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**Research Paper** 



# Understanding Authentic Leadership and Employee's Work Engagement

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#### **ABSTRACT**

Being a fundamental component of organizational culture, leadership has a significant impact and studies have paid close attention to its influence on employees in terms of performance and engagement. In recent years, the importance of authentic leadership has grown in the literature. This study takes an employee-centered approach in order to understand the relationship between authentic leadership and work engagement in an IT company using the Authentic Leadership Inventory (Neider & Schriesheim, 2011) and the 9-item version of Utrecht Work Engagement Scale (Schaufeli & Bakker, 2006) administered on a sample of 111 (59 males and 52 females) IT employees. The results showed that there exists a positive correlation between authentic leadership and employee work engagement significant at p < .01, implying that Work engagement, defined as employees having a positive, fulfilling, work-related state of mind characterized by vigor, dedication, and absorption, is significantly influenced by authentic leaders who exhibit traits like self-awareness, relational transparency, balanced processing, and internalized moral perspective.

Keywords: Authentic Leadership, Work Engagement, IT Employees

ver the last years, leadership has been a popular topic of research in the area of organisational behaviour. According to Yukl & Van Fleet (1992) leadership is "a process that includes influencing the task objectives and strategies of an organization, influencing people in the organization to implement the strategies and achieve the objectives, influencing the group maintenance and identification, and influencing the culture of the organization." Vroom & Jago (2007) defined leadership as "a process of motivating people to work together collaboratively to accomplish great things." Quoting Robbins & Judge (2017), leadership is "the ability to influence a group toward the achievement of a vision or set of goals."

#### Understanding Authentic Leadership

One of the more recent approaches to leadership coming from the field of organizational psychology is Authentic Leadership. Avolio et al., (2004) define authentic leaders as "those individuals who are deeply aware of how they think and behave and are perceived by others

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as being aware of their own and others' values/moral perspective, knowledge, and strengths; aware of the context in which they operate; and who are confident, hopeful, optimistic, resilient, and high on moral character". Being "who you are" and directing the energy of followers by causing them to identify with the leader's and group's objectives is a major element of authentic leadership. (Luthans et al., 2013). As per Gardner, Cogliser, Davis, & Dickens (2011) concept of authentic leadership drawn from Kernis' (2003) concept of self-authenticity, it consists of four dimensions including as a leader being aware of one's own limitations and strengths (self-awareness), aiming to limit the bias information processing (balanced processing), being transparent to ones' subordinates or followers regarding owning up to mistakes or making decisions (relational transparency), and adhering to a definite morale framework (internalized morale perspective).

#### Understanding Work Engagement in Organisations

In lieu of understanding leadership, recent studies have focused on how organizations that foster authentic leadership behavior are more likely to have engaged, enthusiastic and motivated employees. Schaufeli et al., (2001) defines work engagement as "a positive, fulfilling, work-related state of mind that is characterized by vigor, dedication, and absorption. Rather than a momentary and specific state, engagement refers to a more persistent and pervasive affective-cognitive state that is not focused on any particular object, event, individual, or behavior".

High levels of energy and mental strength when working, the willingness to put effort into one's task, and perseverance in the face of setbacks are features of vigour. Dedication is defined as fully engaged in one's profession while feeling pride, challenge, inspiration, and a sense of purpose. Being completely focused and contentedly immersed in one's job is known as absorption. In this state, time flies fast and it is impossible to separate oneself from work (Bakker & Schaufeli, 2001).

By consistently expressing internalized moral perspective, authentic leadership cultivates a healthy and ethical organizational climate that promotes self-awareness and selfdevelopment in leaders and when employees perceive their leaders' authentic behaviors while receiving support for their development and well-being, employees experience a change in perception leading to positive attitude characterized with confidence in oneself, trust in others, and increased work engagement. Various contemporary empirical studies have looked into the important role of Authentic Leadership in helping organizations function effectively by positively impacting employee performance, specifically in the context of work engagement. In the same line of thought, an evidence-based study by Stander et al., (2015) found Authentic leaders to build optimism and trust in the organisation that became a significant predictor of work engagement for employees in the public health care sector. Furthermore, Towsen et al., (2020) assessing the role of authentic leadership as enablers of work engagement in a mining sector found a positive relationship with results supporting the significance of authentic leadership as a valuable resource in creating dedicated, energized subordinates that are absorbed in their work, eventually enhancing Work Engagement. Similarly, an Indian-based study by Nair et al., (2020) also examined similar relations and with their results substantiated that, authentic leadership behaviour demonstrating transparency, clarity, genuineness of the leader plays an important role in fostering a positive work environment, which leads to a more engaged workforce. Additionally, findings from a research carried out by Paredes et al., (2021) also revealed a direct, positive, and significant relationship among the perceptions of authentic leadership factors such as self-awareness, relational transparency, balanced information processing, and

internalized morality in MSME managers, and the factors that characterize work engagement including vigor, dedication, and absorption, among the employees of these organizations. Likewise, Niswaty et al., (2021) also reported conforming results showing Authentic Leadership directly predicting Work Engagement for public service employees as perceiving a leader's trustworthiness and receiving support in completing tasks led to better interaction with subordinates which potentially encouraged employees to engage at work.

Despite the growing interest in Authentic Leadership and its impact, related studies are insufficient compared to studies on other types of leadership. Thus, in an effort to contribute results in the development of literature on authentic leadership by providing empirical evidence on the importance of authentic leadership and its effect on employees, the present study is conducted to examine the influence of Authentic Leadership on employees' attitude in terms of work engagement in an IT Company.

#### METHODOLOGY

## **Participants**

The research participants (N = 111) from whom the data has been obtained were employees working with their coworkers and leaders within organization in an IT company based in Delhi. Volunteer sampling technique was used wherein male and female employees working in the IT company took part in the online administration of the survey by one's own choice after a request was made for participation. The final sample consisted a total of 111 employees out of which 59 were male, followed by 52 female employees, with the average age of the research population being 27 years.

#### Measures/Tools

To achieve the research purposes, this study used pre-existing instruments that were previously developed and validated by other researchers (See Appendix B) and also supported by many evidence-based studies reported in the literature.

#### 1. Authentic Leadership Inventory (ALI)

For the purpose of measuring the construct of Authentic Leadership (AL), the Authentic Leadership Inventory (ALI), developed and validated by Neider & Schriesheim (2011), was used that contained 14 items categorized into 4 sub-factors including self-awareness, relational transparency, balanced processing, and internalized moral perspective (See Appendix C.1). Self-awareness indicates leaders' understanding of their strengths and weaknesses, and how they impact their followers. Relational transparency means that through expressing true thoughts and openly sharing information, followers recognize their leaders' authenticity, while balanced processing is related to leaders' objective decision-making process. Finally, leaders who act in a way that is compatible with their core beliefs are said to have internalised moral perspectives (Walumbwa et al., 2008). Each of the dimensions has three or four questions to measure four dimensions of authentic leadership and was scored on a five-point Likert type scale, ranging from 1 being "strongly disagree" to 5 being "strongly agree." (See Appendix A.1).

**Reliability.** Neider & Schriesheim (2011) used data from MBA students to test the ALI scales for internal consistency reliability and empirical factor structure wherein they compared t wo presidential candidates (Obama and McCain in 2008) in terms of leadership styles. According to the findings, both datasets (McCain and Obama) had satisfactory internal consistency reliabilities (.70) with Cronbach's alpha values ranging from .74 to .85.

#### 2. Utrecht Work Engagement Scale (UWES-9)

For the purpose of measuring the construct of Work Engagement (WE) – the Utrecht Work Engagement Scale or UWES-9 developed by Arnold Bakker and Wilmar Schaufeli (2006), which is the shortened version of the 17-item Utrecht WE Scale (Schaufeli & Bakker, 2004) was used. Both long and short versions of the UWES cover all three theoretically postulated dimensions of work engagement including vigor, dedication and absorption with each dimension covered by three items in the 9-item version of the UWES (see Appendix C.2). All nine items in the measuring instrument are scored on a Likert type scale ranging from 0 (never) to 6 (always).

**Reliability**. The three UWES scales have strong internal consistency. Altogether, the scales' Cronbach's alpha values range from .80 to.90 (Salanova et al., 2001).

**Validity**. Validity studies that have been carried out with the UWES show that work engagement is indeed negatively associated with burnout (Demerouti et al., 2001).

#### Data Collection

A google form questionnaire containing a 14-item Authentic Leadership Inventory (Neider & Schriesheim, 2011) and the 9-item version of Utrecht Work Engagement Scale (Schaufeli & Bakker, 2006) was shared with employees working in an IT company via online platforms (See Appendix A and B).

### Scoring

Authentic Leadership Inventory (Neider & Schriesheim, 2011) is a five-point Likert scale 14-item questionnaire and the Utrecht Work Engagement Scale (Schaufeli & Bakker, 2006) is a six-point Likert scale shortened 9-item version. The demographic characteristics of the participants collected through the "personal information section" via google questionnaire was analyzed with descriptive statistics such as frequency and percentages while authentic leadership and work engagement levels were analyzed with average and standard deviation. Overall, a quantitative approach was utilized in the current study which involved collecting data related to the research participants in order to establish a method in which inferences can be made via statistical analysis consisting descriptive statistics representing a summary of variable names, total number of participants, gender along with their mean and standard deviation scores, followed by a correlation analysis showing the significant statistical relationship between Authentic Leadership and Work Engagement and a correlation matrix displaying the correlation coefficients for different variables along with mean and standard deviation. The relationship between authentic leadership behaviours and work engagement perception levels was analysed with the Pearson Moments Product Correlation to see whether the employee's level of work engagement was related to the perceived company manager's authentic leadership behaviours (see Appendix D).

#### Procedure

In line with the basic objective, after recruiting the participants through volunteer sampling, due consent was sought before the scale was administered. A letter requesting participation, together with a consent form, was distributed virtually through which participants were informed that the purpose of the research is only for developing academic insights and they will not be harmed in any way or have any adverse consequences on their present state of well-being. Confidentiality was maintained, no personal details were disclosed at any point and identifying information was not used in documenting the research (See Appendix A). Once the respondents understood the nature of the research and the rights they have as a voluntary participant, the questionnaire was shared. Data of the individuals who consented to participate in the study was collected through a secure Google form via quantitative and

qualitative means. Post the collection of responses, data was analysed to find whether a correlation exists between Authentic Leadership and Work engagement.

A google form questionnaire containing a 14-item Authentic Leadership Inventory (Neider & Schriesheim, 2011) and the 9-item version of Utrecht Work Engagement Scale (Schaufeli & Bakker, 2006) was shared with employees working in an IT company via online platforms as per the conductor's and participants' convenience; it was either mailed through Gmail, Hotmail, or shared via WhatsApp.

For the Authentic Leadership Inventory (Neider & Schriesheim, 2011), the participants were instructed to rate responses which most closely matched the idea about leadership in their organisation on a five-point Likert scale (ranging from strongly disagree to strongly agree). Further, pertaining to the Utrecht Work Engagement Scale (Schaufeli & Bakker, 2006), the participants were asked to read nine statements and decide if they ever felt this way about their job by either selecting '0' (zero) if they never had this feeling or by choosing the number (from 1 to 6) that best describes how frequently they feel that way.

After the instructions were read, the participants were asked to provide their responses honestly and as accurately as possible as there is no wrong or right answer. Participants were informed that there is no time limit but it would take around 10-15 minutes for them to complete the questionnaire. Post the collection of responses, data was analysed using a quantitative approach to assess the significant statistical relationship between Authentic Leadership and Work Engagement.

#### Data

A total of 111 employees participated in the study out of which 59 identified as males (53.1%) and 52 as females (46.8%), with the average age of the overall sample being 27 vears.

RESULTS Table 1 Gender and Age of En	nployees	
Gender (N=111)		
Male (N <sub>1</sub> )	59 (53.1%)	
Female (N <sub>2</sub> )	52 (46.8%)	
Age		
mean age	27.43	

Table 2 Descriptive Statistics Regarding Authentic Leadership (N=111)

Descriptive Statistics of Perception Levels of Manager's Authentic Leadership Be	havior Exhibited	by
Employees (N=111)		

Domains	self-aware	ness	Relational	transparency	Balanced pr	rocessing	Internalized perspective	
	Mean	SD	Mean	SD	mean	SD	mean	SD
male (N <sub>1</sub> =59)	4.435028 249	0.73663 4	4.598870 056	0.6054664 525	4.5635593 22	0.6258495 848	4.4491525 42	0.6728467 01

female	4.437908	0.63691	4.542483	0.5499632	4.4411764	0.6367022	4.5686274	0.5616619
$(N_2=52)$	497	34594	66	536	71	398	51	238

Table 3 Descriptive Statistics Regarding Work Engagement (N=111)

	Descriptive Sta Work Engagen	ntistics Regarding nent	the Dimensions of	of		
	Vigor		Dedication		Absorption	
	Mean	SD	mean	SD	mean	SD
Male (N <sub>1</sub> =59)	5.299435028	0.7504920488	5.209039548	0.7951041124	4.666666667	1.299766879
Female (N <sub>2</sub> =52)	5.333333333	0.739078182	5.288461538	0.6624452784	4.557692308	1.28635712

Table 4 Inter-correlation Between Dimensions of Authentic Leadership and Work Engagement (N=111)

	self- awareness	Relational transparenc y	Balanced processin g	Internali zed moral perspect ive	vigor	dedicatio n	absorptio n
self- awareness	1	0.000096* *	0.014*	0.013*	0.344	0.04*	0.818
Relational transparenc	0.000096* *	1	0.02*	0.017*	0.46	0.1	0.78
Balanced processing	0.014*	0.02*	1	0.00001 **	0.03*	0.01*	0.802
Internalize d moral perspective	0.013*	0.017*	0.00001* *	1	0.08	0.003**	0.41
Vigor	0.344	0.46	0.03*	0.08	1	0.00001* *	0.23
Dedication	0.04*	0.1	0.01*	0.003**	0.00001**	1	0.16
Absorption	0.818	0.78	0.8	0.41	0.23	0.16	1

<sup>\*\*</sup>The result is significant at p< 0.01, \*The result is significant at p< 0.05

Table 5 Correlation Between Authentic Leadership and Work Engagement

Authentic Leadership and Work Engager	nent
correlation coefficient, r	0.2698128207
N	111
Degree of freedom (n-2)	109
<i>p</i> -Value	0.004**

<sup>\*\*</sup>The result is significant at p < 0.01

#### **DISCUSSION**

In today's dynamic and competitive business environment, the need for leaders to be authentic and employees to be engaged to increase trust is crucial. In this context, the

present study has examined the impact of authentic leadership on employees' work engagement in an IT company. In line with the objective, once due consent was sought, a 14-item Authentic Leadership Inventory (Neider & Schriesheim, 2011) followed by a 9-item Utrecht Work Engagement Scale (Schaufeli & Bakker, 2004) was administered on a sample of 111 employees out of which 59 identified as males and 52 as females with an average age of the sample being 27 years (Table 1).

Table 2 presents an overview of the means and standard deviation results for the four major domains of Authentic Leadership pertaining to the perception level of male and female participants regarding their manager's Authentic Leadership behavior in the organisation. Table 2 suggests that a greater number of females perceive their leaders to be self-aware and have Internalised moral perspective in comparison to males, while on the other hand, males were found perceive their leaders as high on relational transparency and balanced processing. In general, and in all dimensions, employee's perception about the Authentic Leadership for their Managers is high. As per Table 3, in the context of Work Engagement, the presented data showed females to be more vigorous and dedicated, while a greater number of males were found to be absorbed.

When Table 4 is analyzed, it has been determined that there is positively high significant relationship between general Authentic Leadership and its dimensions and relatively the highest with Internalised Moral Perspective in relation to balanced processing followed by Relational Transparency and Self-Awareness, significant at p < 0.01 level. Additionally, as per the results a significant, (but not as relatively high) positive relationship is found with Internalised Moral Perspective and self-awareness as well as Relational transparency followed by balanced processing and self-awareness significant at p < 0.05 level. Furthermore, a positive relationship between general Work Engagement and its dimensions, with a relatively highest positive significant correlation between vigor and dedication dimensions at p < 0.01 level is also observed.

As per the objective i.e., in line with understanding the correlation between Authentic Leadership and Work Engagement, data presented in Table 4 suggests a highly significant positive relationship of employee's level of Dedication with their perception of Authentic Leadership behavior in the manager in terms of Internalised Moral Perspective at p < 0.01 level followed by a relatively less but nonetheless significant positive relationship of Dedication with Self-Awareness and Balanced Processing pertaining to their manager's perceived authentic leadership behavior at p < 0.05 level. This finding from the present research fit well with a study carried out by Kasa et al., (2020) who aimed to identify the authentic leadership practices applied by school principals along with their relationship to the engagement of national secondary school teachers and found corroborative results showing internalized moral perspectives significantly contributing to the engagement of teachers. Additionally, as seen in table 4, a significant positive relationship between Vigor and Balanced processing is observed at p < 0.05 level.

Table 5 shows an overall summary of the correlation between the participants' perception of Authentic leadership and their level of work engagement in the organisation. As per the results in general, Authentic leadership has a significantly high positive correlation with Work Engagement at p < 0.01 level. Corroborating extant literature and the present study's objective, the results henceforth reveal authentic leadership to be positively and significantly related to work engagement which is consistent with the findings from various evidence-based researches, one being by Hassan & Ahmed (2011) who assessing a sample of

employees from a local bank, found authentic leadership contributing to subordinates' trust in leadership which in turn predicted subordinates' work engagement. In the same line of thought, Penger & Cerne (2014) found a positive and significant impact of authentic leadership on work engagement mediated through perceived manager trust in a manufacturing sector. Similarly, Hseih & Wang (2015) assessing team supervisors and employees in thirty-six companies reported employee-perceived authentic leadership to directly influence work engagement. Additionally, Maximo et al., (2019) with their survey on a sample of employees working in a mining industry found conforming results showing authentic leadership to have a statistically significant effect on work engagement through trust in supervisors which further corroborates that authentic leadership indeed plays an important role in fostering a positive work environment, that consequently leads to a more engaged workforce.

In line with understanding the implications, the first contribution of this study lies in providing theoretical development of authentic leadership. The findings of this study corroborate the hypothesis put forth by prior studies that authentic leadership and employee outcomes in the context of changes in attitude, behaviour, and performance are positively correlated, specifically in the context of work engagement. Furthermore, given the highly significant and positive influence of authentic leadership behaviour, the present study emphasizes the need of an authentic leadership development program for present and potential leaders that can lead to employee's and organisation's overall development (Kim, 2018).

According to the findings of a survey by Conger & Benjamin (1999), it is clear that in order to create better programmes, authentic leadership development initiatives must be planned to transform the entire organisation along with promoting and supporting the application of knowledge and competencies necessary for authentic leadership followed by a regular assessment of the outcomes or results of such programs. In addition, going back to the evidence presented on business leadership education by Doh (2003), organisations must also first understand their present circumstances in order to identify the strategies and methods in the training programme that will produce the best results from authentic leadership development education/training.

Though the present study explored some new areas, there are some limitations to it as well. One of the major problems with using standardised inventories and scales in the assessment of Authentic Leadership and Work Engagement is that one must rely on the self-report of individuals that may be prone to a social desirability response set, i.e., the tendency to respond to items on the basis of judgments of suitability or undesirability. Thus, self-report measures can reveal a lot about a person, but they are limited by the accuracy of the respondents' self-judgments and their unwillingness to characterize oneself freely and unfavorably implying that the honesty of the responses given in terms of indulgence in behaviors of Work Engagement or views about their managers who hold high authority over them may be questioned. To overcome this potential issue, future studies need to consider measuring employees' performance by their leaders or using objective performance results such as quantitative outcomes. Regarding the sampling procedure, the generalizability of the results is still limited because the sampling method was based on volunteer, and the samples were collected from one specific area of Delhi. Future research should examine whether the results of this study are generalizable to various societal cultures in order to get over the sampling limitation.

The overall pattern of the findings from this study implies that authentic leaders are better able to influence employee's attitudes and behaviours by being more aware of both themselves and their subordinates. Being an Authentic leader entails building both one's own and their followers' positive psychological capital, which includes being optimistic, resilient, and hopeful leading to positive attitudes and behaviours that eventually become potent motivators helping the workforce to remain moving and focused on their jobs in today's increasingly competitive workplaces. Overall, through the findings from the present study, as authentic leadership was seen to have many advantages, it is proposed to be the optimum leadership style in today's work environment as it encourages employees to keep a positive outlook by holding a belief in self and other's potential along with an expectation that they can accomplish their finest.

#### CONCLUSION

The current study sought to understand the relationship between authentic leadership and work engagement in an IT company with the help of the Authentic Leadership Inventory (Neider & Schriesheim, 2011) and the 9-item Utrecht Work Engagement Scale (Schaufeli & Bakker, 2006) assessed on 111 IT employees (59 men and 52 women). The findings indicated a significant positive relationship between authentic leadership and employee work engagement, significant at p < .01. This suggests that authentic leaders with traits like self-awareness, relational transparency, balanced processing, and internalised moral perspective have a significant positive influence on work engagement, which is defined as employees having a positive, fulfilling, work-related state of mind marked by vigour, dedication, and absorption.

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### Conflict of Interest

The author declares no conflicts of interest.

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### **Appendix D**

# Calculation For Correlation Analysis

# Appendix D.1

Correlation Matrix of Variables with Mean and Standard Deviation

000										
	mean	SD	self- awarenes s		Balanced processin g	Internaliz ed moral perspectiv e	vigor	dedication	absorptio n	
self- awarenes s	13.30631	1.263421	1	0.00009 6**	0.014*	0.013*	0.344	0.04*	0.818	
Relational transpare ncy	13.72973	1.094996	0.00009 6**	1	0.02*	0.017*	0.46	0.102	0.78	
Balanced processin g	18.02703	1.384718	0.014*	0.02*	1	0.00001	0.03*	0.01*	0.802	
Internaliz ed moral perspectiv e	18.01802	1.388144	0.013*	0.017*	0.00001	1	0.08	0.003**	0.41	
vigor	15.94595	1.577327	0.344	0.46	0.03*	0.08	1	0.00001	0.23	
dedication	15.73874	1.627668	0.04*	0.1	0.01*	0.003**	0.00001	1	0.16	
absorptio n	13.84685	1.641497	0.818	0.78	0.802	0.41	0.23	0.16	1	
							**The	result is sig	nificant at p	< 0.01
							*The r	esult is sign	ificant at p	< 0.05.

### Appendix D.2

Calculation of Pearson's R Value

J			
X V	alues		
$\Sigma = 7002$			
Mean = $63.081$			
$\sum (X - Mx)2 = SSx =$	= 1408.27		
Y V	alues		
$\Sigma = 5054$			
Mean = $45.532$			
$\sum (Y - My)2 = SSy =$	= 1251.64		
X and Y	Combined		
N = 111			
$\sum (X - Mx)(Y - My)$	= 358.216		
R Calc	culation		
$r = \sum ((X - My))$	(Y - Mx))	/ √((SSx)(S	Sy))
$r = 358.216 / \sqrt{((1)^2)^2}$	1408.27)(12	251.64)) =	0.2698
Meta Numeric	s (cross-ch	eck)	
r = 0	.2698		
The value of	R is 0.269	8.	

Key
X: Authentic Leadership Values
Y: Work Engagement Values
$M_x$ : Mean of X Values
$M_y$ : Mean of Y Values
$X - M_x & Y - M_y$ : Deviation scores
$(X - M_x)^2 & (Y - M_y)^2$ : Deviation Squared
$(X - M_x)(Y - M_y)$ : Product of Deviation Scores

# Appendix D.3

# Calculation of p-Value from Pearson's R

		Sample Correlation (r)=	0.2698							
		sample size (n)=	111							
		significance level (α) =	0.01							
		Null and Alternative Hypo								
	The f	ollowing null and alternative hy	potheses ne	eed to be teste	ed:					
		$\mathbf{H}_0: p = 0$								
		$H_a: p \neq 0$								
		where $ ho$ corresponds to the	population c	correlation						
						t =	$r\sqrt{rac{n-}{1-}}$	-2		
							V 1-	$-r^2$		
The sample size is n = 11	1. so then the num	iber of degrees of freedom is	df = n-2 =	: 111-2 = 109	1					
_		iber of degrees of freedom is								
-		iber of degrees of freedom is e r <sub>c</sub> for a significance level of				=	0.2698	$8\sqrt{\frac{1}{1-0}}$	$\frac{11-2}{0.2698^2}$	
-						=	0.2698	$8\sqrt{\frac{1}{1-6}}$	$\frac{11-2}{0.2698^2}$	
-						=	0.2698	$8\sqrt{\frac{1}{1-0}}$	$\frac{11-2}{0.2698^2}$	
-						=	0.2698 2.925	$8\sqrt{\frac{1}{1-0}}$	$\frac{11-2}{0.2698^2}$	
_								$8\sqrt{\frac{1}{1-6}}$	11-2 ).2698 <sup>2</sup>	
-								$8\sqrt{\frac{1}{1-0}}$	$\frac{11-2}{9.2698^2}$	
-			of $\alpha = 0.01$ ,	for a two-tai	iled test is:			$8\sqrt{\frac{1}{1-6}}$	11-2 1.2698 <sup>2</sup>	
-			of $\alpha = 0.01$ ,	for a two-tai				$8\sqrt{\frac{1}{1-0}}$	$\frac{11-2}{9.0008^2}$	
_	l correlation valu	e r <sub>c</sub> for a significance level of	p p	for a two-tai	iled test is:			$8\sqrt{\frac{1}{1-6}}$	$\frac{11-2}{1.2698^2}$	
_	l correlation valu		p p	for a two-tai	iled test is:			$8\sqrt{\frac{1}{1-0}}$	$\frac{11-2}{1.2698^2}$	
_	l correlation valu	e r <sub>c</sub> for a significance level of	p p	for a two-tai	iled test is:			$8\sqrt{\frac{1}{1-0}}$	11-2 9.2698 <sup>2</sup>	
_	l correlation valu	e r <sub>c</sub> for a significance level of	p p	for a two-tai	iled test is:			$8\sqrt{\frac{1}{1-6}}$	11-2 9.2698 <sup>2</sup>	