</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>P</td>
<td>0.188</td>
<td>0.127</td>
<td>0.161</td>
</tr>
<tr>
<td>Internal</td>
<td>R -0.205</td>
<td>-0.114</td>
<td>-0.14</td>
<td></td>
</tr>
<tr>
<td></td>
<td>P</td>
<td>0.127</td>
<td>0.161</td>
<td></td>
</tr>
<tr>
<td>External (Others)</td>
<td>R 0.304</td>
<td>0.288</td>
<td>-0.114</td>
<td></td>
</tr>
<tr>
<td></td>
<td>P</td>
<td>0.03*</td>
<td>0.263</td>
<td>0.538</td>
</tr>
<tr>
<td>External (Chance)</td>
<td>R 0.053</td>
<td>0.039</td>
<td>-0.263</td>
<td></td>
</tr>
<tr>
<td></td>
<td>P</td>
<td>0.697</td>
<td>0.776</td>
<td>0.048*</td>
</tr>
</tbody>
</table>

Note: * P value < 0.05

Table 8: Descriptive Statistics of Locus of Control

<table>
<thead>
<tr>
<th>Demographic Variables</th>
<th>Internal</th>
<th>External (Others)</th>
<th>External (Chance)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N</td>
<td>Mean</td>
<td>StdDev</td>
</tr>
<tr>
<td>Junior Level</td>
<td>22</td>
<td>28.364</td>
<td>6.463</td>
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<tr>
<td>Middle Level</td>
<td>24</td>
<td>29.75</td>
<td>5.922</td>
</tr>
<tr>
<td>Senior Level</td>
<td>11</td>
<td>30.455</td>
<td>4.967</td>
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<tr>
<td>Married</td>
<td>34</td>
<td>28.529</td>
<td>6.081</td>
</tr>
<tr>
<td>B.Sc, B.Com</td>
<td>1</td>
<td>27</td>
<td>0</td>
</tr>
<tr>
<td>DME</td>
<td>3</td>
<td>26.667</td>
<td>4.163</td>
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</tbody>
</table>

Table 9: One way ANOVA for LOC and demographic profile

<table>
<thead>
<tr>
<th>Demographic Variables</th>
<th>Internal</th>
<th>External (Others)</th>
<th>External (Chance)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>F</td>
<td>P</td>
<td>F</td>
</tr>
<tr>
<td>Managerial Level</td>
<td>0.54</td>
<td>0.585</td>
<td>4.12</td>
</tr>
<tr>
<td>Marital Status</td>
<td>1.64</td>
<td>0.206</td>
<td>6.45</td>
</tr>
<tr>
<td>Education</td>
<td>0.46</td>
<td>0.711</td>
<td>1.48</td>
</tr>
</tbody>
</table>

Note: * P value < 0.05

Table 10: Descriptive Statistics of Locus of Control for married officers

<table>
<thead>
<tr>
<th>Demographic Variables</th>
<th>Internal</th>
<th>External (Others)</th>
<th>External (Chance)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N</td>
<td>Mean</td>
<td>StdDev</td>
</tr>
<tr>
<td>Officers with unemployed partner</td>
<td>22</td>
<td>29.409</td>
<td>6.261</td>
</tr>
<tr>
<td>Officers not having children</td>
<td>5</td>
<td>30.6</td>
<td>5.177</td>
</tr>
<tr>
<td>Officers having children</td>
<td>29</td>
<td>28.172</td>
<td>6.234</td>
</tr>
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</table>

Table 11: One way ANOVA for LOC and married officers

<table>
<thead>
<tr>
<th>Demographic Variables</th>
<th>Internal</th>
<th>External (Others)</th>
<th>External (Chance)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>F</td>
<td>P</td>
<td>F</td>
</tr>
<tr>
<td>Partner employment status</td>
<td>1.32</td>
<td>0.26</td>
<td>0.01</td>
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<tr>
<td>Children</td>
<td>0.67</td>
<td>0.418</td>
<td>0.01</td>
</tr>
</tbody>
</table>

Note: * P value < 0.05
Analysis of Locus of Control with Reference to Different Attributes: Figure 2, 3 & 4 shows that Externality (Others) exhibit maximum mean score of 5.47 and Externality (Chance) exhibit minimum standard deviation of 1.69 in the ‘General’ attribute. As p value is less than 0.05, all three LOC scores are significant.

Figure 5, 6 & 7 shows that Internality exhibit maximum mean score of 10.14 and Externality (Chance) exhibit a minimum standard deviation of 1.83 in the ‘Success of effectiveness’ attribute. As p value is less than 0.05, Internality and Externality (Others) LOC scores are significant whereas Externality (Chance) LOC score is not significant.

Figure 8, 9 & 10 shows that Internality exhibit maximum mean score of 2.98 and a minimum standard deviation of 0.95 in the ‘Influence’ attribute. As p value is less than 0.05, all LOC scores are significant.

Figure 11, 12 & 13 shows that Internality exhibit maximum mean score of 2.82 and a minimum standard deviation of 1.07 in the ‘Acceptability’ attribute. As p value is less than 0.05, all LOC scores are significant.

Figure 14, 15 & 16 shows that Internality exhibit maximum mean score of 3.12 and a minimum standard deviation of 1.01 in the ‘Career’ attribute. As p value is less than 0.05, all LOC scores are significant.

Figure 17, 18 & 19 shows that Internality exhibit maximum mean score of 3.00 and a minimum standard deviation of 1.10 in the ‘Advancement’ attribute. As p value is less than 0.05, all LOC scores are significant.

Figure 20, 21 & 22 shows that Externality (Others) exhibit maximum mean score of 2.92 and a minimum standard deviation of 1.10 in the ‘Advancement’ attribute. As p value is less than 0.05, all LOC scores are significant.
### Fig. 4: Summary of Internality for ‘General’ attribute

<table>
<thead>
<tr>
<th>Sample Size</th>
<th>Mean</th>
<th>Standard Deviation</th>
<th>Variance</th>
<th>Skewness</th>
<th>Kurtosis</th>
<th>Median</th>
<th>Minimum</th>
<th>Maximum</th>
<th>95% Confidence Interval for Mean</th>
<th>95% Confidence Interval for Median</th>
</tr>
</thead>
<tbody>
<tr>
<td>57</td>
<td>4.3870</td>
<td>1.9113</td>
<td>3.67299</td>
<td>-0.229033</td>
<td>-0.556924</td>
<td>5.0000</td>
<td>2.0000</td>
<td>8.0000</td>
<td>4.2946, 5.2190</td>
<td>4.0000, 5.0000</td>
</tr>
</tbody>
</table>

### Fig. 5: Summary of Internality for ‘Success or Effectiveness’ attribute

<table>
<thead>
<tr>
<th>Sample Size</th>
<th>Mean</th>
<th>Standard Deviation</th>
<th>Variance</th>
<th>Skewness</th>
<th>Kurtosis</th>
<th>Median</th>
<th>Minimum</th>
<th>Maximum</th>
<th>95% Confidence Interval for Mean</th>
<th>95% Confidence Interval for Median</th>
</tr>
</thead>
<tbody>
<tr>
<td>12</td>
<td>10.140</td>
<td>3.9771</td>
<td>15.9510</td>
<td>-0.931221</td>
<td>-0.694757</td>
<td>11.0000</td>
<td>6.0000</td>
<td>12.0000</td>
<td>9.655, 10.625</td>
<td>10.040, 11.000</td>
</tr>
</tbody>
</table>

### Fig. 6: Summary of Externality (Others) for ‘Success or Effectiveness’ attribute

<table>
<thead>
<tr>
<th>Sample Size</th>
<th>Mean</th>
<th>Standard Deviation</th>
<th>Variance</th>
<th>Skewness</th>
<th>Kurtosis</th>
<th>Median</th>
<th>Minimum</th>
<th>Maximum</th>
<th>95% Confidence Interval for Mean</th>
<th>95% Confidence Interval for Median</th>
</tr>
</thead>
<tbody>
<tr>
<td>15</td>
<td>6.8421</td>
<td>3.2337</td>
<td>10.5481</td>
<td>-0.256980</td>
<td>-1.01249</td>
<td>7.9000</td>
<td>4.5000</td>
<td>10.9000</td>
<td>5.90441, 7.7081</td>
<td>6.0000, 7.9000</td>
</tr>
</tbody>
</table>

2015
Fig. 7: Summary of Externality (Chance) for 'Success or Effectiveness' attribute

Fig. 8: Summary of Internality for 'Influence' attribute

Fig. 9: Summary of Externality (Others) for 'Influence' attribute
Fig. 10: Summary of Externality (Chance) for 'Influence' attribute

**Anderson-Darling Normality Test**
- A-Squared: 4.19
- P-Value < 0.005
- Mean: 1.9351
- SDev: 1.1914
- Variance: 1.4213
- Skewness: 0.9392
- Kurtosis: -1.0402
- N: 57

**95% Confidence Intervals**
- Minimum: 0.0600
- 1st Quartile: 0.0600
- Median: 1.0000
- 3rd Quartile: 2.0600
- Maximum: 3.0600

Fig. 11: Summary of Internality for 'Acceptability' attribute

**Anderson-Darling Normality Test**
- A-Squared: 2.94
- P-Value < 0.005
- Mean: 2.9246
- SDev: 3.0713
- Variance: 1.1472
- Skewness: -0.6507
- Kurtosis: -0.4587
- N: 57

**95% Confidence Intervals**
- Minimum: 0.0000
- 1st Quartile: 2.0000
- Median: 3.0000
- 3rd Quartile: 4.0000
- Maximum: 4.0000

Fig. 12: Summary of Externality (Others) for 'Acceptability' attribute

**Anderson-Darling Normality Test**
- A-Squared: 3.87
- P-Value < 0.005
- Mean: 2.6842
- SDev: 1.9717
- Variance: 1.1485
- Skewness: -0.8340
- Kurtosis: 0.8626
- N: 47

**95% Confidence Intervals**
- Minimum: 0.0000
- 1st Quartile: 2.0000
- Median: 3.0000
- 3rd Quartile: 4.0000
- Maximum: 4.0000

2017
Fig. 13: Summary of Externality (Chance) for 'Acceptability' attribute

Fig. 14: Summary of Internality for 'Career' attribute

Fig. 15: Summary of Externality (Others) for 'Career' attribute
Fig. 16: Summary of Externality (Chance) for 'Career' attribute

Fig. 17: Summary of Internality for 'Advancement' attribute

Fig. 18: Summary of Externality (Others) for 'Advancement' attribute
Fig. 19: Summary of Externality (Chance) for 'Advancement' attribute

Fig. 20: Summary of Internality for 'Rewards' attribute

Fig. 21: Summary of Externality (Others) for 'Rewards' attribute
DISCUSSION AND CONCLUSION

The current study aims to investigate locus of control among officers working in defence central public sector enterprise in Bangalore. Married and single officers working in the company at managerial level were compared. The results obtained after analysis reveal that the officers exhibit a higher level of internality than externality (chance). They believe in their inner abilities and attribute their success/failure to their own capabilities, rather than luck, chance and/or fate. They can largely determine what matters to them in the organization and believe that most of the times, they alone are responsible for getting, or not getting rewards and promotions. This result is consistent with the studies conducted by Spector, [13], Frese [24], Ross & Mirowsky [25], Noor [26], Ducette and Wolk [27].

While relating locus of control to various demographic variables, many contradictory statements were revealed that refuted the previous findings. The study revealed that there is positive significant relationship between External (others) LOC and age & total experience respectively as P value is less than 0.05. There is a partial negative correlation between Internal LOC and age & total experience but relationship is not significant as P value is more than 0.05. This result contradicted the study of Fry [21], Specht, Schmukle and Egloff [22]. The study of Fry [21], Specht, Schmukle and Egloff [22] show that as people grow old, they become more internal. There is a significant variance between External (Others) LOC and managerial level as well as marital status. This study is similar to the study conducted by Kasilingam and Sudha [28].

There is no significance variance between LOC and education. This finding contradicted the study of Kasilingam and Sudha [28], Yukl [18], Erez and Judge [29] and Specht, Schmukle and Egloff [22]. Their studies show that People with higher education have less external locus of control. Education adds to more perceived control. Individuals with high perceived control are more inclined to set challenging goals for themselves and pursue those goals in adverse situations. Similarly there is no significance variance between LOC and married officers having employed partners or/ and children.

The present study has both strengths and limitations. Comparing single and married officers in the same organisation performing similar tasks could be taken as strength. The limitations incorporated in the study ar as follows. First the study area was limited to manufacturing complex of defence public manufacturing company at Bangalore. Therefore, the sample is also limited to officers working in manufacturing complex; future research should study other professions and employees at different levels in the organisations. Second the gender distribution of the sample in the study is consistent (95%) with that of the entire population; the results of the study might suffer from the generalization when compared to other industries that have equal gender distribution.

The large sample size would allow for stronger effects. While linking LOC to all the seven thrust areas, the LOC scores were significant i.e. p value was less than 0.05 with respect to attributes General, Influence, Acceptability, Career, Advancement and Rewards. Only for attribute Success internality and external (others) LOC scores were significant, while external (chance) score was less. The fact that externals are less able to manage life.
management system indicates the importance of supporting a person’s self-confidence, self-esteem and responsibility for her or her behaviour. This can help youth to manage life management system in a better way. The results so obtained would enrich the knowledge of researcher and contribute to the knowledge base of society.

**Practical Implications:** Variety of employee behaviours may be related to employee’s locus of control. Managerial and leadership effectiveness can be improved by understanding the natures and power of control beliefs. There is a need to address managers with an internal locus of control to build a healthy organisation. Internal locus of control can be improved through cultivating inter-personal relationships.

**CONCLUSION**

Locus of control is one of the most prominent personality variable studies in a number of work and organisational settings. According to Julian Rotter. Internal control is the concept used to describe the belief that control of future outcomes lies primarily in oneself or the event is contingent upon his own behaviour or personal characteristics, while “external control” refers to the concept that reinforcement or outcome is a function of fate/chance/destiny or is unpredictable. Rotter identified four types of beliefs in externals: powerful others, luck or chance, fate and a belief that the world is too complex to be predicted.

**REFERENCES**


