

Determinants and Outcomes of Ethical Leadership in Universities: A Scale Development

Nisha Rathore*, Avantika Singh**

Abstract

Over recent years, ethical leadership has gained currency among scholars and practitioners, not only for its conceptual value but also for its practical value in enabling leaders to behave ethically. Ethical leadership refers to the leaders' own value system, attitudes, decision-making and influence processes, and how these affect employee's behavior. Conceptually ethical leadership can be understood as comprising value orientation, ethical attitudes and influence strategies of the leader as it has been discussed in an earlier research (Singh and Rathore, 2014). In organizational behaviour research, the outcomes of ethical leadership can be investigated at three levels, namely, the individual (micro), the work group (meso) and the organization (macro).

An instrument of ethical leadership would ideally be valuable in encouraging empirical research to understand better the importance of ethical leadership. The purpose of this paper is to elaborate the development of a valid and reliable instrument measuring determinants and outcomes of ethical leadership in the context of universities in India. This research explains the process adopted to develop a valid and reliable instrument to access the perception of faculty members and administrative employees towards their immediate supervisors in universities. The procedures proposed by Trochim (2000) have been deployed to develop the scale used in the present research.

This paper is divided into four major sections: The first section of the study elaborates the process of item generation, generating 103 items from the literature and previous exploratory study (Singh and Rathore, 2014). In the second step, the items were put through expert testing using Likert scaling. For this purpose, 15

experts from the field of human resource management and organizational behaviour of different universities were contacted and asked their level of agreement for each item in the questionnaire. After this, the items were analyzed for corrected item-total correlations, upper-quartile and lower-quartile differences. This exercise enabled to reduce the number of items to 71. The final questionnaire thus prepared comprised 60 items to be measured on a five-point Likert scale. In the third part pilot-testing was conducted of a sample size of 50 respondents (faculty and administrative employees) of the Central University of Rajasthan, Ajmer, India selected through simple random sampling. Following this, discussion of results, managerial implications, limitations of the study and scope for future research are presented. The instrument so developed is found to have content validity and high reliability.

Keywords: Ethical Leadership, Ethics, Universities, Scale Development, Reliability

Introduction

In organizations, leadership refers to the downward influence of a manager on a group to guide human behaviour towards achievement of organizational objectives. In the history of management, leadership has been popular topic of writing, discussion and research. The various recent corporate scandals and ethical failures have directed the attention of practitioners and scholar towards importance of ethical leadership. The term ethics has been used to refer to rules and principles of right and wrong conduct. Business ethics is a set of rules stipulating how business and its employees should behave (Aldag and Stearns, 1991). Ethics is who you are and how you will conduct your business. In real life,

* Senior Research Fellow, Department of Management, Central University of Rajasthan, Rajasthan, India.
Email: nisha.fmsajmer@gmail.com

** Assistant Professor, Department of Management, University of Rajasthan, Rajasthan, India. Email: avanttika@yahoo.com

most people have some rules and regulations and they act accordingly. There is the likelihood to assume, what is right and what is wrong is obvious to everyone and by including it in workplace dictionary, everyone knows it as a policy. Corporate scandals worldwide have raised the awareness and attention to ethical issues in business leadership. As a result business leadership is increasingly facing the challenges of leading ethically (Resick et. al, 2006). Ethical issues are always relevant in business, professional and everyday life. Ethical issues are important in decision-making of every aspect of business: human resources, marketing, operations, finance etc. Ethics gained a significant ground in academic writing recently due to globalization, economic integration and internationalization of business leading to increased networking around the world being referred to as a global village.

Brown, Trevino and Harrison (2005) have defined ethical leadership as “the demonstration of normatively appropriate conduct through personal actions and interpersonal relationships, and the promotion of such conduct to followers through two-way communication, reinforcement and, decision-making”. The leader’s way of functioning or leading can enhance or diminish the follower’s commitment, job performance, satisfaction and ethical behaviour.

The present study is divided into four major sections. The first section of the study discusses about the process of item generation, through which 103 items were generated from reviewing the literature and exploratory study (Singh and Rathore, 2014). In the second section the results of expert testing by using likert scale were presented. This analysis

enabled the researcher to reduce the number of items to 71. While, in the third section we have conducted pilot testing which includes the sample size of 50 respondents including faculty and administrative staff of Central University of Rajasthan, Ajmer, India selected through simple random sampling. The last part of the paper is followed by conclusion and scope of future study.

Review of Literature

Leadership is defined as a process whereby an individual influences a group of individuals to achieve a common goal. In much of the earlier work on leadership, the ethical dimension was almost overlooked or taken for granted. Over the last decade, researchers were increasingly working towards carving out a distinct domain for ethical leadership and establishing it as a construct in its own right through extensive studies on construct development, testing and validation, rather than hinging it on other related theories of leadership. This quantum jump in the scholarship on ethical leadership indicates earnest efforts by scholars to fill up this lacuna. The theoretical underpinnings of ethical leadership emanate from social learning theory, social exchange based on the norm for reciprocity, institutional theory, or the socio-cognitive perspective of moral identity theory.

Determinants of Ethical Leadership

As discussed in the literature, ethical leadership is a multidimensional concept. We have captured several dimensions of ethical leadership from the literature and summarised them in table 1.

Table 1: Dimensions of Ethical Leadership

<i>S. No.</i>	<i>Value-orientation</i>	<i>Attitudes</i>	<i>Influence strategies and actions (vis-a-vis subordinates)</i>
1.	Integrity	People-focused	Lead by example
2.	Fairness	Concern for sustainability	Fairness
3.	High moral character	Concern for stakeholders	Actively manage morality
4.	Altruism	Consider how their decisions impact the external environment	Communication system
5.	Good human being		Performance measurement
6.	Open		Reward system
7.	Honest		Ethical guidance
8.	Commitment to a larger purpose		Power sharing
9.	High degree of motivation		Role clarification

S. No.	Value-orientation	Attitudes	Influence strategies and actions (vis-a-vis subordinates)
10.	Emotional strength		Doing actions that benefit others and refraining from actions that can harm others * even if it costs the leader
11.	Deep sense of unconditional obligation to others/ responsibility		Make value-based decisions
12.	Concern for others/ caring		Make subordinates' work meaningful
13.	Justice		Instil pride and commitment among subordinates
14.	Empathy		Role modelling
15.	Prudence		
16.	Pride		
17.	Persistence/ determination		
18.	Patience		
19.	Shared values		
20.	Humility		
21.	Tolerance		
22.	Enthusiasm		
23.	Courage		
24.	Responsibility		
25.	Listening to others		

Consequences of Ethical Leadership

We have classified the outcomes of ethical leadership at three levels, the micro, the meso and the macro. Micro-level consequences are related to outcomes at the level of

the individual employee, meso-level consequences to the group or unit, and macro-level consequences to the entire organization. These are summarized in table 2.

Table 2: The Relationships and Outcomes of Ethical Leadership

S.No.	Author (year)	Level of EL	Relationships/ Outcomes of EL	Level of Outcome (micro/meso/ macro)
1.	Jay P. Mulki, Jorge Fernando Jaramillo, William B. Locander, (2009)	Multiple	Ethical climate positively influences satisfaction with supervisor, job satisfaction, and employee effort.	Micro level
2.	Shin (2012)	CEO	Ethical climate which in turn influences climate strength and moderates collective OCB	Macro level
3.	De Hoogh and Den Hartog (2008)	CEO	Effectiveness of the top management team	Meso level
4.	Janet L. Kottke • Kathie L. Pelletier, M.D. Agars (2013)	Multiple	Employees rated their top leaders as significantly less ethical than the participants in the second sample, which included employees from many different organizations.	Meso level
4.	Toor and Ofori (2009)	Senior management	Positive correlation with leader effectiveness, employee willingness to put in extra effort, employee satisfaction with the leader.	Micro level
5.	Toor and Ofori (2009)	Senior management	Negative correlation with laissez faire leadership and transactional culture of the organization	Micro level Macro level

S.No.	Author (year)	Level of EL	Relationships/ Outcomes of EL	Level of Outcome (micro/meso/ macro)
6.	Neubert et al.(2009)	Senior management	Ethical climate	Macro level
7.	Walumba and Schaubroeck, (2009)	Multiple	Positive relationship with voice	Micro level
8.	Mayer et al (2009)	Top and supervisory level	Negative relationship with group-level deviance Positive relationship with group-level OCB	Meso level
9.	Mayer et al. (2012)	Multiple	Positive relationship with moral identity symbolization and moral identity internalization, and negative relationship with instances of unethical behaviour and interpersonal conflict (either due to clash of personalities or matters not related to the job).	Micro level
10.	Mayer, Kuenzi and Greenbam, (2010).	Multiple	Creation of ethical climate and thereby reducing misconduct among employees.	Macro level
11.	Avey, Wernsing and Palanski (2012)	Multiple	Positive relationship with psychological well-being through enhancing employee' voice. Positive relationship with job satisfaction through enhancing psychological ownership	Micro level
12.	Kalshoven, Den Hartog and De Hoogh (2011)	Multiple	Positive relationship with trust in the leader, leader effectiveness, employees' OCB, employee effectiveness. Negative relationship with cynicism	Micro level
13.	Bower 2003; Collins, 2011	Supervisory level	Employee attraction and retention	Micro level
14.	Khuntia and Suar, 2004	Senior Management	Positive relationship with job performance, job involvement, affective commitment, negative relationship with unethical conduct by subordinates.	Micro level
15.	Brown et al., (2005)	Multiple	Perceived effectiveness of leader, job satisfaction and dedication, and willingness of employees to report problems to management.	Micro level
16.	Brown et al., (2005)	Multiple	Negative relationship with interpersonal conflict in the work group	Meso level
17.	Bhal and Dadich (2011)	Student	Whistle blowing	Micro level
18.	Mulki et al. (2009)	Supervisory level	Organisational effectiveness and ethical climate of the organization	Macro level

Research Methodology

This paper attempts an exploratory effort in understanding ethical leadership in higher education especially in Indian context. Earlier there were no such studies relating to ethical leadership in higher education in Indian context. The objective of this paper was to develop a valid and reliable instrument for measuring determinants and

outcomes of ethical leadership in context of universities in India. This study explains the process adopted to develop a valid and reliable instrument to access the perception of faculty members and administrative employees towards their immediate supervisors in universities. The following procedure as detailed in Table 3 was employed to construct the scale to measure the same.

Table 3: Details of the Research Methods and Research Tools Used for Item Generation

S.No.	Purpose	Research Method	Respondent	Tool Used for Data Collection	Output
1.	To collect qualitative data regarding the variables under study	In depth interview	26 Key informants like departmental heads and institutional leaders	Participation observation and note taking	Generation of items for the scale to measure the variables under study
2.	To get experts' opinion about the suitability of items in the scale	Interview	15 Experts from the field of human resource management and organizational behaviour	Questionnaire with close-ended questions using Likert scale	Elimination of items with low CITC and low t-values. Preparation of schedule for third phase
3.	Pilot testing to check the reliability of the scale	Interview	50 respondents from Central University of Rajasthan	Questionnaire with close-ended questions using Likert scale	Elimination of items with low cronbach alpha.

Discussion of Results

The content validity and reliability testing comprised three steps, namely item generation, rating of items by

experts, and pilot testing. These steps are outlined in figure 1.

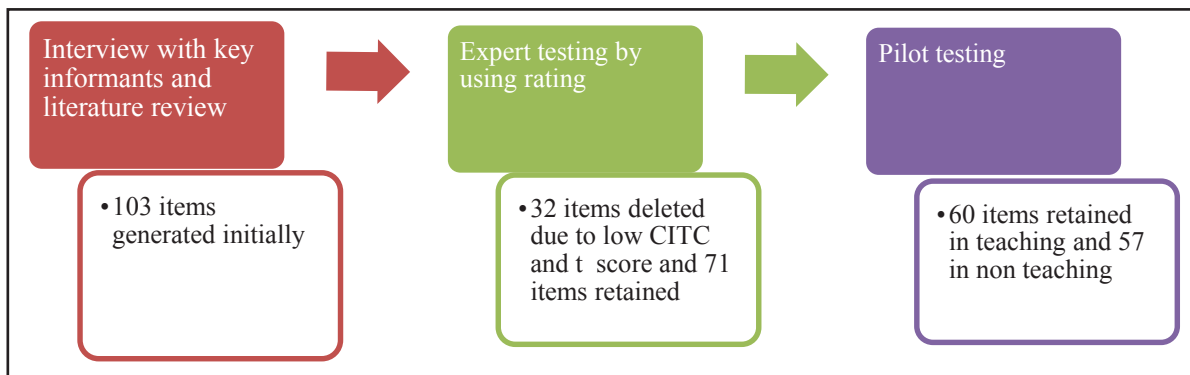


Fig. 1: Process of Validity and Reliability of Scales

Phase One: Item Generation and Qualitative Study Conducted with Experts

Extensive literature review was conducted to find the studies related to ethical leadership in Indian context. There were very few researches found on ethical leadership in Indian context, but did not find any study on determinants and outcomes of ethical leadership in higher education in Indian context. Due to lack of availability of literature studies on ethical leadership in cross cultural context were explored. In the second step, in-depth interviews were conducted with (26 leaders) institutional leaders and departmental heads of three institutions and two research organisations. With the help of these studies and interviews conducted, 103 items were generated. Out

of these 103 items, nine items were extracted from ethical leadership scale developed by brown and Trevino (2006).

Phase Two: Expert Testing

The questionnaire, was used as data collection tool in research, administered to group of judges and they were asked to rate the items from strongly unfavourable to the concept to strongly favourable to the concept; the experts judged how favourable each item was with respect to the construct of interest. This step comprised rating of items by 15 experts using Likert scaling, a unidimensional scaling method. Each of the 103 items was evaluated by experts individually using a paper-based test in terms of favourable to the construct under the study. The rating

scale varied from 1 as strongly unfavourable to the concept, 2 as somewhat unfavourable to the concept, 3 as undecided, 4 as somewhat favourable to the concept, and 5 as strongly favourable to the concept. The data was fed into SPSS v.22. The scales comprised few reversal items, the responses for which were reversed at the time of data entry. The corrected inter-item to total correlations (CITC) and t-values were computed. As there is no established scale to measure value orientation, attitude, influence strategies and employee job outcomes, so the researcher checked the content validity of each item.

Sample

We interviewed fifteen experts from the field of organizational behaviour and human resource management in order to assess how appropriate each item was for the development of the scale. In order to check the content validity, method suggested by Trochim (2000) five point scale was used

Method

In this step the inter correlation between all pairs of items based on the rating of judges was checked, in making

judgments about which item to be retained for final scale. As prescribed by Trochim (2000) analysis was conducted in two ways.

- Firstly, the items with CITC equal to or greater than 0.6 were retained in the scale. The items which had high t-values were considered to be better discriminators and were retained in the scale. For each item, the CITC score presents the correlations with each other as well as with the total correlation across all items. Thus, in this process, a new variable, which is the sum of all individual items for every respondent or expert and this new variable is included in the correlation matrix computation. In social science research, the item-to-total correlation equal to or greater than 0.6 is considered acceptable (Trochim, 2000). The items with CITC values below 0.6 were removed from the scale. The CITC scores of items of value orientation are presented in table 4, attitude in table 5, influence strategies in table 6, ethical leadership in table 7 and employee job outcomes in table 8. The items with acceptable CITC scores are presented in the table.

Table 4: CITC Score of Value Orientation Scale Items

<i>Value orientation (item description)</i>	<i>CITC score</i>
VO1 My supervisor makes fair and balanced decisions.	0.64
VO2 My supervisor regards honesty and integrity as important personal values.	0.65
VO5 My supervisor is reliable and dependable.	0.68
VO8 My supervisor willingly gives his/her time to help other members in the organization who have work-related problems.	0.70
VO10 My supervisor has a deep sense of unconditional obligation to others.	0.60
VO11 My supervisor acknowledges mistakes and takes responsibility for them.	0.61
VO12 My supervisor puts the needs of others above his/her own self interest.	0.64
VO14 My supervisor is self-disciplined.	0.83
VO15 My supervisor works hard and expects employees also to put in effort.	0.64
VO16 My supervisor is persistent.	0.65
VO17 My supervisor is determined.	0.65
VO21 My supervisor stands up for what he/she believes.	0.68

Source: Primary Source

Table 5: CITC Score of Attitude Scale Items

<i>Attitude (item description)</i>	<i>CITC</i>
A1 My supervisor takes out time for personal contact.	0.78
A2 My supervisor takes out time to talk about work-related emotions.	0.94
A3 My supervisor is genuinely concerned about my personal development.	0.78
A4 My supervisor is concerned about how his/her decisions might affect employees.	0.62
A5 My supervisor has the best interests of employees in mind.	0.70
A6 My supervisor displays fairness in his/ her decisions and actions.	0.65
A8 My supervisor favours equal treatment for all employees.	0.62
A9 My supervisor is against discrimination.	0.71
A10 My supervisor is sensitive to other's feelings and perspectives.	0.76
A11 My supervisor believes that there are two sides to every question and tries to look at both.	0.71
A13 My supervisor handles pressure groups effectively.	0.67
A14 My supervisor has a positive attitude towards people who belong to different cultures.	0.61
A15 My supervisor emphasises quality of work.	0.74
A16 My supervisor favours academic honesty.	0.82
A17 My supervisor does not favour plagiarism.	0.75
A18 My supervisor does not allow tampering of research results.	0.64
A19 My supervisor favours protection of intellectual property rights.	0.88
A21 My supervisor likes to work in an environment-friendly manner.	0.63
A22 My supervisor is concerned about stakeholder expectations.	0.63
A23 My supervisor considers the impact of his/her decisions on stakeholders.	0.71
A24 My supervisor seeks to see the big picture, taking the impact of our actions throughout the system into consideration.	0.64

Source: Primary Source

Table 6: CITC Score of Influence Strategies Scale Items

<i>Influence strategies (Item description)</i>	<i>CITC</i>
IS1 My supervisor keeps me informed about matters that affect me.	0.69
IS2 My supervisor sends clear, transparent messages, and avoiding mixed messages.	0.71
IS3 My supervisor sensitises subordinates to ethical issues and dilemmas.	0.68
IS6 My supervisor rewards ethical behaviour.	0.80
IS7 My supervisor is fair and objective when evaluating member's performance and providing rewards.	0.67
IS8 My supervisor sets an example of how to do things the right way in terms of ethics.	0.65
IS9 My supervisor explains clearly what is expected of my colleagues and me regarding integrity.	0.63
IS10 My supervisor takes actions that benefit others and refrains from actions that can harm others.	0.60
IS11 My supervisor counsels subordinates who engage in unethical behaviour.	0.67
IS12 My supervisor explains what is expected from employees in terms of ethical behaviour.	0.80
IS13 My supervisor ensures that employees follow codes of integrity.	0.66
IS14 My supervisor clarifies the likely consequences of possible unethical behaviour by myself and my colleagues.	0.62
IS15 My supervisor stimulates the discussion on integrity issues among employees.	0.75
IS17 My supervisor permits me to play a key role in setting my own performance goals.	0.69
IS18 My supervisor keeps his/her actions consistent with his/her stated values ("walks the talk").	0.65

<i>Influence strategies (Item description)</i>	<i>CITC</i>
IS19 My supervisor defines success not just by results but also the way they are obtained.	0.87
IS21 My supervisor instills pride and commitment among subordinates.	0.74
IS22 My supervisor holds members accountable for using ethical practices in their work.	0.67
IS24 My supervisor disciplines employees who violate ethical standards.	0.74
IS25 My supervisor ensures an understanding of organisational values, history, and traditions.	0.62
IS26 My supervisor follows the organisational code of conduct.	0.76
IS28 In a turbulent situation, my supervisor takes a tough stand and gets acceptance by the strength of his/her moral character.	0.65

Source: Primary Source

Table 7: CITC Score of Ethical Leadership Scale Items

<i>Ethical leadership</i>	<i>CITC</i>
EL1 My supervisor listens to what employees have to say.	0.85
EL2 My supervisor disciplines employees who violate ethical standards.	0.82
EL3 My supervisor conducts his/her personal life in an ethical manner.	0.70
EL4 My supervisor has the best interests of employees in mind.	0.70
EL5 My supervisor makes fair and balanced decisions.	0.87
EL6 My supervisor can be trusted.	0.61
EL7 My supervisor discusses business ethics or values with employees.	0.83
EL8 My supervisor sets an example of how to do things the right way in terms of ethics.	0.91
EL9 My supervisor defines success not just by results but also the way they are obtained.	0.83

Source: Primary Source

Table 8: CITC Score of Employee Job Outcomes Scale Items

<i>Employee job outcomes</i>	<i>CITC</i>
JO1 I am satisfied with the quality of life in the organization.	0.61
JO2 I am satisfied with my service in the organization.	0.71
JO11 I adhere to informal rules devised to maintain order.	0.60
JO12 I make innovative suggestions to improve the department.	0.65
JO13 I take property from work without permission. (R)	0.61
JO14 I falsify a receipt to get reimbursed for more money than I spend on business expenses. (R)	0.63
JO15 I litter my work environment. (R)	0.67
JO17 I intentionally work slower than I could have worked. (R)	0.65

Source: Primary Source

Out of the 21 items in the value orientation scale 9 items with low CITC score were identified, out of 24 items in attitude 3 items with low CITC score, in influence strategies out of 28 items 6 items with low CITC score, in ethical leadership scale out of 9 item no item is found with low CITC score, and in employee job outcomes scale out of 21 items 14 items were found with low CITC score.

- After computation of CITC scores, in second step the average rating for each item was calculated. Thereafter, the responses for each item were ar-

ranged in descending order. The top quarter and bottom quarter of responses for each item were selected; their means were calculated followed by t-difference. Table 9 presents the t-values of the items in the value orientation scale whereas table 10,11,12,13 depicts those in the attitude, influence strategies, ethical leadership and employee job outcomes scales. The t-difference helps us find evidence of a significant difference between the means of the two groups. Higher t-value means that there

is a significant difference between the two means. In other words, the items with higher t-values are

better discriminators, and are therefore, retained in the scale. Finally in our total scale of 103 items 32 statements were deleted and 71 items retained.

Table 9: t-values of the Items of Value Orientation Scale

Item No.	Upper	Bottom	Difference	Item No.	Upper	Bottom	Difference
V1	4.33	3.33	1	V12	6	4.5	1.5
V2	4.67	3.00	1.67	V14	5.00	3.33	1.67
V5	4.33	2.67	1.66	V15	4.67	3.33	1.34
V8	4.67	2.67	2	V16	4.33	3.00	1.33
V10	6.34	4.67	1.67	V17	4.67	2.67	2
V11	4.67	3.67	1	V21	4.67	3.00	1.67

Source: Primary Source

Table 10: t-values of the Items of Attitude Scale

Item No.	Upper	Bottom	Difference	Item No.	Upper	Bottom	Difference
A1	4.33	2.33	2	A14	4.67	3.33	1.34
A2	5.00	3.00	2	A15	5.00	4.00	1
A3	5.00	3.00	2	A16	5.00	2.00	3
A4	5.00	3.67	1.33	A17	4.67	2.00	2.67
A5	4.00	3.00	1	A18	4.33	2.00	2.33
A6	4.67	2.33	2.34	A19	5.00	2.67	2.33
A8	4.67	2.33	2.34	A21	4.00	2.33	1.67
A9	5.00	2.00	3	A22	4.00	2.67	1.33
A10	5.00	3.33	1.67	A23	4.33	2.67	1.66
A11	4.67	3.00	1.67	A24	4.67	3.67	1
A13	4.33	3.33	1				

Source: Primary Source

Table 11: t-values of the Items of Influence Strategies Scale

Item No.	Upper	Bottom	Difference	Item No.	Upper	Bottom	Difference
IS1	5.00	3.33	1.67	IS14	4.67	3.33	1.34
IS2	4.00	2.67	1.33	IS15	5	2.67	2.33
IS3	5.00	1.67	3.33	IS17	5.00	3.33	1.67
IS6	4.67	3.33	1.34	IS18	4.33	3.33	1
IS7	4.33	2.33	2	IS19	4.67	2.33	2.34
IS8	4.67	2.67	2	IS21	4.33	3.33	1
IS9	4.67	3.67	1	IS22	4.33	2.67	1.66
IS10	4.00	2.67	1.33	IS24	4.67	3.00	1.67
IS11	4.67	2.33	2.34	IS25	4.00	2.67	1.33
IS12	4.67	3.00	1.67	IS26	4.67	2.67	2
IS13	5.00	3.67	1.33	IS28	4.33	3.00	1.33

Source: Primary Source

Table 12: t-values of the Items of Ethical Leadership Scale

Item No.	Upper	Bottom	Difference		Item No.	Upper	Bottom	Difference
E1	5.00	3.67	1.33		E6	4.67	2.67	2
E2	4.67	2.67	2		E7	5.00	3.33	1.67
E3	4.67	2.67	2		E8	5.00	3.33	1.67
E4	4.67	3.33	1.34		E9	4.67	3.33	1.34
E5	5.00	2.33	2.67					

Source: Primary Source

Table 13: t-values of the Items of Employee Job Outcomes Scale

Item No.	Upper	Bottom	Difference		Item No.	Upper	Bottom	Difference
JO1	4.33	3.00	1.33		JO13	3.00	1.33	1.67
JO2	4.67	3.67	1		JO14	4.00	1.33	2.67
JO11	4.33	3.00	1.33		JO15	3.33	1.00	2.33
JO12	4.67	3.00	1.67		JO17	3.00	1.33	1.67

Source: Primary Source

According to the tables 9,10,11,12 and 13 only those items having high discriminator value (1 or more than 1) were considered. These items were mentioned in tables. This process resulted in eliminating items with low CITC score (less than 0.6) and low t-values (less than 1). Finally in the questionnaire only 71 items were retained and 32 were deleted due to low CITC and low t- difference.

Phase Three: Pilot Testing

Sample

The sample includes 50 respondents (faculty and administrative employees) of the Central University of Rajasthan, Ajmer, India selected through simple random sampling. The study was conducted in the month of June 2015.

Method

Reliability testing needs empirical data. So for this content validated instrument with 71 items was administered to 50 respondents. For ensuring reliability the internal consistency of the item has to be ensured by performing a purification process. Nunnally (1978), has suggested an acceptable cronbach's alpha score for reliability needs to be higher than 0.7. The researcher carried out purification process by examining the corrected item total correlation (CITC) score of each indicator item with respect to

a specific dimension of a construct and improved the cronbach's alpha score and improving thereby the overall reliability.

Descriptive Statistics of Employees

The respondents in the present study consisted of 30 males (60 percent) and 20 females (40 percent). The maximum respondents were in the age group of 35- 45 (52 percent) followed by above 45 (34 percent) and lowest from the category of 25-35 (14 percent). In teaching the majority of the respondents belonged to the category of assistant professor (36 percent) followed by associate professor (16 percent) and least from the category of professor (12 percent). While on the other hand the non teaching staffs comprised (36 percent).

Table 14: Descriptive Statistics of Demographic Variable (N = 50)

Variable	Group	Number	Percentage
Gender	Male	30	60%
	Female	20	40%
	Total	50	100%
Age (years)	25-35	7	14%
	35-45	26	52%
	Above 45	17	34%
	Total	50	100%

Variable	Group	Number	Percentage
Post	Professor	6	12%
	Associate Professor	8	16%
	Assistant Professor	18	36%
	Administrative staff	18	36%
	Total	50	100%

Source: Primary Source

To develop an instrument, reliability is the prerequisite for any measurement tool. Reliability refers to the condition where a measurement process yields consistent scores over repeat measurement. The most popular method used for reliability is the cronbach’s alpha coefficient which was developed by Cronbach (1951). The cronbach’s alpha coefficient assumes importance with respect to estimating internal consistency of item included in the scale and thus determining whether the scale has a homogeneous structure or not. The results of the reliability analysis for all the five scales for teaching and non teaching staff are provided in the Table 15.

Table 15: Reliability Coefficients of the Dimensions for Teaching and Non-Teaching Questionnaire

Dimensions	Number of Items	Reliability coefficient	
		Teaching	Non-Teaching
Value orientation	11	0.951	0.908
Attitude	17/14	0.966	0.946
Influence strategies	18	0.977	0.954
Ethical Leadership	8	0.964	0.936
Employee job outcomes	6	0.704	0.700
Total Items in the Questionnaire	60/57		

Source: Primary Source

As can be seen from Table 15, the reliability coefficients of (Value Orientation, Attitude, Influence Strategies, Ethical Leadership, Employee job outcomes) were above 0.70. However, the reliability coefficient of employee job outcomes seems to be lower (0.704 for teaching and 0.7 for non teaching) than other dimensions. The items related to the said dimensions were deleted from the scale; the general reliability coefficient of the measurement scale would not change much. Finally the total number of items

in the teaching questionnaire includes 60 while for non teaching includes 57 items.

Conclusion, Limitation and Scope of Future Research

The main objective of the study is to develop the scale for measuring ethical leadership in higher education. The paper elucidates the detailed process of scale development, validity testing and reliability testing. The items for the scale were developed through extensive literature review, in depth interviews and expert testing. Subsequently the scales were validated through computation of CITC scores and t-values. A pilot survey on a sample of 50 employees was carried out in Central University of Rajasthan, Ajmer. Reliability of the scales was established through computation of cronbach’s alpha. The findings of the pilot study indicates high reliability coefficient. The reliability coefficient of employee job outcomes was lower as compared to the other dimensions. This research has provided a valid and reliable instrument for collecting data related to Determinants and Outcomes of Ethical leadership.

In future studies, the testing of factor structure will be obtained in the study on a larger sample. The limitation of the study is the small sample size. This study is exploratory in nature and needs further validation by using larger sample size. The results discussed in this study are based on expert testing and pilot testing, therefore further research is needed to test the factor structure and relationship within the construct.

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