

## Gender Difference in Locus of Control: A Comparative Study

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### ABSTRACT

Each of us has a belief about how much control we have over the things we encounter in life. We each view life either as something we can control or something that control us. Locus of control defines who we view as responsible for our successes and failures- us or other people. People who develop an internal locus of control believe that they are responsible for their own success. Those with an external locus of control believe that external forces like luck determine their outcomes. There are also gender differences in perception of control across behavioral domains. The present study is all about finding out the gender difference of college going students in locus of control. Two samples of +3 final year science stream, consisting of 30 male and 30 female students are selected from Khallikote University and S.B.R. Government (Auto) Women's college. The convenient method of sampling technique is used. The tool used in the study is "Locus of Control Scale" developed by Rotter in the year 1966. The appropriate statistical technique is used to find out the results. The analysis of results indicates that there is no significant gender difference in locus of control.

**Keywords:** *Locus of control, Gender Differences, College Students, Internal or External*

In personality psychology, locus of control refers to the extent to which individuals believe that they can control events that affect them. Understanding of the concept was developed by Julian B. Rotter in 1954, and has since become an aspect of personality studies. A person's "locus" (Latin for "place" or "location") is conceptualized as either internal (the person believes they can control their life) or external (meaning they believe that their decisions and life are controlled by environmental factors which they cannot influence). Individuals with a high internal locus of control believe that events in their life derive primarily from their own actions; for example, when receiving test results, people with an internal locus of control would praise or blame themselves while people with an external locus of control praise or blame the teacher or the test.

Students with an "internal locus of control" generally believe that their success or failure is a result of the effort and hard work they invest in their education. Students with an "external locus of control" generally believe that their successes or failures result from external factors beyond their control, such as luck, fate, circumstance, injustice, bias, or teachers who are unfair, prejudiced, or unskilled. For example, students with an internal locus of control

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might blame poor grades on their failure to study, whereas students with an external locus of control may blame an unfair teacher or test for their poor performance.

Whether a student has an internal or external locus of control is thought to have a powerful effect on academic motivation, persistence, and achievement in school. In education, “internals” are considered more likely to work hard in order to learn, progress, and succeed, while “externals” are more likely to believe that working hard is “pointless” because someone or something else is treating them unfairly or holding them back. Students with an external locus of control may also believe that their accomplishments will not be acknowledged or their effort will not result in success.

Locus of control has generated much research in a variety of areas in psychology. The construct is applicable to fields such as educational psychology, health psychology or clinical psychology. Careful distinctions should also be made between locus of control (a concept linked with experiences about the future) and attributional style (a concept linked with explanations for past outcomes), or between locus of control and concepts such as self-efficacy. The importance of locus of control as a topic in psychology is likely to remain quite central for many years. Locus of control has also been included as one of four dimensions of core self-evaluations—one’s fundamental appraisal of oneself—along with neuroticism, self-efficacy, and self-esteem. In a follow-up study, Judge et al. (2002) argued the concepts of locus of control, neuroticism, self-efficacy and self-esteem measured the same, single factor. The concept of core self-evaluations was first examined by Judge, Locke, and Durham (1997), and since has proven to have the ability to predict several work outcomes, specifically, job satisfaction and job performance.

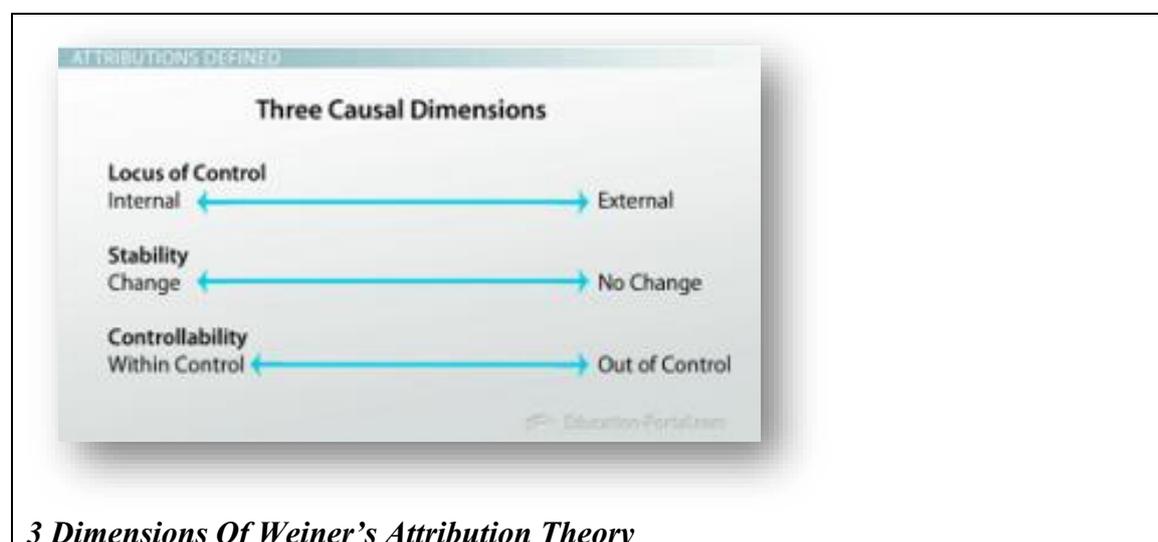
Locus of control is the framework of Rotter’s (1954) social-learning theory of personality. In 1966, he published an article in *Psychological Monographs* which summarized over a decade of research (by Rotter and his students), much of it previously unpublished. In 1976, Herbert M. Lefcourt defined the perceived locus of control: “...a generalized expectancy for internal as opposed external control of reinforcements”. Attempts have been made to trace the genesis of the concept to the work of Alfred Adler, but its immediate background lies in the work of Rotter and his students. Early work on the topic of expectations about control of reinforcement had been performed in the 1950s by James and Phares (prepared for unpublished doctoral dissertations supervised by Rotter at the Ohio State University).

### ***Weiner attribution Theory***

Attribution theory is concerned with how individuals interpret events and how this relates to their thinking and behavior. Heider (1958) was the first to propose a psychological theory of attribution, but Weiner and colleagues (e.g., Jones et al, 1972; Weiner, 1974, 1986) developed a theoretical framework that has become a major research paradigm of social psychology. Attribution theory assumes that people try to determine why people do what they do, i.e., attribute causes to behavior. A person seeking to understand why another person did something may attribute one or more causes to that behavior. A three-stage process underlies an attribution: (1) the person must perceive or observe the behavior, (2) then the person must believe that the behavior was intentionally performed, and (3) then the person must determine if they believe the other person was forced to perform the behavior (in which case the cause is attributed to the situation) or not (in which case the cause is attributed to the other person).

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Weiner focused his attribution theory on achievement (Weiner, 1974). He identified ability, effort, task difficulty, and luck as the most important factors affecting attributions for achievement. Attributions are classified along three causal dimensions: locus of control, stability, and controllability. The locus of control dimension has two poles: internal versus external locus of control. The stability dimension captures whether causes change over time or not. For instance, ability can be classified as a stable, internal cause, and effort classified as unstable and internal. Controllability contrasts causes one can control, such as skill/efficacy, from causes one cannot control, such as aptitude, mood, others' actions, and luck.



### *3 Dimensions Of Weiner's Attribution Theory*

#### ***Personality orientation***

Rotter (1975) cautioned that internality and externality represent two ends of a continuum, not an either/typology. Internals tend to attribute outcomes of events to their own control. People who have internal locus of control believe that the outcomes of their actions are results of their own abilities. Internals believe that their hard work would lead them to obtain positive outcomes. They also believe that every action has its consequence, which makes them accept the fact that things happen and it depends on them if they want to have control over it or not. Externals attribute outcomes of events to external circumstances. People that have external locus of control believe that many things that happen in their lives are out of their control. They believe that their own actions are a result of external factors that are beyond their control. Rotter in his study suggested that people that have external locus of control have four types of beliefs which include the following: powerful others such as doctors, nurses, fate, luck and a belief that the world is too complex to predict its outcomes. People that have external locus of control tend to blame others for the outcomes rather than themselves. Due to their locating control outside themselves, externals tend to feel they have less control over their fate. People with an external locus of control tend to be more stressed and prone to clinical depression. Internals were believed by Rotter (1966) to exhibit two essential characteristics: high achievement motivation and low outer-directedness.

There is another type of control that entails a mix among the internal and external types. People that have the combination of the two of locus of control are often referred to as Bi-locals. People that have Bi-local characteristics are known to handle stress and cope with their diseases more efficiently by having the mixture of internal and external locus of control. An example of this mixed system would be an alcoholic who will accept the fact he

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brought the disease upon himself while remaining open to treatment and/ acknowledging that there are people, mainly doctors and therapists, that are trying to cure his/her addiction, and on whom, he should rely.

### *Rotter's theory*

#### **1. Educational theory**

##### **Weiner's attribution theory as applied to student motivation**

Additional research led to the hypothesis that typical expectancy shifts (which derive from the belief that success (or a failure) will be the determining notion for whatever activity/action is preceded next, that is to say, if one succeeds at something then the expectancy is that they will succeed again) were displayed more often by those who attribute their outcomes to ability, whereas those who displayed atypical expectancy (which derive from the belief that success (or a failure) will not have any determining notion for whichever activity/action that follows it, that is to say, if one succeeds at an activity then the expectancy for the subsequent one is independent of this result; one could fail or succeed) were more likely to attribute their outcomes to chance. This was interpreted that people could be divided into those who attribute to ability (an internal cause) versus those who attribute to luck (an external cause). Bernard Weiner argued that rather than ability-versus-luck, locus may relate to whether attributions are made to stable or unstable causes.

**3b. Attribution Dimensions & Combinations**

		Internal		External	
		Stable	Unstable	Stable	Unstable
Controllable	Usual Effort	Special Effort	Help or No Help from Others	Special Help or No Help from Others	
	Not Controllable	Ability	Mood	Task Difficulty	Luck or Chance

London South Bank University (2005). Information retrieved from <http://www.lsbu.ac.uk/psycho/teaching/ppfiles/devsoco-attribution.ppt#5>  
Slide arranged by Dr. Gordon Vessels 2005

### **2. Psychology theory**

#### **Familial origins**

The development of locus of control is associated with family style and resources, cultural stability and experiences with effort leading to reward. Many internals have grown up with families modeling typical internal beliefs; these families emphasized effort, education, responsibility and thinking, and parents typically gave their children rewards they had promised them. In contrast, externals are typically associated with lower socioeconomic status. Societies experiencing social unrest increase the expectancy of being out-of-control; therefore, people in such societies become more external. Schultz and Schultz also claim that children in families where parents have been supportive and consistent in discipline develop internal locus of control. At least one study has found that children whose parents

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had an external locus of control are more likely to attribute their successes and failures to external causes. Findings from early studies on the familial origins of locus of control were summarized by Lefcourt: “Warmth, supportiveness and parental encouragement seem to be essential for development of an internal locus”. But causal evidence regarding how parental locus of control influences offspring locus of control (whether genetic, or environmentally mediated) is lacking. Locus of control becomes more internal with age. As children grow older, they gain skills which give them more control over their environment, however whether this, or biological development is responsible for changes in locus is unclear.

### **Age**

It is sometimes assumed that as people age, they will become less internal and more external. Longitudinal data collected by Gatz and Karel (cited in Johnson et al., 2004) imply that internality may increase until middle age, decreasing thereafter. Noting the ambiguity of data in this area, Aldwin and Gilmer (2004) cite Lachman’s claim that locus of control is ambiguous. Indeed, there is evidence here that changes in locus of control in later life relate more visibly to increased externality (rather than reduced internality) if the two concepts are taken to be orthogonal. Evidence cited by Schultz and Schultz (2005) (for example, Heckhausen and Schultz (1995) or Ryckman and Malikosi (1975) suggests that locus of control increases in internality until middle age. The authors also note that attempts to control the environment become more pronounced between ages eight and fourteen.

Health locus of control is how people measure and understand and relate their health to their behavior, health status how long it may take to recover from a disease. Each day we are exposed to potential diseases that may affect our health. Locus of control can influence how people think and react towards their health and health decisions.

The way we approach that reality has a lot to do with our locus of control. Sometimes it is expected to see older adults experience progressive declines in their health, for this reason it is believed that their health locus of control will be affected. However, this does not necessarily mean that their locus of control will be affected negatively but older adults may experience decline in their health and this can show lower levels of internal locus of control. Age plays an important role in one’s internal and external locus of control. When comparing a young child and an older adult with their levels of locus of control in regards to health, the older person will have more control over their attitude and approach to the situation. As people age they become aware of the fact events outside of their own control happen and that other individuals can have control of their health outcomes. A study published in the journal *Psychosomatic Medicine* examined the health effect of childhood locus of control. 7,500 British adults (followed from birth), who had shown an internal locus of control at age 10, were less likely to be overweight at age 30. The children who had an internal locus of control also appeared to have higher levels of self-esteem.

### ***Attributional style***

Attributional theory (or explanatory style) is a concept introduced by Lyn Yvonne Abramson, Martin Seligman & John D. Teasdale; Buchanan & Seligman (1995) have edited a book -length review of the topic. This concept goes a stage further than Weiner, stating that in addition to the concepts of internality- externality & stability a dimension of globality- specificity. Abramson et al. believed that how people explained successes & failures in their lives related to whether they attributed these to internal or external factors, short- term or long- term factors, & factors that affected all situations. The topic of attribution theory (introduced to psychology by Fritz Heider) has had an influence on locus-

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of- control theory, but differences exist between the histories of these two models. Attribution theories have been social psychologists (concerned with the general processes characterizing how & why people make the attribution they do), whereas locus- of- control theories have been more concerned with individual differences. Significant to the history of both approaches were the contributions made by Bernard Weiner in the 1970s. Before this time, attribution theorists and locus- of- control theorists had been largely concerned with divisions into external and internal loci of causality. Weiner added the dimension of stability-instability (and later controllability), indicating how a cause could be perceived as having been internal to a person yet still beyond the person's control. The stability dimension added to the understanding of why people succeed or fail after such outcomes. Although not part of Weiner's model, a further dimension of attribution was added by Abramson, Seligman and Teasdale (globality-specificity).

### *Measuring scales*

The most widely used questionnaire to measure locus of control is the 29-item (plus six filler items), forced-choice scale of Rotter (1966). However, this is not the only questionnaire; Bailer's (1961) 29-item scale children predate Rotter's work. Also relevant to the locus-of-control scale are the Crandall Intellectual Ascription of Responsibility Scale (Crandall, 1965) and the Nowicki-Strickland Scale. One of the earliest psychometric scales to assess locus of control (using a Likert-type scale, in contrast to the forced-choice alternative measure in Rotter's scale) was that devised by W.H. James for his unpublished doctoral dissertation, supervised by Rotter at Ohio State University; however, this remains unpublished. Many measures of locus of control have appeared since Rotter's scale. These were reviewed by Furnham and Steele (1993) and include those related to health psychology, industrial and organizational psychology and those specifically for children (such as the Stanford Preschool Internal-External Control Index (for three-to six-year-olds). Furnham and Steele (1993) cite data suggesting that the most reliable, valid questionnaire for adults is the Duttweiler scale.

The Duttweiler (1984) Internal Control Index (ICI) addresses perceived problems with the Rotter scales, including their forced-choice format, susceptibility to social desirability and heterogeneity (as indicated by factor analysis). Unlike the forced-choice format used on Rotter's scale, Duttweiler 29-item ICI uses a Likert-type scale in which people must state whether they would rarely, occasionally, sometimes, frequently or usually behave as specified in each of 29 statements. The ICI assess variables pertinent to internal locus: cognitive processing, autonomy, resistance to social influence, self-confidence and delay of gratification. A small (60 student-subject) validation study indicated that the scale had good internal reliability (a Cronach's alpha of 0.85).

## REVIEW OF LITERATURE

**Imran Haider Zaidi and M. Naeem Mohsin (2013)** in their research article titled "Locus of Control in Graduation Students" focused on exploring the direction of Locus of control as well as gender difference on locus of control among graduation students in Pakistan. Results of this research indicate that men have internal locus of control and women scored high on external locus of control. So, the gender difference is significant on Locus of Control.

**Ahmet Saniogolu, Arife Altin and Mustafa Uslu (2013)** studied locus of control of physical education and sports school students. This study was undertaken to compare locus of control in sports school students and physical education students. 450 students were selected for this study as samples out of them 300 were male students and 150 were female

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students. Internal-external locus control scale developed by Julian Rotter was used for data collection. The result of this study revealed that significant gender and grade difference were found in physical education and sports school students on locus of control variable. This study indicated that the locus of control was affected by the specified variables.

**Dr. Mahesh Sawata Khetmalis and Mr. Joydeb Das (2013)** studied the interpersonal relationship and external and internal locus of control among national level sports persons: A comparative study. This study was conducted to examine the interpersonal association among the performance of sports persons and their grooming in the society with National level sports. This study was conducted on 120 national level male players (thirty players from each game) from judo, gymnastic, football and handball who represented Tripura state in various national competitions. The data were collected through the internal-external locus control scale of Rotter and interpersonal sports team relationship scale. The study revealed that there is no significant difference on locus of control among judo; between gymnastic, football and handball players and that there is significant difference on interpersonal relationship judo between gymnastic, football and handball players.

**Khatereh Heidari, Pouneh Mokhtari and Samira Mashhoodi (2014)** examined the relationship between internal-external controls with methods of coping with stress in young male athletes of team sports. This study was conducted to determine the relationship among locus of control with methods of coping with stress in young male athletes of team sports in Karaj.

**Katarzyna Rutkowska and Dariusz Gierczuk (2014)** conducted study on locus of control in specific sports situations in beginner wrestlers. This study was undertaken to define specific locus of control in beginner wrestling players and second was the analysis of subjectively perceived influences on the course of their sports career was made. Total 131 boys participating in the Polish Cadet Championships (a group of 22 wrestlers who took the podium in the final classification and a group of 22 wrestlers who did not take the podium) in Greco-Roman wrestling were selected for this study. The data was collected through locus of control scale developed by Rotter. The research revealed significantly higher levels of locus of control in the situation of success and during training. Wrestlers winners had more internalized locus of control in sports situations in general as well as in sports success and during training. In the control group locus of control was more internalized during training than during competitions.

**Abdul Raffie Naik (2015)** research paper titled as “A Study on Locus of Control among College Students of Gulbarga City” focused on locus of control and the difference in it among different demographic variables such as gender (male and female), course of study (science and arts) and locality (urban and rural) among college students. It is a promising area of inquiry. The age of college students are the age of developing their personality and is a critical context for studying personality. The study was conducted on 171 college student of Gulbarga city who were selected by a random sampling method (lottery method). The questionnaire consisted of personal data sheet, and Rotter’s locus of control scale. Descriptive Statistics and non-parametric statistics as Mann-Whitney test (U) statistics was used to analyze the data. The results could not find significant difference on locus of control among males & females, science & arts and urban & rural college students.

**Arvind Hans, Abhijeet Deshpande, Anitha Elango Pillai, Clery Janet Fernandes, Sargam Arora, Prabhat Kariya, Ashish Uppoor (2017)** tilted their research paper “A

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Study on Self-Efficacy, Locus of Control and Commitment in Select Private Management Colleges in Oman” where they investigated the relationship amongst self-efficacy, locus of control & commitment in select private management colleges in Oman. 50 teachers participated in the study. Study reported that teachers in these select management institutes scored more than the average in Individual Locus of Control (3.04). But, Chance and Person Locus of Control were reported as 2.96 and 2.86 respectively. Self efficacy score was 2.68 out of 4 rating point, showed an above average score on self efficacy. Result on self efficacy indicated that faculty members had a strong belief to succeed in their future endeavors. All three commitment constructs score were reported a little less than the average. Correlation analysis reported that Locus of Control and Commitment were weakly related and the relationship was also insignificant. To observe the effect of independent variables on dependent variable multiple regressions analysis was used. Result showed that Locus of Control and self-efficacy was negatively affecting commitment and relationship was not significant. So, it was inferred that Locus of Control and self-efficacy negatively impacted the commitment level of the faculty members working in these private management colleges.

**Iselin Reknes, Gintare Visockaite, Andreas Liefoghe, Andrey Lovakov and Stale V. Einarsen (2019)** titled their research “Locus of Control Moderates the Relationship Between Exposure to Bullying Behaviors and Psychological Strain” concluded that workplace bullying is related to reduced health and well-being among those targeted, possibly depriving its targets from experiencing control over outcomes in life. In line with such assumptions, the study shows that this relationship is dependent upon the nature of the targets’ locus of control. Having an external locus of control seems to be beneficial when in this predicaments, as the relationship between bullying and strain were lower for these targets as compared to those low in external control. Targets with an internal locus of control, however, seem to fare worse when exposed to bullying.

**Bilgen Kiral (2019)** in the research paper titled as “Exploring the relationship between teachers' locus of control with different variables” investigated the relationship between teachers’ locus of control and different variables. "Multidimensional Locus of Control Scale" was used in the research which is one of the quantitative research methods. The research findings showed that teachers mostly exhibited internal locus of control and this was followed by external and chance locus of control. There was no significant difference in the locus of control according to teachers’ gender, marital status, length of service at that school and love the profession. The teachers’ locus of control showed significant difference according to age, seniority, teaching specialty and socio-economic status of the school.

**Jerome Flores et. al (2020)** “Locus of Control, Self-Control, and Gender as Predictors of Internalizing and Externalizing Problems in Children and Adolescents in Northern Chile”. Self-control and locus of control were significant predictors in all regression models of internalizing and externalizing problems in both age groups. These results provide evidence for the prediction models proposed in this study in which self-control, locus of control, and gender together, seem to function as predictors of internalizing and externalizing problems in school aged children.

**Nichola Tyler, Roxanne Hefferman and Clare Ann Fortune (2020)** “Reorienting Locus of Control in Individuals Who Have Offended Through Strengths-Based Interventions: Personal Agency and the Good Lives Model” found that participants in the treatment group

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showed a larger pre–post treatment shift toward a more externalized locus of control than the comparison group; however, this difference was not statistically significant.

**Ilaria Constantini and his associates (2021)** in their research paper “Locus of Control and Negative Cognitive Styles in Adolescence as Risk Factors for Depression Onset in Young Adulthood: Findings from a Prospective Birth Cohort Study” suggested that having an external locus of control and holding negative cognitive styles in mid- to late adolescence is associated with an increased likelihood of probable depression in young adulthood.

**Othman Wali, Shanthi Vanka, Amit Vanka, Nouf Alamoudi (2021)** in their research article “Locus of Control - A Dental Student Perspective” used 402 participants to find a significant difference between the external and internal locus of control and the year of study of the students and also for a significant difference between the external and internal locus of control and the gender of the students, including students from 2nd year to internship. In general, majority of the participants displayed a higher external locus of control.

### *Objective*

To find out the gender differences in locus of control of 30 male and 30 female students of +3 final year science.

### *Hypothesis*

There will be a gender difference in locus of control.

## **METHODOLOGY**

Gender	No. of subjects	Tools required	Mode of data
Male	30	Through Rotter’s locus of control scale	Collection of data through Rotter’s locus of control scale
Female	30		

### *Sample*

Through convenient sampling method, 30 male and 30 female college students of +3 final year science were selected from Khallikote (Autonomous) College and S.B.R. Government (Autonomous) Women’s college.

### *Description of the tools used*

The tool or the instrument used in this study is “LOCUS OF CONTROL SCALE”, developed by Julian B. Rotter (1966). This scale consists of 29 items in the form of two alternative responses like ‘Yes’ or ‘No’.

### *Procedure*

Two convenient samples of male and female college students were selected for the present study. The first sample consisting of 30 male students of +3 final year science from Khallikote college and the second sample of 30 female students of +3 final year science from S.B.R. Govt. (Auto) Women’s college were used for data collection.

The investigator personally met the principal of the Khallikote College and took the permission from him for conducting the project work. She explained the purpose of the study to the principal of the concerned college. She requested the 30 male students (+3 final year science) to sit in a noise-free environment class and distributed all the 30 copies of

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locus of control scale among them. They were requested to go through the printed instructions carefully and to give the responses in the form. Accordingly, the group administration of the locus of control scale was done. Proper care was taken by to see that all the 29 items of the scale were responded by all 30 participants. Then the forms were collected and the subjects were shown gratitude for their time.

The similar procedure was adopted by the investigator to collect data from 30 female college students (+3 final year science) of S.B.R. Govt. (Auto) Women’s College, Berhampur.

**(Table no. 1) Data sheet-1(MALE)**

SUB	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	
Item																															
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
2	0	1	1	0	1	0	1	0	1	0	1	1	1	0	1	0	0	0	0	0	0	0	1	0	1	0	0	1	0	1	
3	1	1	1	0	1	0	1	0	1	0	1	0	1	0	1	1	1	1	0	1	1	0	1	0	1	0	1	1	0	0	
4	1	0	1	1	0	1	0	1	0	1	0	1	0	1	0	1	1	0	1	1	0	0	1	1	1	1	1	0	0	1	
5	1	1	1	0	1	0	1	1	1	0	1	1	1	1	1	0	0	0	1	1	1	1	1	1	1	1	0	1	0	1	
6	0	0	0	0	1	1	0	0	1	0	0	0	1	0	1	1	0	0	1	0	0	0	0	0	1	1	0	1	0	0	
7	0	1	0	0	0	0	1	1	0	0	1	1	0	0	0	1	0	0	1	0	1	1	1	1	0	0	0	0	1	1	
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
9	1	0	0	1	1	1	1	1	1	0	0	1	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	1	
10	1	0	0	0	0	1	1	1	1	1	0	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	1	1	1	0
11	0	0	0	0	1	1	1	0	0	0	1	0	1	0	0	0	0	0	0	1	0	0	0	1	1	1	1	0	0	1	
12	1	1	1	1	0	0	0	1	1	1	1	1	0	1	0	1	0	1	1	1	1	0	1	0	1	0	1	0	1	1	
13	1	1	1	1	1	1	1	1	1	1	0	1	1	1	0	0	1	1	0	1	0	1	1	1	1	0	0	1	0	1	1
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
15	1	1	1	1	1	0	0	0	1	0	1	1	1	0	1	1	0	0	1	0	1	0	1	0	1	1	1	1	0	1	1
16	0	1	1	1	1	0	0	0	1	0	1	0	1	1	1	1	0	0	1	0	1	0	1	0	1	1	1	1	1	1	1
17	0	1	0	1	0	1	1	1	0	1	1	1	0	0	1	0	0	1	0	1	1	0	1	0	0	0	0	0	0	1	1
18	1	1	0	0	1	0	0	1	1	1	0	0	0	1	0	0	0	1	0	1	1	0	0	1	1	0	0	1	1	0	
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
20	1	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1	1	0	1	0	0	0	0	0	0	1	0	0	0	
21	0	1	0	0	0	0	1	1	0	0	1	1	1	1	1	1	0	1	0	0	1	0	1	1	0	0	1	0	0	1	
22	1	1	1	0	0	0	1	1	1	0	1	0	1	1	1	0	0	0	0	1	1	0	0	0	0	0	0	1	0	0	1
23	1	1	0	0	0	1	1	0	1	1	1	0	0	0	1	0	0	0	1	0	1	0	1	1	0	0	0	0	0	1	1
24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
25	1	1	1	0	0	1	1	1	0	1	0	1	1	0	1	1	0	0	1	1	1	0	0	0	1	1	0	0	1	1	
26	1	1	1	1	0	0	1	1	1	0	0	0	1	1	1	0	0	1	1	1	1	1	1	0	0	1	0	0	0	0	0
27	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
28	0	0	0	0	1	0	0	0	1	0	1	1	0	0	0	1	0	0	1	1	0	0	1	0	1	0	0	1	0	1	
29	1	1	1	1	0	1	0	1	1	1	0	0	0	0	0	1	0	1	1	0	0	0	0	0	0	1	0	1	1	1	1
Total	15	16	13	9	11	11	14	13	16	9	13	12	12	9	13	11	4	9	12	14	14	4	14	7	14	7	10	8	12	16	

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**(Table no.2) Data sheet-2 (FEMALE)**

SUB	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	
Item																															
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
2	0	0	0	0	0	0	0	0	0	1	1	0	0	0	1	1	1	1	0	0	0	0	0	0	0	0	0	0	1	0	0
3	1	1	1	0	1	1	1	1	1	0	0	0	0	0	1	1	0	1	1	1	1	1	1	1	1	1	1	1	1	1	
4	0	0	0	0	0	0	0	0	0	1	0	1	1	0	0	0	1	0	0	0	0	1	0	0	0	0	1	1	0	0	
5	0	0	1	0	0	0	0	0	1	0	1	0	1	0	1	1	1	0	1	1	1	1	1	1	0	1	1	0	1	1	
6	0	0	0	0	1	0	1	0	0	0	0	0	0	1	1	1	1	0	1	1	0	1	0	1	0	1	0	1	0	0	
7	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1	0	1	0	1	1	1	1	1	1	0	1	1	0	1	0	
8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
9	0	0	0	0	1	0	0	0	0	0	1	0	0	1	0	0	0	0	1	0	0	1	1	0	0	0	1	1	0	1	
10	1	1	1	1	0	1	1	1	1	1	0	1	0	1	0	0	0	1	0	1	0	1	1	1	0	0	0	0	0	0	
11	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	1	0	1	1	0	0	0	0	1	1	0	0	
12	0	0	0	1	1	1	0	0	1	1	1	0	1	1	1	1	0	1	0	0	1	1	0	1	0	0	0	1	1	0	
13	1	0	1	0	1	0	1	0	1	1	1	1	1	0	1	0	1	1	1	0	1	1	1	0	0	0	1	1	0	0	
14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
15	0	0	0	1	1	1	0	0	0	1	1	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	
16	0	0	0	1	1	1	0	0	0	1	1	0	0	1	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	
17	1	1	1	0	0	0	1	1	0	1	1	1	0	1	1	1	1	0	0	0	0	1	0	1	0	0	0	1	0	1	
18	1	1	1	1	1	1	1	0	1	1	1	1	1	1	1	0	1	1	1	0	1	1	1	0	0	0	1	1	0	1	
19	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
20	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	1	1	1	1	1	1	1	1	1	0	1	0	
21	0	0	0	0	1	0	0	0	0	1	1	1	0	0	0	1	1	1	0	0	0	1	0	0	0	0	0	1	1	0	
22	1	1	1	0	0	0	1	1	1	0	1	0	1	1	1	1	1	1	0	1	0	1	1	1	1	1	1	1	1	0	
23	0	0	0	0	0	1	0	0	1	0	0	1	0	1	1	0	0	0	0	0	0	0	0	0	1	1	0	1	0	0	
24	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
25	1	1	1	1	0	1	1	1	0	1	1	1	1	1	1	1	1	0	1	0	0	1	1	0	0	0	0	0	1	1	
26	0	1	1	1	0	1	1	1	0	0	0	0	0	1	0	0	1	0	0	0	0	1	0	0	0	1	0	0	0	0	
27	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
28	1	1	0	1	0	1	1	1	1	1	1	1	1	0	0	1	1	1	1	0	1	1	0	0	0	0	1	1	1	1	
29	0	0	0	1	1	1	0	0	0	1	0	1	1	0	1	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	
<b>Total</b>	8	8	8	10	10	12	10	7	9	12	15	9	11	12	14	12	15	11	12	6	9	18	10	7	6	7	10	15	7	10	

### RESULTS

**Table no. 3 Scores of Males and Females**

Sl.no	Score (males)	Scores (females)
1	15	08
2	16	08
3	13	08
4	09	10
5	11	10
6	11	12
7	14	10
8	13	07
9	16	09
10	09	12
11	13	15
12	12	09

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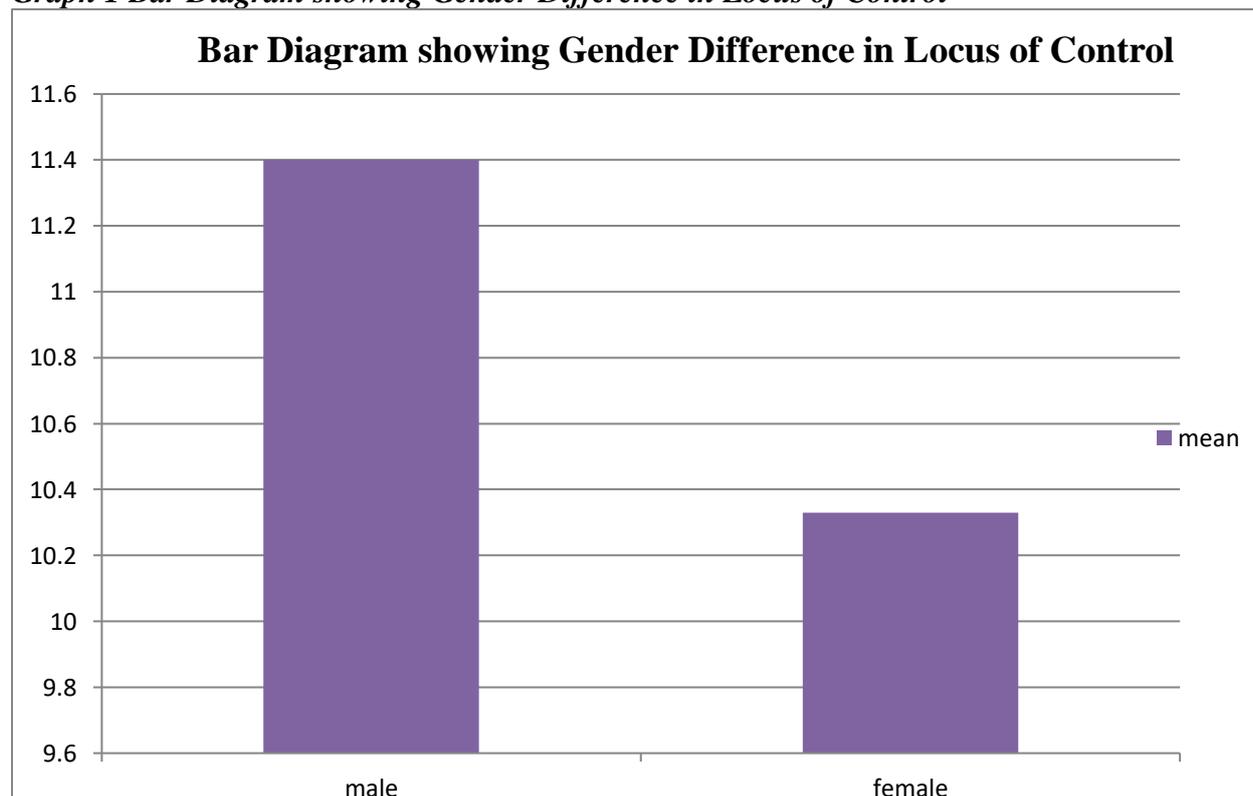
13	12	11
14	09	12
15	13	14
16	11	12
17	04	15
18	09	11
19	12	12
20	14	06
21	14	09
22	04	18
23	14	10
24	07	07
25	14	06
26	07	07
27	10	10
28	08	15
29	12	07
30	16	10
<b>TOTAL</b>	<b>342</b>	<b>310</b>

### *Final result*

**Table no. 4**

Subjects	No	Mean	SD	't'	df	Level of significance
Male	30	11.4	3.12	1.32	58	Not significant at both 0.05 level & 0.01 level
Female	30	10.33				

**Graph 1 Bar Diagram showing Gender Difference in Locus of Control**



## DISCUSSION

The present study is conducted to find out the gender differences in locus of control scale. The participants included 30 male & 30 female college students of Khallikote (Auto) College & S.B.R. Government (Auto) Women's college of Berhampur city (ODISHA). The tool used in this study was the locus of control scale developed by Rotter. With the help of this scale, the data were collected from two different colleges. Then the data were coded in the tabular form. Table 1 represents the responses of male subjects while Table 2 represents the responses of female subjects. The table 3 exhibits the total score of all the 30 male and 30 female subjects. Then the final result table speaks about the data analysis. The analysis of results shows that the total score is 342 for 30 male students and its mean score is found to be 11.4. Similarly, for the 30 female students total score is found to be 310 and the mean score is 10.33. The SD for the male and female students is 3.12. Applying the appropriate statistical test ('t' test), the 't' value is found to be 1.32 (dividing the mean score difference i.e., 1.07 by standard error of difference i.e., 0.80). Consulting the table no. 'C' of the Statistics in Psychology and Education book by S. K. Mangal, with the degree of freedom 58, the 't' value is found to be 2.00 at 0.05 level and 2.66 at 0.01 level. Thus, the obtained 't' value is 1.32 which is not significant both at 0.05 and 0.01 level because it is smaller than the table 't' value.

## CONCLUSION

Locus of Control refers to an individual's perception about the underlying main causes of events in his/her life. Locus of control was initially described as a personality trait referring to a person's stable beliefs of personal efficacy. The present study conducted on both male and female students for investigating their gender difference in locus of control concluded no significant gender differences in locus of control scale. Further studies are required to get significant relationships.

### *Limitations*

The present study suffers from certain limitations which are as follows: -

- The random method of sampling should have been used rather than convenient sampling.
- The two samples consisting of 30 male and 30 female final year science students are selected from two different colleges rather than from one college. The present study is conducted taking only +3 final year science students only. Students belonging to other faculties like Arts, Science, Commerce, Engineering, formally could have been taken for the study. The study could have been conducted with larger samples.
- A number of other independent variable like socioeconomic status, rural-urban setup, parental annual income, etc. could also have been included for research.

### *Suggestions*

- The random method of sampling should be used for the collection of the data.
- The study can be conducted with larger sample and with a more number of independent personality variables.
- The study can also be conducted to investigate the gender differences in various professional groups working in different organizations.

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### ***Conflict of Interest***

The author(s) declared no conflict of interest.

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