ORGANISATIONAL COMMITMENT, MEANING IN LIFE AND RISK TAKING BEHAVIOUR ON WORK ENGAGEMENT OF DEFENCE OFFICERS

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CERTIFICATE

Certified that this dissertation entitled **"ORGANISATIONAL COMMITMENT, MEANING IN LIFE AND RISK TAKING BEHAVIOUR ON WORK ENGAGEMENT OF DEFENCE OFFICERS"** submitted to the University of Calicut for the award of the Degree of Doctor of Philosophy in Psychology is a bonafide record of the research work carried by **Arya Nair**, under my supervision and guidance. No part of this has been submitted earlier for any other purpose.

Prof. (Dr.) K. Manikandan
(Supervising Teacher)

DECLARATION

I, Arya Nair, do here by declare that this, **ORGANISATIONAL COMMITMENT, MEANING IN LIFE AND RISK TAKING BEHAVIOUR ON WORK ENGAGEMENT OF DEFENCE OFFICERS** is a bonafide record of the research work done by me under the guidance of Dr. K. Manikandan, Professor & Head, Department of Psychology, University of Calicut. I further declare that this dissertation has not previously formed the basis for the award of any degree, diploma, associateship, fellowship, or other similar title of recognition.

C.U. Campus,   **Arya Nair**

... / ..... / 2017

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Arya Nair

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ABSTRACT

Every organisation needs a highly disciplined work force. Discipline in the work place is the means by which behavioural deficiencies can be corrected and adherence can be ensured. It directs correct behaviour. Defence organisation is one such system where discipline is given priority. Many cases of indiscipline and conflict have been reported for the past one decade. On exploring the cause it was established that the defence personals are not satisfied with their work. This draws our attention to the fact that despite the tough selection process which involves a thorough psychological screening and fitness tests of the candidates, the recommended candidates (by the service selection board) can at any point of their service in the defence fall victim to the work demands due to their work behaviour and work attitude. This would affect their work performance and lead to self-destructing tendencies and fragging. The investigator tried to identify variables which could enhance performance at work in the context with the work nature in defence, determine meaning in life, determine risk taking during highly stressful and risk prone conditions and help to establish psychological attachment to work. Based on the above criteria and review of literature the variables Work Engagement, Meaning in Life, Risk Taking Behaviour and Organisational Commitment were selected for the study. Since work engagement is a comparatively new concept, there are very few studies that have been conducted especially on defence officers. Participants of the study consist of 171 Indian defence officers in which 160 were Army officers and 11 were Navy officers. Male participants of rank Lieutenant to Colonel were included in the present study. After discussion with the scientist of DIPR (Defense Institute of Psychological Research), New Delhi, letters were sent to different army brigades and the Naval base. With the permission of the general officer commanding, a suitable time and day was fixed for the investigator to interact with the officers and distribute the research instruments to the participants. The instruments used were Utrecht Work Engagement Scale, Organisational commitment Scale, Meaning in Life Questionnaire, Risk Taking Behaviour Scale, Personal Data Sheet. The statistical techniques used were Product moment

correlation ANOVA, Scheffe's Test and t-test. The result showed that the army as well as navy officers have high vigor, dedication and absorption. Thus their total work engagement is high. The extent of organisational commitment, meaning in life and risk taking behaviour is also high. Work engagement has significant positive correlation with organisational commitment, meaning in life, presence of meaning and risk taking behaviour. The demographic variables like birth order, marital status and alcohol consumption were not found to have any significant influence on work engagement, vigor, dedication and absorption. The role of these psychological variables in modulating the work engagement and its dimensions has to be given high importance as changes in these would affect work performance and this in return will bring beneficial career outcomes like satisfaction and career adaptability. Thus the problem of early turnover, suicide, interpersonal conflict etc can also be dealt with.

Keywords: Defence officers, Work Engagement, Meaning in Life, Risk Taking Behaviour and Organisational Commitment, Work Attitude

Chapter 1
Introduction

- *Introduction*
- *Significance of the study*

Discipline in the work place is the means by which behavioural deficiencies can be corrected and adherence can be ensured. It directs correct behaviour. Defence organisation is one such system where discipline is given priority. Many cases of indiscipline and conflict have been reported for the past one decade. As per the article reported in the Times of India on *22 july 2014*, the suicide toll in the highly-disciplined armed forces continues to cross the 100-mark year after year. As many as 597 military personnel committed suicide in 5 years between 2009 and 2013. In the Army, which is by far the largest of the three services, for instance, 116 soldiers committed suicide in 2010, 105 in 2011 and 95 in 2012. In 2013, 86 soldiers committed suicide, the figure for airmen and sailors stood at 15 and 6.

Cases in the shape of suicides and "fragging" (to kill or wound a fellow-soldier or superior) incidents have shown no signs of lessening, and often lead to conflict and "clashes" between officers and jawans.

These reports draw our attention to the fact that the defense personals are not satisfied with their work and despite the tough selection process which involves a thorough psychological screening and fitness tests of the candidates, the recommended candidates (by the service selection board) can at any point of their service in the defence fall victim to the work demands. This will lead to deteriorated mental health, cynical attitude and would affect their work performance and lead to self-destructing tendencies and fragging.

It was observed that throughout the service a lot of emphasis is laid on the physical fitness, which is evident from the regime that is set for the officers. Mental fitness is a key factor in enhancing performance at work and the probability that mental health in officers may deteriorate is evident from the conditions in which they work especially when they are posted in the field and during war. Thus it can be said that the person declared fit to be commissioned in the defence at the time of selection, can any time succumb to the pressure of the working conditions and become unfit both mentally and physically if proper measures are not taken to maintain the same.

Keeping in mind the above facts the investigator tried to identify variables (through a thorough review) which could:

- Enhance performance at work in the context with the work nature in defence

- Determine life's meaning and significance

- Determine risk taking during highly stressful and risk prone conditions

- Help to establish psychological attachment to work

- Determine how the interaction of the selected variables would affect work performance.

In the following section the investigator has made an attempt to introduce the Indian defence system in brief along with the conceptual background of the selected variables which are Work Engagement, Meaning in Life, Risk Taking Behaviour and Organisational Commitment.

The historical overview of the Indian Armed Forces

The Indian army has its roots in the armed guards of the East India Company (London). Initially there were Englishmen but slowly Indians were enrolled. Gradually steps were taken to unite the units from Madras, Bombay and Bengal to form a unified Army. In 1902 under Lord Kitchner as the commander in chief, Army was recognised as a new regular force. In 1939 after the Second World War the strength of Indian Army had risen to 189000. With the 1947 partition two third strength of the army remained in India and one third strength went to Pakistan. (Karim, 1995).

The Indian army follows a particular code of honour which has been in practice for the past few eras. Indian army stands by its valour, fidelity and honour. The main characteristics of Indian soldiers are valour, self-sacrifice, honesty, discipline, integrity, courage and determination.

The rank structure (hierarchy) of army from top to bottom is as follows:

1. General

2. Lieutenant General

3. Major General

4. Brigadier

5. Colonel

6. Lieutenant Colonel

7. Major

8. Captain

9. Lieutenant

The Indian commissioned officers hold the commission as class 1 government servants. The President of India is the supreme commander of the armed forces. All the orders and instructions are issued to the chief of army staff by the Union Cabinet through the ministry of defence.

The Armed Forces have five main tasks: 1) to assert the territorial integrity of India, 2) to defend the country if invaded or attacked by a foreign Nation, 3) to send own amphibious warfare equipment to take the battle to enemy shores, 4) to support the civil community in case of disasters (e.g. flooding) and 5) participate in United Nations peacekeeping operations in consonance with India's commitment to the United Nations Charter.

There are FIELD as well as STATIC/PEACE formations. The formations which are designed to be mobile and have transportable weapons and equipment are called field formations. Corps Headquarter (HQ) is the highest field formation in the Army. A static formation is the one whose role is purely administrative and is responsible for a specified area. Internal security duties or employment of troops during natural calamities may however be allotted to the static HQ. The highest static HQ is an Area HQ is under GOC (General officer commanding).

The area of responsibility of each command headquarter is indicated by its location. The command boundaries and the number of troops under each command depend on the operational requirement in war and peace. Command boundaries do not follow state boundaries. Northern, Western, Central, Eastern, Southern and Army training command are the 6 command headquarters.

Life in Field and Peace Stations

About half of the total strength is deployed on the borders. The deployment on borders is for readiness of war. In most field areas families cannot join and even the basic amenities are not available. In short it can be seen that life is difficult in the field and bestowed with great responsibility and threat round the clock. Generally they have to live in temporary barracks, tents, bunkers etc. In high altitude areas they face many problems as there is lack of oxygen and harsh weather conditions. Normal life style cannot be maintained in high altitude areas. Special diet is needed for survival at higher altitudes. In the field areas regular training for war is not possible. A unit may be suddenly moved to a desert or the plains during war so a unit is brought back to the peace station for rest, refitting and training every three years. In the peace station since the location is away from the borders, the nature of work is administrative. It is in the peace that training is programmed and the tanks and equipment are refitted and maintained.

Officers Selection System

The selection system has been adopted from the US and British systems evolved after the first and second world wars. In 1942 the British Army developed the psychological tests and group testing techniques which are used in India today. Research based on the world war experience helped to conclude the basic qualities required to lead men successfully in the battle. Effective Intelligence, Reasoning ability, Power of expression, Social adaptability, Sense of responsibility, Courage, Initiative, Decisiveness, Group influence, Organizing ability, General awareness,

Co-operation, Determination, Stamina, Self – confidence and Liveliness are some of them.

Selection Organization

The army has three selection centres for officers located at Allahabad, Bhopal and Bangalore. Each selection has a number of Services Selection Boards (SSB). Each board has two interviewing officers, one or two group-testing officers and one or two psychologists.

Work Engagement

The term engagement was coined by the Gallup organisation in 1990s. Work Engagement is desirable for the employees as well as the organisation where they are working. Work engagement in general means employees relation with the work. As the competition among the modern organisations increased, the need for physical and emotional involvement of employees increased which in turn made it important for them to invest psychologically in their work. Thus the psychologization of the work place happened to make employees thrive to sustain their organisation by using their psychological capabilities. This gave rise to 'Engagement' at work. Organizations need employees, who are psychologically connected to their work; who are willing and able to invest themselves fully in their roles; who are proactive and committed to high quality performance standards. They need employees who are engaged with their work (Bakker & Leiter, 2010). Engagement at work has emerged as an important aspect of employee performance. A large number of research studies supports the relationship between engagement of the employee at

work and the organizational outcomes, including those which are performance based (Laschinger & Finegan, 2005; Schaufeli & Bakker, 2004).

The concept of work engagement has been conceptualised in two different ways. According to Maslach and Leiter (1997) engagement refers to energy, involvement, and professional efficacy which are considered to be the direct opposites of burnout dimensions (i.e. Exhaustion, Cynicism, lack of professional efficacy). On the other hand Schaufeli and his co-researchers (2002) defined engagement as a positive, fulfilling, work-related state of mind characterized by vigor, dedication and absorption. It has similarity with Rothbard's (2001) conceptualization of role engagement, which has two main components – attention and absorption in a role-that are both motivational phenomena. Schaufeli and his colleagues (2002) have emphasised that work engagement is likely to remain relatively stable over time.

Absorption refers specifically to the total concentration on and immersion in work characterized by quick passage of time and difficulty in detaching oneself from one's work. Recent researches have drawn a similarity between the experience of absorption and flow (Schaufeli, Bakker & Lloret, 2006). Flow is defined as the state of mind in which people are so involved in an activity and nothing else matters; the experience itself is so enjoyable that people will do it just for the sake of doing it. The main difference between the concepts of flow and absorption is that absorption is presumed to be a more persistent state of mind which takes place specifically in the work domain whereas flow resembles short-term peak experience which may

occur in any domain of life (Hallberg & Schaufeli, 2006; Schaufeli, Bakker & Lloret, 2006).

Vigor indicates high levels of energy and mental resilience while working and his willingness to make appreciable efforts in his or her job and persistence in difficult situations (Schaufeli, Bakker & Demerouti, 2002).

Thus an employee who is vigorous at work is highly motivated by his or her job and remains very persistent while facing difficulties or obstacles at work. Vigor dimension can be considered as a motivational concept and also consistent with Atkinson's general definition of motivation, "Motivation is the contemporary or immediate influence on direction, vigor and persistence of action". Vigor and persistence are the main characteristics of the dimension of work engagement and thus the concept has similarity with the global definition of motivation.

The third dimension of work engagement is 'Dedication' and it is characterized by a strong psychological involvement in one's work, combined with a sense of significance enthusiasm, inspiration, pride and challenge (Schaufeli, Bakker. & Demerouti, 2002).

Similarity occurs between dedication and a similar but much older concept called as Job Involvement, which has been defined as the degree to which an employee psychologically relates to his or her job and to the work performed therein. Dedication is a broader phenomenon, at least with respect to its operationalization because Job involvement solely focuses on the psychological importance of the job in an employee's life. Recently researchers have suggested

that vigor and dedication are the basic dimensions of work engagement whereas absorption is similar to the concept flow. Since there is no unique theoretical framework for work engagement, mainly four approaches can be spoken about.

The needs-satisfying approach, the job-demand resource model, the affective shift model, and the social exchange theory

The needs-satisfying approach by Kahn (1990) assumes that when the three psychological needs namely Meaningfulness, Psychological safety and Availability are met, the employee becomes engaged in his work. It was first tested in 2004, and the conclusion was that engagement is likely to occur when the job is challenging and meaningful, the social environment at work is safe, personal resources are available and the need for meaningfulness, safety and availability are satisfied.

The affective shift model: This model deals with the dynamic nature of work engagement (cited in Schaufeli, 2013). It proposes that high work engagement emerges when there is a shift from negative to positive affect i.e. the dynamic interplay of the positive and negative.

The social exchange theory: This theory offers the basic idea that in return for the resources that the organization offers to the employees in the form of reward, salary, incentives etc. they return the favours by engaging themselves in the work. Reciprocity is the basic idea of this theory.

The job-demand resource model/JDR model: Majority of studies on work engagement is based on this model as an explanatory framework (Bakker & Demerouti, 2008). The antecedents of work engagement has its theoretical roots in a

relatively new occupational stress model-the Job-Demand Resource (JD-R) model (Demerouti, Bakker, Machinery, Schaufeli, 2001; Salanova et al., 2005; Schaufeli, & Bakker, 2004). It conceptualizes burnout and engagement as two separate concepts which are integrated into a conceptual model. The basic assumption of which is that while peoples work environment differ, the characteristics of those environment (job characteristics) can usually be divided into two categories: Job Demand and Job Resource.

o   Job demands are physical, psychological, social or organizational features of the job for which physical and/or psychological effort is required from an employee and is associated to physiological and/or psychological costs.

o   Job resources, on the other hand are physical, psychological, social or organization features of that functions in achieving work goals, reduce job demands and the physical and/or psychological costs associated with them and stimulates personal growth and development (Hobfoll & Shirom, 2001).

JD-R model pins down the relations between demand/resource and wellbeing and attitudinal outcomes.   Many studies have demonstrated that job resources promote engagement. Schaufeli and Bakker (2009) demonstrated that constructive feedback, social support and coaching from supervisors-all exemplars of job resources were positively associated with the three dimensions of engagement: Vigor, Dedication and Absorption.

The only published longitudinal study on work engagement was by Llorens, Schaufeli, Bakker and Salanova (2007) reported a positive prospective spiral

between Job autonomy (Jackson, Wall, Martin, & Davids, 1993) and work engagement. A reciprocal relationship emerged between the phenomenon studied; Job autonomy had a positive lagged effect on work engagement, which in turn had a positive logged association with job autonomy.

Langelaan, Bakker, Doornen and Schaufeli (2006) showed that employees who experienced a high level of work engagement were low in neuroticism and high in extraversion (of the Big 5 personality characteristics).

A study on Finnish teachers (78% women) showed that work engagement was positively related to several job resources. This study also provided support for the JD-R model by showing that job resources were more robustly related to work engagement than work demands, which in turn impaired psychological health by increasing burnout (Hakkanen & Schaufeli, 2006).

Work engagement is significant for the good health of an employee. It is related to positive work affect, which assists in getting the positive benefits from demanding or stressful work. It is also related to positive organisational outcomes, such as job satisfaction and low turnover intention (Barkhuizen & Rothmann, 2006).

Meaning in Life

Most of the foundation and empirical investigation relevant to meaning in life has its origin within Western cultures. For example, the theories that overtly identify meaning as an important feature of human functioning is chiefly derived from Aristotelian notions of the good life (e.g., Ryff & Singer, 1998), or experiences intimately associated with Western European history (e.g., Nazi concentration

camps, Frankl, 1963). Although there is little controversy about the general value of meaning to human functioning in current, Western well-being research (King, Hicks, Krull, & Del Gaiso, 2006), it is largely unknown whether these meaning dimensions are similarly prominent in non-Western cultures.

Frankl (1963) was the founder of logotherapy based on the triad of principles i.e. the freedom of will, the will to meaning and the meaning of life. It is said that one should not chase success and happiness because they are not the goals but the effect of end product that would follow. Success and happiness should happen and the lesser one cares for them the more they can. The status drive or the will to power on one hand and the pleasure principle or, the will to pleasure on the other hand are just the derivatives of man's primary concern that is his will to meaning. According to Frankl will to meaning can be defined as the basic striving of man to find and fulfil meaning and purpose in life. Pleasure rather than being an end of man's striving is the effect of meaning fulfilment. Both happiness and success are the substitutes for fulfilment and that proves why the pleasure principle and the will to power are mere derivatives of the will to meaning. In Basic Tendencies by Charlotte Buhler (1972), fulfilment is the final goal and the four basic tendencies that serve the goal of fulfilment provided that fulfilment means the fulfilment of meaning rather than fulfilment of self or self -actualization. Self -actualization is neither man's ultimate aim nor a primary intention. Self -actualization is an effect of meaning fulfilment just like happiness. If man tries to seek self -actualisation then it loses its importance, it's something that should follow and not to be sought after. It is life's unintentional effect of life's intentionality. Excessive concern about self – actualisation leads to the frustration of the will to meaning.

One can find meaning in life by creating a work or doing a deed or by experiencing goodness, truth and beauty, by experiencing nature and culture or last but not the least by encountering another unique being in the very uniqueness of this human being that is by loving him. However the noblest appreciation of meaning is reserved to those people who are deprived of opportunity to find meaning in a deed in work or in love by their attitude in the situation yet they rise above it and grow beyond themselves. The stand they take in this difficult situation is the most important because it allows to transmuting their fall into achievement, triumph and heroism.

According to Baumeister (1991) 'in our life we do face many complexities, adversity and unexpected and unpredictable situations yet many people find this experience as enriching and maintain that they have achieved their meaning in life'. Meaning in life has two dimensions *Presence of Meaning* and *Search for Meaning* (Crumbaugh, 1977; Steger, Frazier, Oishi, & Kaler, 2006). Presence means the degree to which individuals perceive their lives as significant and meaningful. Presence of meaning in life refers to the degree to which people experience their lives as comprehensible and significant and feel a sense of purpose or mission in their lives that transcends the simple concerns of daily life. Search concerns the degree to which people are engaged in a search for meaning in life. It pertains to the dynamic, active effort by people in trying to establish and/or augment their comprehension of the meaning, significance, and purpose of their lives (Steger, in press; Steger, Kashdan, Sullivan, & Lorentz, in press). The search for meaning is related to low presence of meaning, and lower well-being overall (Crumbaugh,

1977; Steger et al., 2006; Steger, Kashdan, & Oishi, 2008). Thus, whereas presence of meaning is concerned with a valued outcome (my life is meaningful), search for meaning is concerned with an important process (how can I make my life more meaningful?). Some suggest that searching for meaning is a basic human motivation (Frankl, 1963; Maddi, 1970), which can lead to increased presence of meaning in life as the desired outcome.

The correlational factor analytic and longitudinal analysis suggests that presence of meaning and search for meaning are only moderately related and are distinct from one another (Steger & Kashdan, 2007). Thus, in addition to presence of meaning and search for meaning, their relationship and potential interactions certify consideration.

Culture can be a predecessor of individual's values, expectations, and needs (Markus & Kitayama, 1991). Culture theorises about world, including what happiness is and how it is achieved (Constantine & Sue, 2006). Further, culture shapes the specific experiences individuals regard as enriching and meaningful (Kitayama & Markus, 2000). The presence of meaning in life is linked to how people view themselves (Baumeister, 1991), and cultural influences on the self might influence the presence of meaning. Cultures are thought to influence self-concepts along an independent (or individualistic) to interdependent (or collectivistic) continuum (Markus & Kitayama, 1991; Triandis, 1989). The search for meaning is an attempt to have meaning in the future, which is highly valued by people who are searching. Further, searching for meaning could credibly be an open and ever-evolving quest such that search for meaning is an important, valued goal

requiring consistent effort. Cultural variations in cognitive style have several implications for the co-occurrence of presence of meaning and search for meaning. Culture influences the way people think about the world around them (Nisbett, Peng, Choi, & Norenzayan, 2001).

According to the dialectical modal of meaning in life as proposed by Steger, Frazier, Oishi and Kaler (2006), dialectical/holistic thinking involves interconnections and minimises categorization. When independent and interdependent cultures are studied, it is evident that meaningfulness of life increases when presence of meaning unfolds to search for meaning. Among dialectically oriented, interdependent samples, presence and search should relate positively. Thus, they would have a more additive relation in the sense that both contribute to well-being, with fewer bases to expect a significant interactive effect.

Risk Taking Behaviour

Individuals and organisations take risk to achieve potential benefits. People ride motorcycles, take part in dangerous sports, drink alcohol and smoke, because they feel the immediate benefits outweigh the potential harm. The probability and the magnitude of potential threats enables society to make decisions on how best to reduce the probability and/or impact of such threats, to transfer the risk by taking out adequate insurance, or indeed to do nothing and be ready to accept the potential consequences.

Risk in simple terms means danger. It is a real life construct of human behaviour and represents a complex connection among a particular set of behaviour

and the outcome that is expected in a particular environment. Risk can be real, perceived or acceptable in the context of decision making. The situation is said to be risky when there exists ambiguity in the situation, uncertainty in the result and the probability of loss is high hence people can say that all risky situations are uncertain but not vice-versa. Risk is the likelihood that validly predictable direct and indirect consequences with potentially adverse values will materialize, arising from particular events, self-behaviour, environmental constraints or the reaction of an opponent or third party.

According to Vertzberger (1998), the decision makers require a certain threshold of confidence before they consider a risk worth worrying about because confidence and risk perception are directly related to each other. When the confidence in high probability high cost outcome estimate increases, the risk perception also increases. Risk taking is any consciously or non-consciously controlled behaviour with a perceived uncertainty about its outcome and/or about its possible benefits or costs for the physical, economic or psychological well-being of oneself or others.

Vlek and Stallen (1980) reviewed a number of studies and listed four main definitions of Risk: Probability of loss, Size of credible loss, Expected loss and as a Linear function of the expected value and the variance of the distribution of consequences.

March and Shapira (1987) tried to throw some light on the managerial perceptions of risk taking. Conclusions drawn from the managers who were interviewed were that they define risk in terms of the outcomes below a certain

reference point or level of aspiration and how potentially bad or negative is the item. The potential to do better than expected and/or highly uncertain events that involve trivial outcomes do not contribute to risk. Managers have an active perception of risk and consider it to be a part of their job and believe in making a decision and then taking the responsibility to bring about the appropriate outcome.

Risk Taking is a behaviour by which the individual exposes oneself to physical and psychological injury and even to death (Amy, Elkind, & Ginsberg, 2007). The standard understanding of risk represents it as having two key elements: action in the face of probabilistically modelled uncertainty concerning outcome (chance) and the idea of loss (negativity) (Rescher, 1983). A decision to risk will necessarily involve comparing the harm to which people are exposed with the benefit for which the risk-taker gambles. In non-risk situations, individuals usually assume that more severe harms done to third parties are worse than less severe harms, as are harms of a longer duration, intensity and scope. Where the harms and benefits are only probable, things are more complex. Similarly, it seems sensible to hold that a person deciding to risk should be more reluctant to risk great, enduring and wide-reaching harm (even if the likelihood of this manifesting is very small) than they would be to risk minor, short-term harm to a small group (Athanassoulis & Ross, 2010).

There exists a generic response pattern for risk taking. It can be active or passive. Risk aversive and risk seeking is categorised under active response. A risk aversive person is very selective and makes efforts to avoid risky choices and situations. The risk seeker on the other hand gets involved in situations which

involve high risk. In case the decision maker has a neutral approach i.e. neither seeks risk nor avoids it then it is a passive approach to risk taking.

It is believed that there needs to exist some motives for the risk taking. If we identify risk taking in terms of motives then it can be of three types: Deliberative/reasoned, Dispositional, Socially driven. Deliberative is when risk taking results from the judgement that a risk is worth taking because the other alternatives are even worse or there has been underestimation of the actual risk. When the risk taking behaviour are driven by personality attributes (Bromiley & Curley, 1992; Plax & Rosenfeld, 1976) or by core values and beliefs that prevail over the situational consideration it is dispositional risk taking. When the social factors like peer pressure or prior commitment to a particular line of action are the source of risk taking, then the person fails to consider other available and better options because he feels that the cost of not carrying out the commitment is much higher than that arising from taking risk. This is socially driven risk taking. Few observations that arise from the motives behind risk taking is that dispositional forces are more powerful when the information is ambiguous. It is said that when one -step decisions have to be taken it is often dispositional but when risk taking is a process and emerges incrementally in iterated fashion then social and judgemental risk taking come into play.

From these observations, it can be inferred that as far as the duty of defence officers in a war situation is considered, it is many a times a one-step decision that too in a highly crucial situation where the security of one's life might also be at threat. Here the dispositional risk taking would come into play in decision making

and henceforth it is very important to extensively study the personality traits of the candidate aspiring to join the defence to somewhat at least theoretically judge his response pattern in a risky situation and thus risk taking becomes a very important trait that a defence officer should possess.

Risk taking is not only a means to achieve a goal but is also a symbolic form of nonverbal communication. It is a credible way to signal seriousness of intention and the depth of commitment (Triska, 1966). Risk taking behaviour assumes knowledge whether correct or not of the risk perception and risk preference of the opponent party and thus this knowledge caters the decision maker to estimate the likely reaction of the adversary.

Organizational Commitment

Organizations in the competitive business market of today desire to have a productive workforce, loyal to their organisations and thus HR practices have become more important and progressive than ever before to achieve this. This situation allows organisations to be competitive and cope with different conditions of employees.

Becker (1960) conceptualized the term 'commitment' in his proposed *side-bet theory* which states that individuals show commitment towards their organization due to some valued investments that they build by staying in an organization. Further, if an employee disregarded the organization, the investments conserved by that employee would be lost. This was one of the prime efforts to forward the meaning of commitment that demonstrates a thoughtful viewpoint for employees' relation with their organization.

Organisational commitment can be defined as an attitude whereby employees and organisation goals are similar. Mowday, Steers, and Porter (1979) defined organizational commitment as the relative strength of an individual's identification with and involvement in a particular organization. Organisational commitment refers as an attitude which reflects feelings such as attachment, identification, and loyalty to the organisation (Morrow, 1993).

Organizational commitment is the individual's psychological attachment to the organization. Meyer and Allen (1997) stated that organisational commitment is a psychological state that characterises the employees' relationship with the organisation and implication for the decision to continue membership in the organisation. Northcraft and Neale (1996), said commitment is an attitude reflecting an employee's loyalty to the organisation and an ongoing process through which members express their concern and commitment for the organisation. Robbins (2005) defines organisational commitment as the degree to which an employee identifies its goals and wishes to maintain membership in the organisation. According to Moorman, Niehoff, and Organ (1993) an organisation with a committed work force may be better positioned than its competitors to meet the challenges posed by a dynamic marketplace. It was identified that organisational commitment has a sense of belonging, and can be related with confidence and acceptance of the objectives and values of the organisation which is supplemented by the employees' willingness and commitment to the organisation.

According to Irvan, Armanu, and Noermijati (2013), the creation of high commitment among employees can lead to a professional work situation. Apart from

that, office environment also affect employees well-being, performance, and organisational commitment (Morrow, Elroy & Scheibe, 2012). It is believed that when employees are highly satisfied towards physical environment they are more likely to produce a better work outcome. Hence, it is important for employees to feel comfortable with their office environment in order to achieve high commitment toward their organisation.

It predicts work variables such as turnover and job performance. In past several years, organizational commitment has emerged as a central concept in the study of work attitudes and behavior (e.g., Mathieu & Zajac, 1990; Meyer & Allen, 1991; Morrow, 1993; Reichers, 1985). Some of the factors such as role stress, empowerment, job insecurity and distribution of leadership have been shown to be connected to a worker's sense of organizational commitment.

Strong organisational commitment causes employees to work harder to achieve the objectives of the organisation (Allen & Meyer, 2004). Porter, Steers, Mowday, and Boulian (1974) laid stress that committed employees are considered loyal and productive. Organisational commitment is important to keep the productivity of employees and their efficiency maintained and growing. Moreover without commitment from employees, the organisation will face physical and physiological withdrawal behaviour that can cause losses in profit and lack of human resources.

Studies have shown that organisational commitment is a multidimensional variable, one such model that explains the multidimensional perspective of it is the three-component model.

Meyer and Allen's (1991) three-component model of commitment was created to argue that commitment has three different components that correspond with different psychological states. Their study was based mainly around previous studies of organizational commitment. Meyer and Allen's research indicated that there are three "mind sets" which can characterize an employee's commitment to the organization: Affective Commitment, Normative Commitment and Continuance Commitment with the goals of the organization and desires to remain a part of the organization. Affective component is defined as the employee's positive emotional attachment to the organization. It is the "desire" component of organizational commitment. An employee who is affectively committed strongly identifies himself with the organization. This employee commits to the organization because he/she "wants to". Continuance Commitment is the "need" component or the gains verses losses of working in an organization. An individual may commit to the organization because he/she perceives a high cost of losing organizational membership and social costs (friendship ties with co-workers) would be costs of losing organizational membership. In normative component, the individual commits to and remains with an organization because of feelings of obligation, the last component of organizational commitment. These feelings may derive from a strain on an individual before and after joining an organization. For example, the organization may have invested resources in training an employee who then feels a 'moral' obligation to put forth effort on the job and stay with the organization to 'repay the debt. The results of empirical studies measuring commitment indicate that affective, or attitudinal commitment constantly correlate more strongly with variables such as turnover and performance.

Research on organizational commitment conducted in separate national cultures has shown that the meaning of commitment and predictors of commitment varies across cultures. Hence, it becomes important to investigate predictors of organizational commitment in the Indian context.

Significance of the Study

The aim of this research was based on the fact that all the research conducted on any aspect of Armed forces is inclusive and totally confined to the defence research organisations. It is not reachable to the general public. The reason may be the National security. In this research the investigator has tried to highlight few psychological variables and their significant contribution to the work engagement an attitude among the defence officers. In India, the youth perceives Indian Army to be only driven by combat roles without up-to-date technology. One of the reasons is that in our country the law does not abide all citizens to undergo compulsory military training as exists in countries like UK, Singapore, Korea etc. Armed forces are totally an alien organisation to the citizens. People believe that to be deployed on the border with ammunitions and fighting wars are the only two functions of our forces. The fact is that the army has over 20 diverse career discipline offering an all-round lifestyle and is constantly modernising itself with the cutting edge technology. One theme in the military literature is the idea of the culture gap (Rukavishnikov & Pugh, 2006). This notion recognizes that the military institution is distinctly a different domain from that of the civil society. Thus it is essential for the research studies to be available to the general public to understand what defence is all about.

The modern professional military officers must be able to take a broader view than the past military leaders, a more comprehensive perspective on the surrounding operational, organizational, social and political domains of experience. There is increasing need of military leaders at all levels to possess essential attributes which are traditionally viewed as mandatory such as broad conceptual capacity, divergent thinking and creative problem solving skills (Mumford & Connelly, 1991).

The study was indended to be conducted in both peace and field formations because previous studies showed that approximately 30% of the military personnel developed psychological symptoms as a result of combat experience (Schlenger, Kulka, Fairbank, Hough, Jordan, Marmar, & Weiss, 1992). Strong relation is present between the amount of combat exposure and severity of mental health problems could be drawn. Thus it was essential to study how the variables being studied vary across the samples from field and peace regions. Moreover studies have shown that exposure to combat in the field regions is a risk factor for elevated symptoms of depression (Lapierre, Schwegler, & La Bauve, 2007), Post traumatic stress disorder, PTSD (Bullman & Kang, 1994), Abuse of alcohol and other substance. The survival at the field formations are very challenging because of the harsh climatic conditions and stressful environment. There are many physical and psychological challenges like the climate, limited resources, separation from family, constant threat of attack from the rival nations, lack of basic amenities etc. thus the officers are not only under physical discomfort but also high level of psychological distress can be witnessed. There might be very few who can overcome these conditions and work

with the same level of work engagement as in the peace formations. Work engagement is very important as far as job performance is concerned because it ascertains that the individual is working with vigour dedication and absorption. There is a lesser probability that they will get psychologically drained and experience stress. Engagement is being identified as a possible protector of burnout and occupational stress (Schaufeli, 2002) Through this study if it can be ascertained how the variables selected contribute to the work engagement of the officers and also if significant difference is found in the extent of work engagement between the field and peace formations, then certain ways can be suggested to help officers cope up with their stress and maintain their work engagement even in extreme conditions. They are the leaders and it is very essential for them to maintain their form so that they can lead the soldiers well.

Since people aspire of a career which is generally based upon the stream of subject they choose after class tenth, which leaves them with minimum options to choose from and attainment of qualification that too the ones which are more popular in society. The issue of career choice has been studied in past at length highlighting various factors affecting it. Each individual undergoing the process of making a career choice is influenced by such factors as the context in which they live, their personal aptitude, educational attainment, father's occupation, intellect and ability (Pascula, 2014). Study on the defence officers which is available to the general public can help bridge the gap between the civil and the defence and help in creating awareness about our defence system.

The Defence Institute of Psychological Research (DIPR) can integrate the knowledge from the study into their intervention and bring modification in the selection system and also include programs to help officers maintain their performance in the field tenure without getting burnout. This in return will bring beneficial career outcomes like satisfaction and career adaptability.

Chapter 2

Review of Literature

Knowledge of previous studies is an important aspect of research. The review of literature is that phase when the investigator understands the gap between the already existing findings and the limitations which have to be bridged by further research and new findings. This helps the investigator to chalk out his work in a systematic and meaningful manner so that his work may not be a mere repetition of previously carried out studies. The scope of future investigations is often found in the previous research. Review helps to avoid duplication and promotes a multidimensional approach to the same problem. The results of the present findings can be compared to that of the previous findings and can be verified whether or not it supports the already existing results. Thus literature review is essential for summarizing, analysing and synthesising studies of certain phenomenon (Chermack & Passmore, 2005).

Work Engagement

Since no previous studies could be found on the work engagement of Indian defence officers, the investigator has reviewed studies which help understand the importance of work engagement as a positive organisational variable which enhances performance and prevents burnout. Review also includes studies to show the robustness of JD-R model and why it fits best into this investigation. Some studies which were carried out on defence officers of different countries like USA, Portugal, Vietnam, Taiwan and Iraq have been reviewed. A large number of studies have been carried out on teacher engagement and some important results have been

incorporated in a different section. Most of the studies reviewed were carried out on the employees working in different sectors across the globe.

JD-R Model of Work Engagement

At the core of the JD-R model (Bakker & Demerouti, 2007; Demerouti, Bakker, Nachreiner, & Schaufeli, 2001) lies the assumption that job characteristics of every occupation can be classified into two general categories—job demands and job resources. This model can be applied to various occupational settings, irrespective of the particular demands and resources involved. Job demands refer to those physical, social or organizational aspects of the job that require sustained physical and/or mental effort and are thus associated with certain physiological and psychological costs. Examples of job demands are work pressure, dealing with demanding clients, or encountering situations that affect the employee emotionally (Demerouti, 2002). Job resources refer to those physical, psychological, social, or organizational aspects of the job that 1) are functional in achieving work goals; 2) reduce job demands and the associated physiological and psychological costs; or 3) stimulate personal growth and development. Examples of job resources are autonomy in scheduling work tasks, feedback from the supervisor, and social support from co-workers .

A second assumption in the JD-R model is that job stress or burnout develops when job demands (e.g., work overload and cognitive demands) are high and when job resources (e.g., autonomy and feedback) are limited (Demerouti et al., 2001). Previous studies have shown that badly designed jobs or high job demands exhaust the mental and physical resources of an employee and therefore lead to

exhaustion and health problems (Bakker, Demerouti, & Schaufeli, 2003). A crucial

hypothesis proposed by the JD-R model is that job resources may buffer the harmful

impact of job demands on wellbeing, including burnout (Bakker, Demerouti, Taris,

Schaufeli, & Schreurs, 2003) and work engagement (Bakker, Hakanen, Demerouti,

& Xanthopoulou, 2007; Hakanen, Bakker, & Demerouti, 2005). This assumption of

the JD-R model is consistent with the demand–control model (DCM) (Karasek,

1979, 1998), but expands this model by claiming that several different job resources

can play the role of buffer for several different job demands. Which job demands

and resources play a role in certain organizations depends upon the specific job

characteristics that prevail. Thus, whereas the DCM states that control over the

execution of tasks (autonomy) may buffer the impact of work overload on job strain,

the JD-R model expands this view by stating that various types of job demands and

job resources may interact in predicting strain. This proposition is consistent with

Diener and Fujita's (1995) findings that there are many potential resources that can

facilitate the achievement of a specific goal or demand, stating that different goals or

demands are likely to be influenced by several resources.

Empirical studies have provided ample support for the buffer hypothesis of

the JD-R model (Bakker & Demerouti, 2008). Bakker, Demerouti, and Euwema

(2005) found in a study among teachers that autonomy, social support, having a

good relationship with one's supervisor, and feedback all diminished the harmful

effects of job demands (i.e., work overload and emotional demands) on burnout.

Similarly, Xanthopoulou (2007) reported that the positive relationship between job

demands and burnout was less severe when employees had access to social support,

feedback, opportunities for development and job control. The same results have been found for work engagement. The negative relationship between job demands and work engagement was less prominent, or even absent, when employees had supervisor support, rewarding contacts with clients or colleagues, opportunities to innovate, and variability in tasks (Bakker, Hakanen, Demerouti, & Xanthopoulou 2007; Hakanen, Bakker, & Demerouti, 2005).

On applying the whole idea of the JD-R model on the defence context, it can be said that physical and mental demands to safeguard our nation from foreign invasion and threats, difficult living conditions in the field areas and glaciers, separation from families during field exercise or posting to border areas, responsibility of keeping the morale of self and the troops up during war situation can all be counted in the job demands of an officer which certainly has the potential to wear them down and bring about burnout and affect their performance by bringing deterioration in the work ability as well as mental health. But job resources like attractive incentives in the form of pay, dignified position in the society, satisfaction of serving the mother land, socializing opportunities with seniors and subordinates and lot of benefits to the family members like free medical facilities, recreation facilities, free accommodation etc. can be counted among some of the job resources which can act as a buffer and reduce the ill effects of the high job demands by preventing burnout and enhancing the performance. Thus the JD-R model is the most suitable model to the present study.

Work Engagement as an Important Organisational Positive Variable

The research in positive psychology laid much focus on the personal strengths, the use of which has been that it would lead to energising experiences and elevated sustainable well-being (Peterson & Seligman, 2004).

According to Fredrickson's Broaden and Build Theory of positive emotions (2001), the positive association between positive emotions and engagement can be explained on the basis of how the experience of positive emotions could motivate individuals to accomplish their work and promote social support among co-workers. Employees who experience greater frequencies of positive emotions exhibit higher levels of resilience and fewer symptoms of burnout (Gloria, Faulk, & Steinhardt, 2013).

Personal resource which are the positive self-evaluations and they are the positive self-evaluations which are linked to resilience and refer to individuals sense of their ability to successfully, control and have an impact on their environment (Hoobfoll, Johnson, Ennis, & Jackson, 2003). Positive self-evaluations predict goal setting, motivation, performance and life satisfaction (Judge, Van Vianen, & De Pater, 2004).

Employees who have personal resources like self-efficacy, self-esteem, resilience, have confidence in their capabilities and are optimistic about their future, which allows them to be more engaged in their jobs (Xanthopoulou, Bakker, Demerouti, & Schaufeli, 2007). Engagement in organisation makes it possible to increase positive organisational behaviours, guides towards the prosecution of human resource management policies (Schaufeli & Salanova, 2007).

Work Engagement contributes to organisational success as it is related to the positive outcomes at work such as organisational commitment, high performance quality, productivity, low absenteeism, satisfaction and loyalty, lack of desire to change profession and safety (Bakker, Hakanen, Demerouti, & Xantholoulov, 2007).

The relationship between work engagement and career can be explained by the JD-R model (Bakker & Demerouti, 2008). The model has two major components: job resources and personal resources, both of which are considered antecedents of engagement.

Importance of work engagement in organisational studies can be attributed to the fact that enthusiastic employees often experience more positive affections and emotions such as happiness, enjoyment, ecstasy and rejoice, have better physical and mental health and can transfer their work engagement to others (Bakker & Schaufeli, 2008).

Job and personal resources are of paramount importance in predicting work engagement. Job resources decrease the intensity of the pressure of job demand and are effective in achieving work goals and lead to great development, learning and motivational potential to face job demands (Luthansetal, 2008).

Work Engagement is not the same as work holism. The workaholics are compulsive workers and are reluctant to disengage from work. They are obsessed with their work (Schaufeli, Taris, & Bakker, 2006; Scott, Moore, & Miceli, 1997). Engaged employees work with vigor, dedication and absorption. They work hard because they like it and not because they are driven by a strong inner urge that cannot be resisted.

Previous studies show that work engagement can be discriminated from Type A behaviour (Hallbrg, Johansson, & Schaufeli, 2007), and from job involvement and organisational commitment (Hallberg & Schaufeli, 2006). In addition to this Halbesleben and Wheeler (2008) reported that work engagement can be distinguished from job embeddedness.

Positive emotions are correlated with engagement (Bakker & Demerouti, 2008) and play the role of a mediating construct between resources and engagement (Schaufeli, Bakker, & van Rhenen, 2009a). Work engaement plays a critical role in enhancing individual productivity and organisational success (Freeney & Tiernan 2006; Simpson, 2009).

By preserving the resources mentioned in the JD-R model, employees do not fall prey to burnout, instead remain motivated and are able to adjust to complicated career paths (Akkermans, Schaufeli, Brenninkmeijer, & Blonk, 2013). The increment of work engagement has a negative effect on their turnover intention and decrease in the degree of preventive behaviours, job absence and job delays. A study on the home care nurse showed that personal resources like self -efficacy and optimism have a positive relationship with work engagement (Bakker & Isabel, 2013).

By maintaining the resources mentioned in the JD-R model, employees do not experience burnout and remain motivated and are able to adjust to the complicated career paths (Akkermans, Schaufeli, Breminkmeijer, & Blonk, 2013).

An investigation on professional service firms (PSF) showed that the organisational commitment can be predicted by vigor and dedication; team

commitment by absorption and vigor and absorption predict client commitment. The absorption dimension of engagement which is a flow like sate will impact upon profession, team and client commitment to the organisation, the client and the team. The dedication dimension enables the firm to balance professional and organisational commitment. Thus the PSFs need to balance the absorption with vigor and dedication to generate commitment in a cross boundary context (Yalabik, Rossenberg, Kinnie, & Swart, 2014).

Investigation on full time employees via market research helped to establish that personal role engagement was more powerful predictor of work role behaviour than work engagement and was a stronger mediator of the relationship between training perceptions and work role behaviour (Fletcher, 2016).

Work meaningfulness is the strongest determinant of work engagement (May, Gilson, & Harter, 2004). A study conducted on the post docs employees at a large research institution in Texas, United States, showed that positive emotions completely mediated the path between supervisor support and work engagement, suggesting that the influence of supervisor support towards work engagement depended on how supervisor support affects positive emotions (Gloria & Steinhardt, 2016).

Airila, Hanken, Schaufeli, Lewkkonen, Punakkallio, and Lusa (2014) carried a study on fire fighters by using a 10 year long longitudinal design showing that work engagement fully mediated the relationship between job resources and self esteem on work ability 10 years later. Work engagement and work ability were positively associated and work ability and can be considered as an important health

related resource as it predicts work engagement 10 years later. Job resource and personal resources lead to improved work ability. Job resource have motivational potential as they are related to future work engagement and consequently to work ability. Self-esteem was identified as a personal resource that plays an important role in shaping work engagement and via work engagement, works ability in long run. This result is in support of the Self enhancement theory (Jones, 1973) that highlights self esteem as a personal resource in promoting well being and also conservation of resource (COR) (Hofball, 1989, 2001), which states that increasing resource tends to generate new resource (work engagement & work ability and enhances health).

A study among 871 Belgian employees categorised into 3 groups as stayers, promotion makers and external job movers in 16 months lag. It was found that low departmental resources, low job autonomy and low work engagement were predictors of turnover (Lang, Witte, & Notelaers, 2008).

Demerouti, Gordan, Bipp, and Blanc (2015) carried out a study among nurses in Netherlands and found that job demands, work pressure and predictability have the influence on the analytical decision making and this promotes task performance. Job resource has no effect on decision making. Work engagement has positive effect on analytical decision making and moderated the relationship between intuitive decision making and performance. Those nurses who were high on work engagement had showed strong association than that of their counterparts having low work engagement.

Fernet, Austin, and Vallerand (2012) carried out a study on school principals of French-Canadian origin in Canada analysed through structural equation model

and found that job resources influence work motivation and motivation influences both emotional exhaustion and occupational commitment.

A study was conducted in Austria among 964 employees from 8 different companies to test the robustness of the job-demand-resource model as proposed by Schaufeli and Bakker (2004) in white and blue collar workers. As such multi group analysis was carried out and JD-R model proved to be age and gender invariant. However the basic structure of the underlying process remained same and thus robustness was verified. The two main assumptions of the JD-R namely the differentiation between two underlying process linking job resources with turnover intention via engagement showed stronger path coefficients than the health impairment process in which burnout played the mediating role.

Arya and Manikandan (2013) studied employees of two Indian factories located in Rajasthan and Kerala, with an objective to know the interaction effect of meaning in life and organisational commitment on the work engagement revealed a significant interaction effect between experience and organisational commitment on the absorption dimension of work engagement. A significant correlation among presence of meaning, organisational commitment and the three components of work engagement i.e. vigor, dedication and absorption was also reported.

Arya, Sarath, and Manikandan (2014) carried out an investigation on 165 post graduate students of an Indian University to understand the coexistence of the elements of work engagement and burnout and to study their relationship. Results revealed that vigor, dedication and absorption were negatively correlated to exhaustion and cynicism and positively correlated to inefficacy. Analysing these

correlations in males and females showed that among males, vigor was negatively related to cynicism and positively to inefficacy and vigor has no relationship with exhaustion. Similar relation was found with absorption dimension. Dedication also has negative correlation with exhaustion and cynicism.

Work Engagement of Military Officers across Nations

Queiros, Teixeira, and Marques (2012) conducted a study on 61 male Portuguese military officers and found that burnout is negatively correlated with engagement and vigor negatively predicts exhaustion and cynicism and positively predicts personal accomplishment. Thus work engagement is a protector especially of vigor and lets professionals be dedicated and absorbed in their work.

A study among 149 trainees attending the training for petty officers in the Navy of both genders revealed that the younger trainees have higher level of dedication, vigor and absorption, they are more appreciative of new training and self development opportunities (Taylor, 2005).

The off base trainees have higher behavioural engagement level as they benefit from greater stress release, psychological rest and energy recovery, which may favour a greater engagement with training and institution. The on baser trainees have higher affective engagement associated with affective connection with sheltering institution as well as the fact that they have fewer distracting stimuli which promotes greater engagement from these trainees, particularly affective engagement (Frade & Veiga, 2016).

Vogelgesang, Leroy, and Aolio (2013) conducted a study among the cadets from the United States Military academy found that transparency in the leader's communication and relationship with followers' engagement was fully mediated through behavioural integrity. When a leader communicates behavioural integrity transparently there will be a positive relationship with follower work engagement and performance combat service is associated with adverse psychological consequences and the mechanism is driven by potentially psycho traumatic incidences experienced during combat zone missions. Frequent enemy fire fight, wounding or injury and observing the death or a wounding of coalitionally or non combatant is associated with an increase in the risk of suicidal thoughts and post traumatic stress disorders (Cesur, Joseph, & Tekin, 2013).

Negative Psychological Effects of Combat Exposure and Training

Previous studies showed that approximately 30% of the military personnels developed psychological symptoms as a result of combat experience (Schlengeretal, 1992). There appears to be a strong relation between the amount of combat exposure and severity of mental health problems (Dohrenwendetal, 2006).

Some of the most important predictors for the development of problems and psychopathology following combat exposure include previous trauma history at younger age (King, King, Foy, & Gudanowski, 1996) and pre-combat history of psychiatric illness (Brewin, Andrews, & Valentine, 2000).

Studies have shown that exposure to combat is a risk factor for elevated symptoms of depression (Lapierre, Schwegler, & La Bauve, 2007), Post Traumatic Stress disorder (PTSD) (Bullman & Kang, 1994; Hogeetal, 2004, 2007).

Since combat exposure can bring about so many deteriorations to mental health if not skilfully dealt because of the highly stressful environment, investigator felt it necessary to include officers who are posted in field as well as peace so that it could be gauged how their work engagement varies according to their place of posting.

Work Engagement among teachers

Hanken, Bakker, and Schaufeli (2006) studied burnout and work engagement among teachers in reference to the JD-R model among 2038 teachers in Finland and concluded that work engagement mediates the relationship between job resources and organisational commitment. Job resource and burnout are negatively related just like burnout and organisational commitment, Job demand and job resource are negatively related whereas burnout mediates the relation between job resource and engagement. Engagement at work and performance based organisational outcomes are related (Schaufeli & Bakker, 2004).

An investigation among 54 Dutch teachers confirmed that a resourceful work environment enhances employees feeling of confidence that through the resources the goal can be accomplished and it will indirectly influence performance (Bakker & Matthijs, 2010)

Teachers are engaged due to the role model function derived from the society and religion according to which they have to be responsible and should represent good societal values (Basikin, 2007). Male middle school teachers score high on the vigor and absorption. Unmarried teachers are more job engaged and the maximum engagement is during 0-6 years of their career (Kung, 2009).

A study was conducted on special educators in Africa and work engagement was found to be the transactional variable which strikes a balance between the low job resources like pay and incentives and work stress (William, 2010). Hence it is related to positive organisational outcomes like low turnover and high job satisfaction (Barkhuizen & Rothmann, 2006; Rothmann & Jordaan, 2006).

As a result of low job satisfaction due to low incentives and very limited growth opportunities, the teachers working on contract basis have low engagement towards their work. In newly qualified teachers, work engagement and teacher efficacy influences on job satisfaction, burnout and the intention to quit (Lassibille, 2012).

Work engagement and resilience of 75 Indian school teachers from both government and private schools were investigated and found that the sample under study possess sufficient amount of resilience and are working with vigor, dedication and absorption. Private school teachers have more vigor and absorption in their work. Resilience emerged as an important personal characteristic of school teachers which would enhance their work engagement and help them develop the same in students. (Arya & Manikandan, 2014).

The JD-R model is considered as the backbone of work engagement and it ascertains that though every job has demands, the resources like task variability, supervisor support, performance feedback and opportunity to explore and innovate can act as a buffer to neutralize or at least to an extent control the strain caused by the demands. It can thus play a role in preventing burnout and performance deterioration. Work Engagement is an important positive organisational variable as the employees who work with vigor, dedication and absorption are very enthusiastic and experience more positive emotions. Thus it leads to better mental health which creates a positive aura at work place that can also be transferred to the fellow employees. Study on teacher engagement also highlighted the fact that work engagement is a positive organisational variable which enhances performance.

Meaning in Life

Theorists and researchers agree that having a meaningful life is critical for human beings (Deci & Ryan, 2000; Ryff & Singer, 1998). With the emergence of positive psychology, the construct of meaning in life (MIL) has received renewed attention and has been the subject of scientific inquiries (Park, Park, & Peterson, 2010; Steger, Frazier, Oishi, & Kaler, 2006). Decades of research have provided empirical evidence that MIL plays an important role in human positive functioning. For example, it is positively associated with psychological and subjective well - being, and quality of life (Ho, Cheung, & Cheung, 2010), self-esteem (Schlegel, Hicks, King, & Arndt, 2011), hope (Mascaro & Rosen, 2005), self-efficacy (DeWitz, Woolsey, & Walsh, 2009) etc. As far as defence officers are considered well-being is inevitable because they are expected to perform even in extremely

unfavourable conditions, thus meaning in life becomes an important variable to be investigated in the chosen sample.

A study was carried out in the public university in the south east region of the United States in which 334 college students were recruited. It was concluded that maladaptive perfectionism makes it hard to have a sense of meaning and satisfaction in one's life because one can hardly be satisfied with one's performances (Frost, Marten, Lahart, & Rosenbdate, 1990). They would keep searching for meaning due to the desire to attain perfectionism. This continuous search can lead to frustration and difficulty and lead to depressive symptoms (Park & Jeong, 2016).

An investigation among 593 junior secondary students from 8 secondary schools in different district of Hong Kong, showed that there exists a positive relationship of meaning in life and career adaptability. Presence of meaning was recognized as the predictor of male student's career concern, control, curiosity and confidence (Yuen & Yan, 2015).

Heisel and Flett (2015) studied 173 community residing older adults from health, wellness and interest programs and revealed that meaning in life was negatively associated with the onset and/or acceleration of suicide ideation over time, controlling for risk factors and intervening triggering factors. Thus it can be concluded that meaning in life may play an important role in promoting mental health and well-being and potentially conferring resiliency to observations of suicide in later life.

Health care professional working in the pallative care unit experience lesser meaning in life than those working in maternity wards. In the group which works with new-borns, the importance they give to family life was indicator of more meaning (Fegg, L'hoste, Brandstatter, & Borasio, 2014).

Meaning in life of 19 Thai adolescents who had HIV AIDS was studied by Lee, Cohen, Edgar, Laziner and Gagnon (2004). It was evident that though HIV was a life-altering situation, the adolescents were able to find meaning and purpose in life, overcome life crises and live with HIV. Persons who were able to search for meaning achieved enhanced self- esteem, greater life satisfaction and less distress. Receiving love and support enhanced meaning and purpose in life. Significant negative correlation was found between depression and meaning in life. Adult hope and meaning in life are positively and significantly related. The study was carried out on students (Hedayati & Khazaei, 2014)

Problem focused coping and self-acceptance of school students were investigated and found that both have positive correlation with meaning in life. It was also seen that problem-focused coping has a mediating effect in the relationship between meaning in life and school adjustment (Cho, Lee, & Jeong, 2014).

In a study among 670 undergraduate students Kleiman and Beaver, (2013) reported that presence of meaning in life was associated with decreased suicidal relation over time and decreased life time odds of a suicide attempt. The search for meaning had no effect on the lifetime odds or suicide attempts. Thus presence of meaning can be ascertained as a suicidal resiliency factor

A study among 252 elderly women living in old age homes, at Seoul revealed that meaning in life acts as a mediator between optimism and subjective well-being. Elders who hold more optimistic attitudes about their future are more likely to find and perceive meaning in life, which in turn contributes to better subjective well-being (Ju, Shin, Kim, Hyun, & Park, 2013).

Dagon, Sapmaz, Tel, and Temizel (2012) conducted a study among 232 university students at a university in Turkey, to find out how meaning in life acts as a predictor of subjective well-being. It was verified that presence of meaning is a positive predictor of subjective well-being whereas search for meaning is a negative predictor of the same. Together presence and search contributed to 34% variance in subjective well-being.

An investigation among 275 adult volunteers revealed that meaning in life partially mediates the association between eudaimonic dimensions of individual conceptions of well-being and self-reported well-being. Thus it can be said that meaning in life is an important source through which eudaimonic conceptions of well-being are associated with positive psychological functioning (McMahan & Renken, 2011).

Steger, Martos, and Thege (2010) analysed the meaning in life of 330 Hungarian speaking adult and revealed that search for meaning is positively related to neuroticism and anxiety on the one hand and to greater curiosity and less dogmatism on the other hand. The search for meaning may indicate both struggle and growth in religious contexts. Presence of life was related to inclusion of transcendence.

On examining 1807 adolescents in Hong Kong it was found that meaning in life is positively related to multi -dimensional satisfaction and negatively to psycho social problems. Meaning enhances positive feelings in a person. Facilitation of positive mood occurs through meaning partially be responsible to bring about well-being (Ho, Cheung, & Cheung, 2010).

Steger, Mann, Michels, and Cooper (2009 examined the links between anxiety, depression, meaning in life and perceived health among smoking cessation patients. It was found that people who show greater anxiety and depression and lower presence of meaning have worst health. Search for meaning had no linear correlation with perceived health. The interaction of presence and search for meaning was significant predictor of health.

The relationship between meaning in late life and exposure to trauma was assessed and it was found that exposure to trauma at any point in the life course is associated with a diminished sense of meaning in life. It was also ascertained that only those traumatic events which occur between the age of 18-30 years were associated with meaning. More support from family and friends was found to have greater sense of meaning in life (Krause, 2005).

The deficit-based-perspective of the search for meaning was verified by studying 3020 subjects of age group 18-91. A positive correlation was found between the search for meaning and crisis of meaning. It was also found that presence for meaning moderated the association between the categories of meaning and subjective happiness. The meaningfulness and existential conflict group present

some level of happiness when they had low search for meaning (Damario & Koller, 2015).

Steger and Kashdan (2013) conducted a study among 103 under-graduate students of European, American, Asian American and Asian origins to know the relation between meaning in life and well being. The study revealed that unstable meaning in life was related to less well-being and more distress. People with greater instability of daily meaning reported lower daily levels of meaning in life, lower global levels of life satisfaction, positive affect, social connectedness and relationship satisfaction, along with higher global levels of negative affect and depression. Instability in meaning brought variance in the score of meaning in life.

A theoretical framework has been developed which stresses on three main ways of analysing meaning in life. The coherence, purpose, and significance of meaning. Coherence is the cognitive component which relates to a person's sense of life making. Purpose means a sense of core goals, aims and direction in life. Significance is a sense of life and inherent values and having a life worth living, (Martela & Steger, 2016).

Hicks and King (2009) conducted a study among 150 undergraduates meaning in life with need satisfaction and positive affect and it was found that relatedness need satisfaction and positive affect are both related to Meaning in life. Positive affect and social relatedness are independent predictors of meaning in life. Individuals with strong social bonds judged their meaning in life to be high regardless of mood induction condition. Meaning in life judgements depends on what is in the foreground of mental life. But people who are low on social

connectedness can experience higher level of meaning in life by consulting their positive- mood.

Tonguren, Green, Davis, and Hulsey (2016) reported that altruistically motivated prosociality enhances meaning in life. It was found that those individuals who are reported to act prosocially find their life is meaningful. It was also found that when the meaning life is at threat, the individuals strategically turn to viewing themselves as prosocial in order to gain meaning and restore psychological equanimity. Relationship satisfaction has operated as a mediator between pro sociality and meaning in life.

Allan, Duffy, and Douglas (2015) tested the linear and non- linear relations between age, the presence and search for meaning in life and to examine if work meaning moderates the relation between age and the presence and search for meaning in life. Negative linear- relation was found between search for meaning in life and age whereas no relation could be seen between presence and age. Work meaning was identified as a moderator between meaning and age and thus becomes important in promoting overall meaning.

Meaning in life is considered as an important correlate of mental health and well-being. Significant relation was established between sense of meaning in life, positive work orientations, career commitment and work motivation. Commitment and motivation can also be expressions of a sense of meaning in one's life (Bostioff & Vanwyk, 2010).

Meaning in life of Indian Army officers was studied by Arya and Manikandan (2016) and reported that the presence of meaning was absolutely independent of the hierarchy and the place of posting whereas the search for meaning and total meaning in life was significantly influenced by the place of posting. Birth order and alcohol consumption significantly influence search and total meaning but marital status has no effect.

It can be concluded that meaning in life is very important for positive human functioning. Empirical evidence has been found which supports that meaning in life enhances career adaptability, self -esteem, life satisfaction, subjective well-being and helps reduce depression, anxiety and suicidal ideation. Lately a large number of suicide cases were reported from the army camps and on the basis of the review it can be concluded that meaning in life is associated with decreased suicidal relation over time and decreased life time odds of a suicide attempt.

Organisational Commitment

Organizational commitment is the continuous and ongoing relationship that the employees maintain with the organization to continue working in the organization, to spend effort to prevent damaging the aims and goals of the organization and to reach those aims and goals (Mowday, Steers, & Porter, 1979). Organizational commitment covers three types: emotional commitment is defined as "the positive emotional connection of the employees towards the organization"; continuity commitment as "the profit-loss analysis of staying or going", and the rule commitment as "feeling of responsibility to stay in the organization because of moral reasons" (Meyer & Allen, 1997). Meyer and Allen (1997) ascertained that

commitment as a psychological state and has a minimum of three distinct components they are: 1) A Desire (Affective Commitment), 2) A Need (Continuance Commitment), and 3) An obligation (Normative Commitment).

Certain variables like employee age, organizational tenure and positional tenure are all used to define the stages in career. It was found that with increase in employee's age, there is significant increase in affective and normative commitment. The continuance component is more significantly related to the growing organizational and positional tenure (Meyer & Allen, 1992).

The construct validity of the three components of the organisational commitment was determined as suggested by Meyer and Allen (2006). It was found that there exists considerable evidence regarding the construct validity of the three scales. They are appropriate measures of organizational commitment based on the emotional attachment, perceived costs and feelings of obligation, respectively.

A study was carried out among 250 administrative employees in two selected manufacturing organisations in Malaysia. The results showed that there is a significant, strong and positive relationship between office environment and organisational commitment. If the organisation provides a good and pleasant office environment for their employees, they will be more committed to the organisation (Amdan, Rahman, Shahid, Abu Baka, Khir, & Demong, 2016).

Bristo (2015) examined the contribution of organisational commitment and professional commitment to the explanation of organisational citizenship among 410 nurses from Portugal, and found that organisational commitment and professional

commitment contribute to the explanation of organisational citizenship behaviour among nurses.

Limpanitgul and Boonchoo (2014) conducted a study on the Cabin crew of Thai Nationality who were working in Thai and American airlines was carried out and found that social support has an impact on all types of organisational commitment and thus relationship is important, irrespective of the direction of the relationship. The relation between organisational commitment and social support is mediated by organisational culture,.

Bharami (2016) examined the organizational commitment of employees of an educational hospital in Iran. The participants showed moderate level of organisational commitment and rated their job as a one with low motivating potential. Motivating potential score had positive correlation with organisational commitment and thus it was verified that if any improvements are made in job characteristics, it will lead to a rise in the level of organisation commitment.

Kin, Song and Lee (2016) examined the effect of corporate social responsibility and its four aspects namely economic, legal, ethical and Philanthropic responsibility and give aspects of internal marketing namely welfare system, training, compensation, communication and management support on the organisational commitment and the turnover intention. Results indicated that the employees perception of corporate social responsibility and internal marketing are positively related to their organisational commitment and negatively related to the turnover intention.

Nurses working in Iran were considered to ascertain the relationship between organizational commitment of nurses and the organizational climate in hospital settings. It was found that improving the organization climate is a good way for improving organizational commitment because there exists positive significant correlation between the two variables. Direct relation exists between avoidance of organizational climate and affective commitment of nurses. In the same way positive significant relationship was found between focus on production and continuance component and focus on production and normative commitment (Bahrami, Barati, Ghoroghchian, Alfraj, & Ezzataliadi, 2016).

A study on the prison staff shed light on the importance of social support on organisational commitment more than personal characteristics. Feeling supported by the supervisions and peers can make employees to reciprocate by liking their job and building loyalty and solidarity with the organization (Lambert, Minir, Wells, & Hogan, 2016).

Nurses working in different departments in hospitals at Turkey were investigated to find the mediating role of job satisfaction between emotional intelligence and organisational commitment and it was seen that Emotional Intelligence has been positively and significantly been associated with job satisfaction and emotional intelligence. Oransiational commitment was also positively correlated to job satisfaction. Use of Emotion (UCE) and Regulation of Emotion (ROE) were the two dimensions of Emotional Intelligence which was mediated by Job Satisfaction whereas Self-emotional appraisal and use of Emotion

dimensions had direct effects on organisatinal commitment (Guleryuz, Guney, Aydir, & Asan, 2008).

Srivastav ad Suman (2012) investigated the impact of various personal and organisatinal characteristics on organisational commitment of the employees who are at different hierarchical levels. The working level of executives, supervisors, blue collar workers from republic sector unit was assessed. Internal locus of control was found to have significant positive impact on the organsiational commitment of the executives. For the employees working at lower level that is workers only locus of control was found to have significant impact and for supervisors, the organisational structure and the length of service was found to have posiitive impact of organisational commitment.

An extensive review of literature was carried out by Mercurio (2015) to identify the core essence of organistional commitment and was found that the affective commitment is more predictive of the major organizational consequences such as turnover, absenteeism and organisational citizenship behaviours than the theorized behavioural constructs of organizational commitment.

Mitunga and Cilliers (2016) studied the way the employees perceive leadership from the aspects of integrity, fairness and honesty explain their affective, continuance and normative aspects of organisational commitment and organisational citizenship behaviour. The study reported that If employees perceive high ethical leadership, it in turn would influence their willingness to engage in positive organisational commitment such as psychological attachment, work continuance, normative commitment and also organisational citizenship behaviour such as

altruism, conscientiousness, courtesy and civic virtue. Thus it can be said that highly ethical leaders can stimulate the commitment of employees towards achieving the values goals and missions of the organisation.

A longitudinal study was carried out among MBA students of US business school by Wang and Reilly (2010). Previous studies had identified value and personality as the two primary dispositional sources of commitment and satisfaction. This study revealed that the dispositional sources predict organizational commitment after 4 years in a selected group of MBA graduates. The dispositional sources of individuals are powerful to have a relatively long-term impact on the relationship between individual and organisation,

A study was conducted among 640 Indian Managers and found that organizational commitment can be enhanced by providing positive organizational climate incorporating psychological empowerment and an emphasis on the learning capability through strategic HR roles (Bhatnagar, 2007).

The structural relationships among transformational leadership practices, organizational commitment and employee effectiveness was carried out and results showed that transformational leadership in regard with idealization influence and inspiration motivation components, directly enhance employees extra-role behaviours and indirectly enhance employees desire to stay in the organisation through internalization, identification and exchange organization commitments (Srithonrung, 2011).

A study was conducted on the employee sample from US and Japan to examine the interdependence between perceived person-supervisor (P-S) fit and person-organization (P-O) fit and its association with the affective component of organizational commitment. P-S fit was found to be more strongly evident in Japan because due to the high power distance the employees are forced to maintain good relation with their superiors. In US the employees consider the supervisors as a means to establish better organisational fit. In both countries the P-O fit directly and positively gives way to affective organizational commitment through collectivistic values. P-S fit only has indirect relation to Affective Organizational commitment in Us and both direct and indirect relation in Japan (Astakhova, 2016).

An extensive review of organizational commitment (OC) and organizational citizenship behaviour showed that employees who are emotionally attached to their organisations show more citizenship behaviour (Meyer, Stanley, Herscowitch & Topolmytsky, 2001). Thus a study was carried out in Malaysia in the same context and found that Job satisfaction, organizational commitment and organizational citizenship behaviour are significantly and positively correlated. This result was in line with a previous study which showed that affective organizational commitment caters to citizenship behaviour (Meyer & Allen, 1997).

A case study was conducted in the construction organization of a developing country to find the relationship between teamwork, organizational commitment and job satisfaction. It was found out that the empowerment of the employees to be motivated at work has its roots in high organizational commitment and job satisfaction. It was evident from the result that team work, affective - component

and normative component contribute positively to job satisfaction whereas continuance component of organizational commitment is negatively associated with job satisfaction (Dhurup, Suriylal, & Kaliongo, 2016).

The states that institutional trust is cultivated by interpersonal trust and this increases the organizational commitment. Thus the study gave way to 2 important findings (a) there exists a sequential order between different types of trust in the organization and (b) Interpersonal trust can promote organizational commitment only if it will facilitate institutional trust , Back, & Jung, 2015.

Yozgat and Gungormez (2015) tried to identify the impact of proactive socialization tactics and social integration on organizational commitment and analyzed the social integration has mediating role between proactive socialization tactics and Organizational Commitment relationship among the newcomer employees working in different sectors in Istanbul. It was found that proactive socialization tactics applied by newcomer and social integration have a positive impact on organizational commitment and social integration has a mediating role between proactive socialization tactics and Organizational Commitment.

To analyze a moderating model in which contextual factors interact with variables at the individual level to predict the voice behaviour among 618 project managers and 154 project portfolio coordinators nested in 154 firms was conducted by Ekrot, Rank, and Gemunden (2015). Results showed that for the project managers with a high level of Organization-Based Self-Esteem factors such as idea encouragement, career perspectives, qualification opportunities and peer collaboration relates more positively to voice behaviour. For those project managers

high in affective organziational commitment, there exists strong positive relationships of peer collaboration and idea engagement with the voice behaviour.

An investigation was carried out among 304 banking employees to evaluate the effects of HR practices in the banking industry and on the whole. It was found that organizational commitment is both singly and systematically dependent on the HR practices. Some HR practices like choice, training, performance evaluation, promotion, performance based rewards information sharing and job security show that the organizations are willing to invest in human resource and thus are providing the opportunity to employees to further develop their skills, so as to cater to their feeling of success and independence thus giving like to the employee's commitment to organization (Pasaoglo, 2015).

Gary and Dhar (2014) conducted a study based on the data collected from employees and customers of small mid- sized hotels operating in India and reported that those workers who were highly stressed due to job stressors like role ambiguity, role conflict, autonomy etc., have low level of commitment towards the organisation. Poor Leader- Member Exchange in the hospitality industry was also one of the causal factors of decreasing organizational commitment. Study also revealed that organizational commitment plays a mediating role between the job stress, leader-member exchange, and perceived organizational support.

To know the association of leadership and organizational commitment, Araujode and Lopez (2014) conducted a study among 351 Portugese subordinated workers and found that more virtuous leadership predicts a higher organizational commitment mainly in their affective and normative aspects. Higher organizational

commitment except the continuance/ instrumental component was a predictor of better performance.

The individual's perception of the virtuousness of the organization influences the affective commitment, 1337 nurses in Serlia were studied and used exploratory factor analysis (EFA), predicted three components of organizational commitment namely affective, disloyal and continuance. Stressors, Professional, Identification and role conflict and ambiguity factors were identified as important predictors of organizational commitment (Vellickovic, Visnjic, Jovic, Radulovic, Sargic, Mihajlovic, & Mladenovic, 2014).

The academics of public and private universities in Malaysia were tested for organizational climate and employees work passion and organizational commitment. It was identified that higher the level of satisfaction with the organizational climate, the higher is the employee's work passion. There exists a positive relation between an employee's work passion and organizational commitment. The employee's work passion significantly intervenes the relation between organizational climate and organizational commitment (Permarupan, Saufi, Kasim, & Balakrishnan, 2013).

Organizational commitment in relation certain organizational variables were studied and found that organizational commitment have no significant effect on turnover intentions whereas job satisfaction in terms of pay and supervisory support emerged as important predictors (Tnay, Othman, Siong, & Lim, 2013).

Islam, Khan, Ahmad, Ali, and Bowa (2013) investigated the influence of perceived organization support on organizational commitment and turnover

intentions of Malaysian Banking employees. Perceived organizational support was found to influence affective and normative commitment positively and turnover intentions negatively. The structural equation model revealed that affective commitment acts as a mediator between perceived organisational support and turnover intentions.

Acar (2012) conducted a survey among logistical industry employees in Turkey through questionnaire to establish the relation between leadership and organizational commitment. It was found that inspirational motivation and individualized consideration have positive effect on affective commitment. Contingent reward has positive effect on normative and continuance commitment. When employees feel a fair climate in regard of roles, performance criteria, reward, their Normative Commitment was higher.

Organisational commitment is the psychological attachment of an employee to his work. Job characteristics like pleasant office environment and motivating potential enhance organisational commitment. It is also based on the hierarchy at which they are working. Different factors influence at different levels. Improvement in organisational climate especially by providing psychological empowerment and emphasising on learning capability improves commitment. Extensive review has established affective component as the core of organisational commitment and it is more predictive of organisational consequences like turnover intention. Social support at work place and interpersonal trust along with HR practices that cater to the success and independence of employees promote organisational commitment. Highly ethical and virtuous leaders and transformational leaders stimulate

commitment in subordinate through motivation. Job attitude like job satisfaction is positively correlated to the affective and normative component.

Risk taking Behaviour

Risk-Taking is a behavior by which the individual exposes oneself to physical and psychological injury and even to death (Amy, Elkind & Ginsberg, 2006). According to Tolman Risk Taking is a purposive behaviour that is enacted with the goal of achieving a particular outcome. Individuals are intrinsically motivated to retain a state of equilibrium. When disequilibrium occurs, the result is an internal metabolic condition which produces physiological sensations that drive the individual to seek quiescence (Tolman, 1926, 1932). One result of disequilibrium is that individuals are willing to endure harm if the associated action will result in a return to equilibrium (Tolman, 1932, 1941).

Gross and John (2003) two factor model of emotion regulation theory distinguishes between antecedent focused strategies versus response focused strategies. Antecedent focused strategy is based on cognitive reappraisal which represents one's ability to reframe a situation in order to change its emotional impact (Gross, 2002). For instance before making a risky decision, decision makers can change the way they view potential outcomes of their choice in order to minimize or modify their emotional impact on decision making. In contrast response-focused strategies are based on the ability to inhibit the current emotion- expressive behaviours (Gross, 2002). Eg: decision makers may make a Poker-face while bluffing during a card game in order to inhibit their emotions.

General Quality of Military Leaders

An officer must have the capacity to lead under extreme conditions. What separates military leadership from leadership in most other organizations is the necessity to face and cope with extreme situations where your own life as well as the lives of those you command is a danger. Under these demanding conditions an officer will have to make decisions that may result in both taking lives and risking lives.

The Norwegian chief of Defence states on leadership in the military that: It is about doing the uncomfortable and being able to cope with it; overcoming powerlessness and avoiding emotional breakdown. Military leadership demands robustness in order to think clearly and effectively and cope with ones feelings when facing complex and difficult situations (Forsvant, 2012).

Officers after graduating from the military academy will face challenges and unforeseen situations; unforeseen situations will need sound leadership skills. Officers should have adequate academic, social and personal foundations to exercise leadership in such situations.

High intensity combat experience and exposure to intense human trauma leads to greater willingness to be engaged in risky behaviours such a rash driving, seeking out high thrill and over use of alcohol.

Majority studies on risk taking have been on adults and are considered multidimensional. The dimensions are: Biological (sensation seeking), Emotional (Impulsivity), Cognitive (Dual Process Approach), Social (Peer Influence). The

Other approaches are goal oriented approach such as Reward Theory or Reputation Enhancement theories (Canoll, Hattie, Durkin & Houghton, 2001).

Human decision making has been shown to violate rational choice theory in a variety of contexts (Tetlock, 1998) and some of the most intriguing and important examples concern how people perceive and react to Risk (Tversky & Kahneman, 1986).

A study to understand the cognitive, motivational and personality determinants of adolescent risk-taking showed that despite marked new biological differences (eg: maturation of cognitive control system), the frequency of "real world" risk taking may be higher for young adults than for adolescents with situational factors being their most significant determinants. Risk opportunity is the main factor responsible for the age difference. When adolescents expect gratification (peer approval, record for task performance) both risk taking and cognitive control are enhanced (Fryt, & Czernecka, 2015).

People who overestimate positive emotions related to favourable outcomes would tend to be overly risk seeking. By contrast, people who overestimate negative emotions related to unfavourable outcomes would tend to be overly risk aversive (Mellers & McGraw, 2001).

Research works in the information technology and electronics industries in Taiwan showed that threat rigidity hypothesis and risk taking showed that despite marked new-biological differences (eg: maturation of cognitive control system), the frequency of "real-world)' risk taking may be higher for young adults than for

adolescents with situational factors bring their most significant determinants. Risk opportunity is the main factor responsible for the age differences. When adolescents expect gratification (Peer approval, reward for task performance) both risk taking and cognitive control are enhanced

The information technology and electronics industries in Taiwan showed that threat rigidity hypothesis and risk-taking capabilities are positively correlated with the firm's risk-taking behaviour and also moderate the relationship between performance and risk-taking behaviour (Tsai & Luan, 2016).

When confronted with risk threat above the strategic reference point (SRP), the decision-makers will constrict information flow, become rigid by applying only tested repertoires and engage in centralized decision-making. But when threat is below the SRP they will tend to be more open to new information, more flexible and more willing to try new repertoires and to decentralize decision making (Dutton & Jackson, 1987; Shoham & Feigenhaum, 2002).

The CEO's of the airline industry showed that long tenured CEO's take less strategic risk whereas more educated CEO's take more strategic risks and age was not found to be a critical determinant (Lee & Moon, 2016).

The undergraduate students showed that erratic lifestyle psychopathy traits (ie. impulsivity, irresponsibility and sensation seeking) were linked with risk taking behaviour in all domains. Risk perception seems to be one explanatory pathway linking psychopathic traits to engagement in risk-related behaviour (Field, Molnar, & Book, 2016).

The risk-return framework of risky choice provides a theoretical approach that incorporates both situational influence and explanatory mechanism. Individual's propensity to be engaged in risk-taking behaviour is situation dependant and varies as a function of the associated perceived risks and benefits (Blais & Weler, 2006; Blais & Weler, 2009; Figner & Coeher, 2011).

The level of testosterone and cortisol work to regulate risk-taking according to the predictions of the dual-hormone hypothesis (Mehta & Josephs, 2010). There is positive association between basal testosterone and risk-taking among low based cortisol in individuals.

Killgore (2015) reported that sleep deprivation increases many aspects of risk taking, including simple impairments in attention and judgement, greater willingness to accept risk and a tendency to focus on short term rather than long term consequences. Sleep loss can bring change in subjective willingness to engage in risk and causes increase in the propensity to engage in risk taking behaviour.

Siegel (2011) tested Tolman's purposive framework among undergraduates and it was found that, the greater is one's need to obtain a specific outcome, the greater is the individual's willingness to endure harm to reach the desired outcome. A similar study showed that the greater was the need to popularity in young adults, the greater was their willingness to endure harm to become popular.

Panno, Lauriola, & Figner (2013) conducted a study among 53 under graduate students at a University of Rome showed that naturally occurring individual difference in the habitual use of emotion-regulation strategies are

significant predictors of risk taking. Greater the habitual use of cognitive reappraisal lesser is the sensitivity to both the probability and the magnitude of potential losses.

Risk Taking and Sports

Male Karate Athletes who participated in national karate team of Iran showed an inverse relation between risk taking and performance in athletes. Degree of risk taking was associated with individual's sports performance i.e higher the degree of risk-taking in athletes higher is the performance. (Brody, Matfield, & Spalding, 2012).

Big 5 personality factors, self efficacy and Risk taking behaviour of 277 runners were examined by Castanier (2010) and found that that conscientiousness and high neuroticism were the key big five traits associated with greater self-reported risk-taking behaviours in extreme sports and they are significantly mediated by self-efficacy in their effects on risk taking.

302 men involved in high risk sports like, rock climbing, paragliding, skydiving etc were classified using eight personality factors which were constructed from combination of neuroticism, extraversion and conscientiousness.   High risk takers configured low on conscientiousness and high on extraversion and/or high neuroticism (impulsive, hedonistic, insecure), (Scanff. Le, & Woodman. 2010).

Risk Taking and Locus of Control

Gore and Rotter (1963) reported that individuals with internal locus of control are more likely to take greater risks. It was found that internals wanted social

change to come from actions which often act as catalyst for violence whereas externals expressed very little interest to participate in risky activities such as rallies

Higbee (1972) in a study on military decision making, reported that individuals who felt that they can control the situation tended to make more risky decisions. The internals took more risks on a skill task whereas externals took greater risks on a chance task. Internals are more likely to believe that what happened to them was a result of their own skill while externals believe that chance played a greater role (Cohen, Sheposh, & Hillix, 2000).

Morality salience (i.e., when one is made aware of their own mortality) increases the actual risk taking and the assessed level of risk of individuals with external locus of control whereas individuals with an internal locus of control showed decrease in risk taking and increase in assessment of risk in the morality salience condition (Miller & Mulligan, 2002).

The cumulative probability that a developing individual will engage in a risk is influenced by cognitive skills, affective tendencies, biological underpinnings and the Socio-cultural surroundings. All else being equal the probability of risk-taking behaviour is proposed to increase as an individual enters adolescence as a function of Psycho-Physiological development and changes in the socio-cultural environment. Similarly all else being equal, the probability of risk-taking behaviour decreases as cognitive capacities and emotional regulation skills improve. Thus risk taking is particularly probable if social and biological developments occur before cognitive and emotional skills have matured (Boyer, 2006).

Individuals and groups view risk in different ways. These differential perceptions may reflect differing social norms, experience and skill levels and individual differences. Perception of risk that does not concur with those of socially defined experts is not necessarily wrong they may be building different factors into the risk equation. These differential perceptions can provide invaluable information for the assessment of risk and the development of mitigation strategies that are relevant and acceptable or even desirable to those involved in risk-taking activities. (Powell, 2007).

Risk Taking Behaviour in Decision Making

A mail survey though questionnaire was carried out among the managers engaged in Timber procurement organizations. It was shown that there were risk averse, risk seeking and risk neutral managers. Study showed that risk taking behaviour of individual decision makers has noticeable links with personal, organizational and situational factors, particularly personality factors (Karha, 1998).

Investigation on 112 undergraduate students showed that people are influenced more by the value placed on risk when deciding for others than for themselves. It is considered less appropriate to decide for others to perform a risk-averse behaviour, than it is to do the same behaviour oneself in situations where risk is valued, Stone, & Allgaier, 2008.

Theories suggest that goals may improve decision-making performance by guiding development and application of goal oriented decision making strategies. Higher goals can improve decision making performance, but the level of goal is the

critical point because appropriate goals can benefit decision making whereas very high goals make way for high risk decisions (Scheibener, Wegmann, Pawlikowski, & Brand, 2004).

Decision making has traditionally been conceived as complex interplay of high-level process, involving option generation, evaluation of risk and outcomes and making a choice in accordance with personal preference (Baron, 2008; Hastie & Dawes, 2001).

Peer approval, education, situational factors, risk perception, testosterone level, sleep deprivation are all factors influencing risk taking. When the need to obtain a particular outcome is high, there will be higher willingness to indulge in risk. People with high internal locus of control are considered as greater risk takers.

Statement of the Problem

The present study is entitled as "**ORGANISATIONAL COMMITMENT, MEANING IN LIFE AND RISK TAKING BEHAVIOUR ON WORK ENGAGEMENT OF DEFENCE OFFICERS**".

Objectives

1. To find out the extent of Work engagement, Organisational commitment, Meaning in life and Risk taking behavior of officers who are commissioned in the Indian Army and Indian Navy.

2. To find out the correlation of Work engagement, Organisational commitment, Meaning in life and Risk taking behavior of officers.

3.   To find out how the Organizational commitment, Meaning in life and Risk taking behavior of defense officers influence their Work Engagement.

4.   To find out the influence of defence and personal variables along with organizational commitment and meaning in life on work engagement.

Hypotheses

1.   Defense officers have remarkably high Work engagement, Organisational commitment, Meaning in life and Risk taking behavior.

2.   Work engagement, Organisational commitment, Meaning in life and Risk taking behavior of defense officers are significantly correlated.

3.   The personal variables birth order and marital status will have a significant influence over work engagement and its dimensions vigor, dedication and absorption.

4.   Personal and defence variables will have a significant influence over work engagement and its dimensions vigor, dedication and absorption.

Chapter 3

Method

Research involves adding facts to the existing pool of knowledge. The method of a research work is the totality of the procedures followed by the investigator to make it scientific and valid to the maximum extent possible. It is considered as the back bone of the research. The success of any research depends on the method adopted, technique used for data collection and the analysis. It is very important that every research should be based on the method adopted and the measures/techniques used for data collection and analysis. This chapter presents in detail the various steps followed by the investigator in conducting the study like the selection of the participants, the procedure followed and measures used for data collection, the statistical analysis used and etc.

Participants

Participants of the study consist of 171 Indian defence officers in which 160 were Army officers and 11 were Navy officers. The demographic variables of the participants has been derived from the personal data sheet and discussed in detail.

Rank

After getting commissioned as an officer in the defence, ranks are attained based on the years of service and the performance as per the defence norms. This hierarchy is same in both army and navy but the ranks are named differently in both. In table 1 the ranks have been tabulated in ascending order of seniority with the codes that have been used for the analysis.

Table 1

The coding for rank

Rank	Army	Navy
1	Lieutenant	Sub Lieutenant
2	Captain	Lieutenant
3	Major	Lieutenant Commander
4	Lt Colonel	Commander
5	Colonel	Captain

The demographic variables were categorised into two types namely defence variable (rank and posting) and personal variable (birth order, generation and marital status).The officers who were the only recruits in the defence in their family were called first generation officers. Those whose fathers were also in the defence were second generation and if the generation prior to parents was in the defence then they were called 3rd generation and 4th generation as follows. Based on these variables the breakup of participants has been tabulated in table 2 and table 3 according to the information gathered from the personal data sheet.

Table 2

Breakup of participants based on Defence Variables

Posting			Statistics	Rank					Total
				Lieutenant	Captain	Major	Lt Colonel	Colonel	
Field	Posting	Army	Observation	22	14	17	11	5	69
			% within army	31.9%	20.3%	24.6%	15.9%	7.2%	100.0%
			% within RANK	73.3	82.4	100.0	100.0	100.0	86.2
			% of Total	27.5%	17.5%	21.2%	13.8%	6.2%	86.2%
		Navy	Observation	8	3	0	0	0	11
			% within navy	72.7%	27.3%	.0%	.0%	.0%	100.0%
			% within RANK	26.7%	17.6%	.0%	.0%	.0%	13.8%
			% of Total	10.0%	3.8%	.0%	.0%	.0%	13.8%
	Total		Observation	30	17	17	11	5	80
			% within officers in field	37.5%	21.2%	21.2%	13.8%	6.2%	100.0%
			% within RANK	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
			% of Total	37.5%	21.2%	21.2%	13.8%	6.2%	100.0%
Peace	Posting	Army	Observation	10	58	15	7	1	91
			% within army	11.0%	63.7%	16.5%	7.7%	1.1%	100.0%
			% within RANK	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
			% of Total	11.0%	63.7%	16.5%	7.7%	1.1%	100.0%
	Total		Observation	10	58	15	7	1	91
			% within army-nav	11.0%	63.7%	16.5%	7.7%	1.1%	100.0%
			% within RANK	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
			% of Total	11.0%	63.7%	16.5%	7.7%	1.1%	100.0%

From table 2, it can seen that among the participants of 171 officers, 80 officers were posted in the field and 91 officers were posted in the peace locations. Among the total officers in the field, there were 69 (86.2 %) army officers and 11(13.8%) navy officers. Out of the participants posted in the field, 30 Lieutenants (37.5%), 17 captains (21.2%), 17 Majors (21.2%), 11 Lieutenant Colonels (13.8%) and 5 Colonels (6.2%) were reported. Among the participants posted in the peace (91,all army officers), there were 10 Lieutenants (11%), 58 Captains (63.7%), 15 Majors (16.5%), 7 Lieutenant Colonels (7.7%) and 1 Colonel (1.1%).

Table 3

Breakup of Participants based on Personal variables

Birth order	Generation		Statistics	Marital Status		Total
				Unmarried	Married	
First born	Generation	First	Observation	35	30	65
			% within Generation	53.8%	46.2%	100.0%
			% within Marital status	92.1%	83.3%	87.8%
		Second	Observation	3	6	9
			% within Generation	33.3%	66.7%	100.0%
			% within Marital Status	7.9%	16.7%	12.2%
	Total		Observation	38	36	74
			% within Generation	51.4%	48.6%	100.0%
			% within Marital Status	100.0%	100.0%	100.0%
Second Born	Generation	First	Observation	29	16	45
			% within Generation	64.4%	35.6%	100.0%
			% within Marital Status	78.4%	69.6%	75.0%
		Second	Observation	7	7	14
			% within Generation	50.0%	50.0%	100.0%
			% within Marital status	18.9%	30.4%	23.3%
		Third	Observation	1	0	1
			% within Generation	100.0%	.0%	100.0%
			% within Marital Status	2.7%	.0%	1.7%
	Total		Observation	37	23	60
			% within Generation	61.7%	38.3%	100.0%
			% within Marital Status	100.0%	100.0%	100.0%
Later Born	Generation	First	Observation	17	9	26
			% within Generation	65.4%	34.6%	100.0%
			% within Marital Status	73.9%	64.3%	70.3%
		Second	Observation	3	5	8
			% within Generation	37.5%	62.5%	100.0%
			% within Marital Status	13.0%	35.7%	21.6%
		Third	Observation	2	0	2
			% within Generation	100.0%	.0%	100.0%
			% within Marital Status	8.7%	.0%	5.4%
		Fifth	Observation	1	0	1
			% within Generation	100.0%	.0%	100.0%
			% within Marital Status	4.3%	.0%	2.7%
	Total		Observation	23	14	37
			% within Generation	62.2%	37.8%	100.0%
			% within Marital Status	100.0%	100.0%	100.0%

Table 3 shows the breakup of participants based on their birth order, generation and marital status. Out of the total number of participants, 74 officers were first born, 60 second born and 37 third born. Among the first born officers, 38 (51.4%) were unmarried and 36 (48.6%) married. 65 (87.8%) first generation officers and 9 (12.2%) second generation officers were participated in the study. In the cluster of second born officers, 37 (61.7%) were unmarried and 23 (38.3%) married. There were 45 (75%) first generation, 14 (23.3%) second generation and 1 (1.7%) third generation officers in this group. In the batch of later born officers, 23 (62.2%) were unmarried and 14 (37.8%) married. There were 26 (70.3%) first generation officer, 8 (21.6%) second generation, 2 (5.4%) third generation and 1 (2.7 %) fifth generation officers in the set of last born officers.

Education

As far as the educational qualifications are concerned, in the sample there were 88 (51.5%) graduates, 13 (7.6%) post graduates, 57 (33.3%) bachelors in engineering (Btech), 9 (5.3%) were masters in engineering (Mtech) and 4 (2.3%) medical graduates.

Counter Insurgency

Counter insurgency is an organised military activity designed to combat insurgency. In the sample 56 (32.7%) officers had been part of the counter insurgency operations and 115 (67.3%) officers have not been a part of it.

Field Tenure

Field tenure was grouped into three groups based on the number of years served in the field and coded as, '1' means tenure from 0-5 years, '2' means a tenure of 6-10 years and '3' means a tenure of 11-16 years. Frequency has been tabulated in table 4 according to which 147 (86%) officers were in group 1 (0-5 years), 15 (8.8%) officers are in group 2 (6-10 years) and 3 (5.3 %) officers are in group 3 (11-15 years).

Table 4

Experience in field

Field Tenure	Frequency	Percent
1 (0-5)	147	86.0
2 (6-10)	15	8.8
3 (11-15)	9	5.3

High Altitude Tenure

Often the officers are sent to high altitude places like Siachen and Glacier to serve short term tenures in the extremely harsh climatic conditions so that the foreign invasions from that area can be stopped. In our sample 58 (33.9%) officers had served atleast one tenure in the high altitude and 113 officers (66.1%) had not been posted to the same.

Alcohol Consumption

There is a common observation that person working defence sector will consume alcohol and information regarding alcohol consumption was collected from the participants it was observed that 67 (39.2%) officers were teetotallers and 104 (60.8%) of them reported that they consume alcohol.

The demographic variables, which are explained in detail has been found to play some roles in the study variables as per the review of literature. Hence it was decided to study the effect of relevant demographic variables on the variables under study namely work engagement, organisational commitment, meaning in life and risk taking behaviour.

Instruments

The variables like work engagement, organisational commitment, risk taking behaviour and meaning in life have been studied in the selected sample. The standardized instruments developed by the experts have been used and one scale has been developed by the investigator. The instruments used were

- Utrecht Work Engagement Scale (Schaufeli & Bakker, 2006).

- Meaning in Life Questionnaire (Steger, Frazier, Oishi, & Kaler, 2006).

- Organisational commitment Scale (Balachandran & Thomas, 1996).

- Personal Data Sheet

- Risk Taking Behaviour Scale (Developed by the investigator and details are presented in Chapter-4 as Test development).

Utrecht Work Engagement Scale (UWES)

The work engagement scale developed by Bakker, Schaufeli, Salanova and Gonzalez- Roma (2002) was used to measure work engagement of participants. This scale is the most often used instrument to measure work engagement of employees; it includes three subscales: vigour, dedication, and absorption. Vigor was assessed with six items (e.g., At my work, I feel bursting with energy). Dedication was assessed with five items (e.g., I find the work that I do full of purpose and meaning). Absorption was assessed with six items (e.g., It is difficult to detach myself from my job). Altogether the scale consists 17 items which are rated on a 7 point frequency based scale (0=never, 6=Always).

Administration

The instruction was written in simple English language on the first page of the scale. Response was elicited in terms of 7 point likert scale such as 'never', 'almost never', 'rarely', 'sometimes', 'often', 'very often', 'always'.

Scoring

The sum of items 1, 4, 8, 12, 15, and 17 gave the score for the vigor sub scale, similarly sum of items 2, 5, 7, 10, and 13 gave the score for dedication and the sum of items 3, 6, 9, 11, 14, and 16 gave absorption score. The range of score was from 0-6.

Reliability

The Utrecht Work Engagement Scale (UWES) demonstrated high inter-item reliability as an overall measure (Cronbach α = 0.94) and as its dimensions (α = 0.84–0.87).

Validity

The Utrecht Work Engagement Scale (UWES) has been validated in several countries, like China (Yi-Wen & Yi-Qun, 2005), Finland (Hakanen, 2002), Greece (Xanthopoulou, Bakker, Demerouti, &Kantas, in press), Japan (Shimazu et al., 2008), South Africa (Storm & Rothmann, 2003), Spain (Schaufeli et al., 2002), and the Netherlands (Schaufeli & Bakker, 2003; Schaufeli et al., 2002). All investigations used confirmatory factor analyses and showed that the fit of the hypothesized three-factor structure to the data was superior to that of alternative factor models. In addition, the internal consistencies of the three subscales proved to be sufficient in each study. Schaufeli, Bakker, and Salanova (2006) developed a 9-item version of the UWES, and provided evidence for its cross-national validity. They showed that the three engagement dimensions are moderately strongly related. Hence the scale has reasonable construct validity.

A copy of the Utrecht Work Engagement Scale (UWES) is appended as Appendix - I

Meaning in Life Questionnaire

This scale was developed by Steger, Frazier, Oishi and Kaler in 2006. It assesses two dimensions of meaning in life using 10 items rated on a 7 point scale

from "Absolutely True" to "Absolutely Untrue". The two subscales are *presence of meaning* subscale which measures how full of meaning the respondent feel's their life is and the *search for meaning* subscale which measures how engaged and motivated respondents are in efforts to find meaning or deepen their understanding of meaning in their lives. time perspective, close mindedness and well being.

Administration

The instruction was written in simple English language on the first page of the scale. The respondents were asked to take a moment to think about what makes their life and existence feel important and significant to them. Response was elicited in terms of 7 point Likert scale such as absolutely untrue, mostly untrue, somewhat untrue, can't say, somewhat true, mostly true, absolutely true.

Scoring

There were a total of 10 items in which item no 9 was reverse scored. Scoring was as follows: Absolutely untrue=1, Mostly untrue=2, Somewhat untrue=3, Can't say=4, Somewhat true=5, Mostly true=6, Absolutely true=7. The sum of scores of items 1, 4, 5, 6 and 9 gave the score of Presence subscale in which item 9 was reverse scored and the sum of items 2, 3, 7, 8 and 10 gave the score for search subscale.

Reliability

The MLQ has good test retest reliability, stable factor structure and convergence among informants. Presence is positively related to well being, intrinsic religiosity, extraversion and agreeableness and negatively related to anxiety and

depression. Presence also relates as expected with personal growth, self-appraisals and altruistic and spiritual behaviour. The search component is positively related to religious quest, rumination, past-negative and present fatalistic time perspectives, negative affect, depression and neuroticism and negatively related to future Evidences of stability and internal consistency of the MLQ were provided (Steger & Kashdan, 2007; Steger et al., 2006).

Validity

Convergent and discriminant validity estimates of the measure have been provided using a multitrait-multimethod matrix (Steger et al., 2006).

A copy of Meaning in Life Questionnaire is appended as Appendix - II

Organisational Commitment Scale

The Organizational commitment scale developed by Balachandran and Thomas (1994) was used to measure the employee's organisational commitment, ie., feelings, loyalty, involvement, interest and reaction towards the work.

Administration

The instruction was written in simple English language on the first page of the scale. The respondents were told that the statements reflect their interest, feelings, responsibilities etc regarding their work and they have to indicate how much they agree or disagree with each statement using one of the response category i.e. A, B, C, D and E. A denotes "strongly agree", B denotes "Agree", C denotes "Undecided", D denotes "Disagree" and E denotes "Strongly disagree".

Scoring

There are 39 items in the organizational commitment scale of which 18 items were positively worded and the remaining 21 items were negatively worded. The Positive items are 2, 3, 6, 7, 9, 10, 11, 14, 15, 17, 18, 19, 26, 27, 30, 31, 34, and 37. The negative items are 39, 38, 36, 35, 33, 32, 29, 28, 25, 24, 23, 22, 21, 20, 16, 13, 12, 8, 5, 4, and 1 which are reverse scored. The response A stood for score 5, B=4, C=3, D=2, E=1 for a positive item vice versa for the negative item (ie 1 to 5). The sum of scores of positive and negative items gave the organisational commitment score of individual employee.

Reliability

The organisational commitment scale has a test-retest reliability of 0.88 (N=75) and a split-half reliability coefficient of 0.90 (N=300). The Cronbach alpha for the 39 items was found to be 0.87.

Validity

Since this scale was developed by adapting items from the existing popular scales and it includes most of the employee related variables, the scale has got acceptable levels of content validity.

A copy of the Organizational Commitment Scale is appended as Appendix-III

Personal Data Sheet

Through this instrument details of defence variables such as the officers rank, posting, number of years served in field and peace stations, high altitude tenure, and Demographic variables such as birth order, generation, native place were collected. A copy of the Personal Data Sheet is appended as Appendix IV

Procedure

The investigator had got prior appointment from the scientist of DIPR (Defense Institute of Psychological Research), New Delhi to discuss about the purpose of the study and to get an insight into the formal procedure to seek the permission from different units to conduct the study in the officers. As per the discussion, request letters were sent to various army brigades, Kochi Naval base and Jodhpur Air force station. Response was received from the army and the navy. There was no further communication from the air-force so it was decided that the investigation would be carried out on the army and navy officers. With the permission of the general officer commanding, a suitable time and day was fixed for the investigator to interact with the officers and distribute the research instruments to the participants. For the data collection, the officers were invited to the army officer's mess and the investigator gave them an insight into the purpose of this study and assured about the confidentiality. The instruments were distributed to the officers with all the necessary instructions. If anyone had a query or doubt while filling the instruments, it was cleared there and then. After completion the filled research instruments were collected and checked for omissions. In the same way data was collected from the naval officers of Kochi Naval Base. For the data

collection from CME Pune, as the investigator was not permitted to interact with the officers inside the premise as their schedule would be disturbed the set of research instruments along with the necessary instructions were given to the authorities and distributed among the officers. The investigator received the filled questionnaires after two days. The investigator also visited the Kochi Naval Base and few army units to get the general idea of their functioning. After the instruments were filled by the officers, it was collected back, scored and fed into the spreadsheet for further statistical analysis. The investigator also sent a letter of gratitude to the senior officials for their support and co-operation amidst their very busy schedule which helped to make the study successful.

Statistical Techniques Used

The statistical techniques used were based on the objectives set and the hypotheses which was formulated. The following were the statistical techniques used.

- Correlation

- ANOVA

- Scheffe's Test

The Correlation Coefficient

The extent of relation between two variables is described by the Pearson product moment correlation coefficient 'r'. Generally the value of 'r' ranges from -1 to +1. A negative value indicates a negative relation i.e., X decreases Y increases. A positive value indicates a positive relation; X increases as Y increases.

Analysis of Variance (ANOVA)

Analysis of variance is considered to be one of the important techniques in researches when there are more than one independent and one dependent variables are involved in a study. This technique helps the researcher to understand whether the samples have been taken from the population having same mean. The fundamental nature of ANOVA is that the total variation of data is split into two types, ie the quantity which can be attributed to chance and the other which can be credited to specific causes. Thus, through this method the researcher can investigate any number of samples that have influenced the dependant variable. One can also study the differences among various categories within each factor, which provides number of possible values. In ANOVA, one can take only one factor and investigate its various categories which have many values, this is called one-way ANOVA. Sometime researchers may be investigating two factors at the same time, and then it is called two-way ANOVA. In two-way ANOVA, the interaction effect of the independent variables with its affected dependent variable can be studied in better way for arriving at better decision. The basic principle of ANOVA is to test the difference among the means of the population by studying the amount of variation within the each sample.

Post hoc procedures

The reason for moving to an ANOVA rather than multiple t-tests was to maintain the experiment-wise error rate (i.e., alpha). There are many post-hoc procedures, each of which controls the experiment-wise error rate slightly differently.

Scheffe's Procedure

Scheffe's procedure accounts for all of the pair-wise comparisons as well as all possible contrasts. In a comparison of three groups, this would involve the comparisons of Group 1 with Group 2, Group 1 with Group 3, and Group 2 with Group 3. In addition, it also controls for any contrasts. A contrast is the comparison of two or more groups collectively with another group. For example, consider the case where students in Groups 1 and 2 are receiving the same experimental treatment, while those students in Group 3 are serving as a control group. There is no reason to compare Group 1 with Group 2. Likewise, comparing Group 1 or Group 2 with Group 3 does not make sense. What is appropriate is to compare the combined effects of Groups 1 and 2 with the effects for Group 3. Statistically, this can be represented by the following: (1 + 2) with 3. This is known as a contrast. There are two other contrasts with three groups: (1 + 3) with 2 as well as (2 + 3) with 1. If you think of the control of alpha being dependent on the number of "comparisons" being made, there are three one to one group comparisons and three two groups to one group contrasts. This is six (6) "comparisons" overall.

Chapter 4

Test Development :
Risk Taking Behaviour Scale

When the researcher reviewed the literature in depth about the nature of work and functioning of the armed forces it was inferred that risk is an inevitable part of their work. As the literal meaning suggests 'risk' means danger. Vlek and Sallen (1980) reviewed a number of studies and listed four main definitions of risk 1). Probability of loss, 2). Size of credible loss, 3). Expected loss and 4). Linear function of the expected value and the variance of the distribution of consequences. Fuller (1988) postulated that risk taking is not only under the control of conscious decision making but more often arises out of the individuals conditioning history and this is often accompanied by the illusion of conscious involvement. He argued that in case when risk taking is intrinsically rewarding, decisions will follow, sometimes not conscious compensation process. It is important therefore not to reduce risk taking to conscious decision making.

Risk taking is any consciously or non-consciously controlled behaviour with a perceived uncertainty about its outcome and/or about its possible benefits or costs for the physical, economic or psychosocial well-being of oneself or others.

Risk is the part and parcel of an officer's life, be it his risk in action or risk for life due to the uncertain nature of the action in duty which can be either to attack the enemies or defend our nation from foreign invasion. The term risk is associated with many other constructs which are studied like risky decision making, risky sports, risk behaviour like over speeding, not using seat belt, substance abuse etc. Risk is product of the probability of an event occurring that may be viewed desirable or undesirable, and subjective or objective assessment of the expected or unexpected

consequences from the event occurring, how much and in what way an outcome provides utility in terms of physically, socially, culturally or individually. Hence, risk is part of every endeavour. In most contexts the notion "*risk*" stands for a chance or danger of unwanted and unfortunate events and not just uncertainty about the potential outcomes of an incident. Accordingly, "risk" can be defined as the possibility of physical and/or social and/or financial harm/detriment/loss due to a hazard within a particular time frame. (Drottz, 1991; 1984; Renn, 1992; Rohrmann, 1998; Taylor-Gooby, 2002; Yates & Stone, 1992).

The "risk" refers mostly to but not always to *negative* issues - in some fields "risk" functions as a *neutral* term (equating to uncertainty about the outcomes of choices). At times even *positive* connotations emerge, such as 'desired risk' (e.g., 'getting a thrill' by acting in a risky manner) (Breakwell, 2007; Rohrmann, 2003a). Hence "risk" is a multi-facetted concept.

Risk taking behaviour is driven by personality attributes (Bromiley & Curley,1992; Plax & Rosenfeld, 1976) or by core values and beliefs that prevail over other situational considerations. These cause decision makers to consistently prefer risk acceptance over risk-aversive behaviour, irrespective of situational context. Their risk taking is not issue dependent, and their response to risk across issues is similar and undifferentiated. Such decision makers are likely to be impervious to learning.

- Dispositional forces are more powerful than judgement or inertia, especially when information is ambiguous.

- Where taking high risk involves a one-step decision the dispositional and situational factors are the precipitators of risk taking behaviour.

The various steps and procedures undertaken in the construction of Risk taking behaviour is described in the following headings.

Development and planning

This phase involves the detailed description regarding the construction of the instrument constructed by the investigator for assessing the variable Risk Taking Behaviour which has been used in the present study.

Risk-taking is an important construct and has correlation with many areas of study such as substance abuse, psychological disorders, life-span changes and military functioning. As risk-taking is such a broadly defined variable, there are many different means used to measure it for example: BART (Balloon analogue risk task), the TCU Self-Rating Form and the Domain-Specific Risk-Taking scale (DOSPERT) etc. All were developed in the western context and nothing specific could be found which would best fit into the Indian context that too specifically the sample under study i.e. Army and Navy officers. There was no standardized tool available that could assess the risk taking on the cognitive level in the present context i.e., applicable to army officers. Thus it led the investigator to prepare an instrument to measure Risk taking behaviour. Risk taking behaviour along with other related aspects were thoroughly reviewed from books, journals and e-net related to military, decision making, organisational behaviour etc by the investigator.

Going through the review of literature to develop the scale for the assessment of risk taking behaviour, special attention was given by the investigator to variables like locus of control, personality, self-esteem, self- efficacy. Based on these the items were prepared and the preliminary form was produced before the experts for the evaluation. As per the experts' suggestions modifications of the already existing items of the initial draft, elimination of the unwanted items and inclusion of new items were made during the preparation of the instrument. After preparing the preliminary draft it was brought for try out.

Preparation of Items

After reviewing the available literature on risk taking, the investigator constructed a scale to measure the officer's Risk Taking Behaviour (RTB) with minimum number of statements. Aim was to construct one dimensional scale consisting of minimum of 25-30 items with 5 point Likert type (Strongly agree to Strongly Disagree) anchors. Initially 35 items were prepared in English and it was distributed among experts in the field of psychology (Professors, Associate Professors and Army officers) etc., to verify the construct. After obtaining the comments/ suggestions some items were dropped, added and even rewritten. This resulted in deletion of 4 items and the draft scale consists of 31 items.

A copy of the Risk Taking Behavior Scale is appended as Appendix-V.

Method

Participants

For this purpose data has been collected from 155 army officers who were posted in both field and peace formations. Officers of rank lieutenant to colonel have been considered. The frequency was 22 lieutenant, 84 captains, 27 majors, 22 colonels who hailed from almost all the states of India but the majority officers were natives of northern states like UP, Haryana, Rajasthan etc. and very few from South India. The age range was from 23 to 54 years. Only male officers were included in the study.

Instruments

1. Risk Taking Behaviour Scale: Risk Taking Behavior scale consist of 31 items in English language with 5 point Likert type response category. Response was collected from 155 Army Officers as the subjects. The scale was designed in such a way that it could be answered by any person who can read and write English language. The responses were marked on the right side of each statement. Instructions were clearly printed in the top of the scale and subjects would take below 10 minutes to respond the statements.

2. Personal Data Sheet: Personal Data sheet was used to collect information like birth order, age, educational qualification, rank etc.

Procedure

The investigator directly met the GOC (General Officer Commanding) who is the commanding head of the brigade and discussed the purpose, objectives and importance of the study. After receiving the permission through proper channel the circular was sent to different units regarding the objectives and relevance of the study to seek their cooperation for the study. Then a day was assigned to the investigator to meet the officers and distribute the research instrument along with Personal Data Sheet and requested to complete as per the direction printed on the instruments itself. The investigator also gave oral instructions to the participants so that the response would be better. After completion of both instruments, it was collected and checked for omission. Then both instruments were scored/coded as per the previously prepared scoring key and entered into a spread sheet for further statistical analysis.

Results and Discussion

The objective of the study was to construct a valid measure for Risk Taking Behaviour of defence Officers. Researchers are having different point of view in selecting a valid item from a pool of items. Here the investigator used traditional as well as new methods for selecting an item, establishing its psychometric properties etc.

Item Analysis

The response of all the subjects in each item were entered into a spread sheet and loaded into statistical software. Then based on the total score, the responses were ordered in ascending order. Then 27% from the top and 27% from the bottom were selected for item analysis. There are many methods available for items selection. Here the investigator decided to calculate the corrected item-total correlation (Point Biserial Correlation), discriminating power (t-test as suggested by Edwords, 1956) and factor loading of each items in the scale. The criterion for including an item in the scale was as follows. If an item achieved corrected item-total correlation of .25 or above (Seema, n.d), discriminating power (t-value) equal or above 1.96, and item loading .40 or above will be included in the final scale. The details of the computations are given in the following tables.

Table 5

Mean, Sd and 't' value of Risk Taking behavior by high and low groups

Items	Group	N	Mean	Sd	't' value	Items	Group	N	Mean	Sd	't' value
Item1	Low	43	3.98	.99	4.49	Item17	Low	43	3.14	.89	8.07
	High	43	4.73	.50			High	43	4.27	.10	
Item2	Low	43	3.60	.88	3.14	Item18	Low	43	3.37	.98	3.51
	High	43	4.80	.41			High	43	4.41	.83	
Item3	Low	43	3.63	.73	8.15	Item19	Low	43	2.95	1.18	5.78
	High	43	4.82	.45			High	43	4.16	.69	
Item4	Low	43	3.79	.74	9.20	Item20	Low	43	3.47	.98	5.59
	High	43	5.80	.66			High	43	4.68	.51	
Item5	Low	43	3.65	.65	7.38	Item21	Low	43	3.05	1.31	**1.87***
	High	43	4.57	.50			High	43	4.64	.97	
Item6	Low	43	3.70	.77	2.21	Item22	Low	43	3.70	.83	4.18
	High	43	4.93	.45			High	43	4.50	.95	
Item7	Low	43	3.28	.91	7.38	Item23	Low	43	3.26	1.07	2.73
	High	43	4.23	.71			High	43	3.98	1.37	
Item8	Low	43	3.56	.80	9.12	Item24	Low	43	3.37	1.18	5.03
	High	43	4.50	.51			High	43	4.41	.69	
Item9	Low	43	3.65	.69	5.43	Item25	Low	43	2.95	.98	6.21
	High	43	4.55	.66			High	43	4.16	.83	
Item10	Low	43	3.74	.85	6.57	Item26	Low	43	3.47	.98	7.24
	High	43	4.84	.65			High	43	4.68	.51	
Item11	Low	43	3.42	.82	6.18	Item27	Low	43	3.51	.94	**1.89***
	High	43	4.73	.50			High	43	3.93	1.13	
Item12	Low	43	3.56	.85	6.80	Item28	Low	43	3.26	1.16	3.69
	High	43	4.61	.58			High	43	4.25	1.35	
Item13	Low	43	3.51	.96	8.99	Item29	Low	43	2.70	1.06	**1.14***
	High	43	4.68	.52			High	43	3.07	1.86	
Item14	Low	43	3.56	.91	6.73	Item30	Low	43	3.40	1.03	**1.45***
	High	43	4.91	.29			High	43	3.75	1.24	
Item15	Low	43	3.58	.82	7.24	Item31	Low	43	3.05	1.31	6.46
	High	43	4.75	.49			High	43	4.64	.97	
Item16	Low	43	3.63	.90	9.39						
	High	43	4.64	.71							

Items are deleted from the final scale

From table 5, it can be seen that item 21, item 27, item 29 and item 30 did not meet the selection criteria ('t' values were below 1.96). The second criterion was an item should achieve a corrected item total correlation of .25 or above. For this the whole items in the scale were analysed and the results are presented in table 6.

Table 6

Item statistics of Risk Taking Behavior Scale

Items	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Item1	119.85	162.906	.376	.802
Item2	120.24	164.547	.313	.804
Item3	120.03	158.330	.576	.796
Item4	119.94	159.658	.525	.798
Item5	120.12	160.524	.501	.799
Item6	119.64	156.180	**.049***	.858
Item7	120.06	160.523	.596	.798
Item8	119.76	158.456	.603	.796
Item9	120.35	161.919	.358	.802
Item10	120.11	160.150	.590	.797
Item11	120.01	161.363	.480	.799
Item12	119.88	158.381	.544	.796
Item13	120.13	158.074	.508	.797
Item14	120.15	160.205	.503	.798
Item15	119.97	156.966	.639	.794
Item16	119.89	156.098	.700	.792
Item17	120.00	158.130	.589	.796
Item18	120.26	164.180	.294	.804
Item19	120.16	162.084	.329	.803
Item20	120.45	159.899	.385	.801
Item21	120.80	164.148	**.153***	.810
Item22	120.11	163.423	.309	.804
Item23	120.47	167.303	**.062***	.814
Item24	120.17	158.937	.436	.799
Item25	120.65	158.514	.400	.800
Item26	120.19	160.638	.415	.800
Item27	120.42	166.648	**.128***	.810
Item28	120.28	160.347	.297	.804
Item29	121.21	167.831	**.024***	.818
Item30	120.61	169.149	**.017***	.814
Item31	120.27	154.913	.455	.797

Items are deleted from the final scale

Table 6 gives the item statistics of Risk Taking behavior scale. Here the set criterion was items which are having an item total correlation of .25 or above will included in the final scale. Observation of table 6 reveals that item 6, item 21, item 23, item 27, item 29 and item 30 were not satisfying the criteria.

The third criterion of selection item was factor analysis and if an item loads .45 or above it will be included in the final scale. Here the investigator conceived the risk taking behavior as a one dimensional scale and one factor solution was extracted with Principal component analysis. The result of factor is presented in the following tables.

Table 7

Exploratory Factor analysis of Risk Taking Behavior Scale

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	7.924	31.694	31.694	7.924	31.694	31.694
2	1.928	7.711	39.406			
3	1.537	6.146	45.552			
4	1.258	5.033	50.585			
5	1.226	4.904	55.489			
6	1.076	4.303	59.793			
7	1.011	4.043	63.835			
8	.829	3.317	67.152			
9	.827	3.310	70.462			
10	.757	3.030	73.492			
11	.712	2.847	76.339			
12	.655	2.621	78.960			
13	.621	2.484	81.444			
14	.591	2.365	83.810			
15	.585	2.339	86.148			
16	.500	1.999	88.148			
17	.458	1.833	89.980			
18	.426	1.704	91.684			
19	.398	1.593	93.276			
20	.346	1.383	94.660			
21	.342	1.370	96.030			
22	.310	1.239	97.269			
23	.286	1.143	98.411			
24	.214	.856	99.268			
25	.183	.732	100.000			

To find out the pattern of factor and factor loading of each item, exploratory factor analysis (EFA) was done with the extraction method of principal component. From table 7, it can be seen that there is only one factor with eigen value above one. This factor constitutes a total variance of 31.694.

Table 8

Component matrix of Risk Taking behavior Scale

Component	Factor Loading
Item16	.783
Item 8	.757
Item 15	.707
Item 7	.677
Item 17	.672
Item 4	.657
Item 3	.653
Item 12	.650
Item 5	.650
Item 10	.628
Item 11	.624
Item 14	.617
Item 13	.589
Item 31	.487
Item 25	.484
Item 1	.456
Item 9	.450
Item 24	.445
Item 26	.435
Item 20	.417
Item 19	.391
Item 18	**.378***
Item 2	**.375***
Item 22	**.359***
Item 28	**.324***

***items which are not selected for the final scale**

Table 8 gives the factor loading of each item in the risk taking behavior scale. Here the investigator conceived the scale as one dimensional and items with factor loading .40 above were included in the final scale. An overview of the table 8 reveals that item 18, item 2, item 22, and item 28 did not meet the set criteria (item 19 was selected because its factor loading was nearer to .40).

Final scale consists of 21 items. Item analysis of Risk Taking Behaviour scale revealed that items 2, 6, 18, 21, 22, 23, 27, 28, 29 and 30 were not meeting the set criteria and hence they were removed from the final scale. The initial draft consisted of 31 items and throughout the analysis the same item numbers were used. After the final draft was prepared the items were reordered and are presented in table 9. A Copy of final scale is appended as Appendix - VI.

Table 9

Initial item number, Final item number and descriptive statistics of each item in the Risk Taking Scale

Initial item Number	Final item Number	N	Mean	S D	Variance
Item 1	Item 1	155	4.35	.762	.581
Item 3	Item 2	155	4.17	.815	.664
Item 4	Item 3	155	4.27	.792	.627
Item 5	Item 4	155	4.08	.764	.584
Item 7	Item 5	155	4.15	.653	.426
Item 8	Item 6	155	4.45	.774	.599
Item 9	Item 7	155	3.85	.889	.790
Item 10	Item 8	155	4.10	.682	.465
Item 11	Item 9	155	4.19	.731	.534
Item 12	Item 10	155	4.33	.854	.729
Item 13	Item 11	155	4.08	.930	.864
Item 14	Item 12	155	4.06	.783	.613
Item 15	Item 13	155	4.24	.822	.676
Item 16	Item 14	155	4.32	.804	.646
Item 17	Item 15	155	4.21	.811	.658
Item 19	Item 16	155	4.05	.935	.875
Item 20	Item 17	155	3.75	1.015	1.030
Item 24	Item 18	155	4.03	.990	.979
Item 25	Item 19	155	3.55	1.100	1.210
Item 26	Item 20	155	4.01	.890	.792
Item 31	Item 21	155	3.94	1.262	1.593

Reliability and Validity

A research instrument in psychology is said to be reliable when consistency of result is obtained. The internal consistency of the scale was calculated using the Cronbach Alpha after deleting the 10 items and it was found to be .89.

Validity of the instrument was found in order to check whether the risk taking behaviour scale constructed was able to measure what it aims to measure. The face validity is ensured by subjecting the instrument to the verification of different experts in the field of psychological research. On the basis of their examination and judgments, they acknowledged that the scale as a whole is sufficient for the assessment of Risk taking behaviour.

Scoring

The final Risk Taking Behaviour scale consists of 21 items. A 5 point likert scale with response category of Strongly Agree (5), Agree (4), Undicided (3), Disagree (2), Strongly Disagree (1). The items 17, 19 and 21 were negatively worded and hence reverse scored (1 to 5) whereas all the other items were positively worded and scored from 5 to 1.

Chapter Five

Results and Discussion

This chapter presents the findings of the investigator obtained through quantitative method i.e. statistical analysis of the collected data. Analysis is the way of testing the hypothesis. Analysis means categorizing, ordering, manipulating and summarizing of data to obtain answers to the research question (Kerlinger & Lee, 2000). The researcher who interprets the research results searches for their meaning and implications (Kerlinger & Lee, 2000).

Preliminary Analysis

To understand the nature of distribution of variables under study the descriptive statistics such as mean, median, mode, skewness, and kurtosis of the variables organisational commitment, meaning in life (Search & Presence), risk taking behaviour and work engagement were found out. The results of the descriptive statistics are presented in table 10.

Table 10
Descriptive statistics of the variables under study

Statistics	OC	Search	Presnc	Mlife	Vigor	Dedict	Absor	Wkeg	Rtb
Mean	159.59	21.24	28.61	49.85	26.88	24.19	25.58	76.65	85.86
Median	160.00	22.00	29.00	50.00	27.00	25.00	26.00	78.00	86.00
Mode	160	27	30	56	25	25	30	60	100
S. D	19.000	7.398	4.393	7.633	4.274	3.847	6.058	11.636	10.214
Skewness	-.428	-.211	-.715	-.025	.090	-1.023	.105	-.231	-.374
Kurtosis	-.118	-.787	.440	-.467	-.830	2.216	1.113	-.463	-.472

(Note: OC= Organisational Commitment, Mlife= Meaning in life, Dedict= Dedication, Absorp= Absorption, Wkeg= Work Engagement, Rtb= Risk taking behaviour.)

Table 10 gives the values of the mean, median, mode, standard deviation, skewness and kurtosis of the variables organisational commitment, meaning in life (Search & Presence), risk taking behaviour and work engagement.

From table 10, it can be seen that the measures of central tendency of organizational commitment i.e mean, median, mode of the variables were 159.59, 160 and 160 respectively. Considering the symmetry of the distribution, the value of skewness is -.428, suggests that the distribution is slightly negatively skewed. The kurtosis i.e. peakedness of the variable is -.118 but the value is small hence distribution is mesokurtic.

The measures mean, median, mode of the variable search for meaning are 21.24, 22 and 27 respectively thus mean and median are almost equal but the value of mode is slightly higher than both. Considering the symmetry of the distribution, the value of skewness is -.211 suggests that the distribution is slightly negatively skewed but magnitude is small. The kurtosis i.e. peakedness of the variable is -.787, which makes the distribution platykurtic.

The measures mean, median, mode of the variable presence for meaning are 28.61, 29 and 30 respectively thus mean, median and mode are almost equal. The value of skewness is -.715 suggesting that the distribution is negatively skewed. The kurtosis i.e. peakedness of the variable is .440 which makes the distribution leptokurtic.

Mean, median and mode of the variable meaning in life are 49.85, 50 and 56 respectively thus mean and median are almost equal but the value of mode is higher

than both. The value of skewness is negligible (-.025). Hence the distribution can be considered non skewed. The kurtosis is -.467 hence distribution is slightly platykurtic.

For the variable vigor (Mean=26.88, Median= 27 and Mode= 25) and dedication (Mean=24.19, Median=25 and Mode=25) the measures of central tendency are almost equal but for absorption (Mean= 25.58, Median= 26 and Mode=30) the value of mean and median are equal but mode is slightly higher than both. The magnitude of skewness for vigor is negligible (.090) hence it is non skewed and platykurtic as the value of kurtosis is -.830. The distribution is negatively skewed (-1.023) for the variable dedication and leptokurtic (2.216). For the variable absorption, skewness is negligible the value being very small (.105) and the kurtosis value (1.113) makes it leptokurtic.

The mean, median and mode of work engagement are 76.65, 78.00 and 60 respectively thus mean is almost equal to median but mode value is smaller than both. The distribution is slightly negatively skewed with the skewness value of -.231 and peakedness or kurtosis is -.463 making it slightly platykurtic.

For the variable risk taking beahaviour the values of mean, meadian and mode are 85.86, 86 and 100 respectively. The distribution is slightly negatively skewed (-.374) and slightly platykurtic (-.472).

The discussion above ascertains that the variables being studied are not too much deviated from the normality and can hence be considered as normally distributed. Thus parametric techniques can be used in the further analysis.

To find out how the variables work engagement, organisational commitment, meaning in life and risk taking behaviour of defence officers was related, the investigator calculated the product moment correlation of these variables and the results are presented in table 11.

Table 11

Correlations of variables under study

Variables	1	2	3	4	5	6	7	8	9
Organizational commitment (1)	-								
Search (2)	-.121	-							
Presence (3)	.426**	-.243**	-						
Meaning in life (4)	.128	.830**	.340**	-					
Vigor (5)	.262**	-.074	.275**	.087	-				
Dedication (6)	.447**	.100	.375**	.312**	.535**	-			
Absorption (7)	.022	-.018	.056	.015	.572**	.395**	-		
Work engagement (8)	.256**	-.004	.254**	.143	.842**	.733**	.861**	-	
Risk Taking behaviour (9)	.551**	.052	.323**	.236**	.337**	.371**	-.042	.225**	-

**$p< .01$

From table 11, it is evident that the variable organisational commitment is positively correlated with the variable presence of meaning (r= .426, p< .01), vigor (r= .262, p< .01), dedication (r= .447, p< .01) and total work engagement (r= .256, p< .01). Positive correlation is also found between organisational commitment and risk taking behaviour (r= .551, p< .01).

Presence of meaning in life refers to the degree to which people experience their lives as comprehensible and significant and feel a sense of purpose or mission in their lives that transcends the simple concerns of daily life (Steger, 2006). Meyer and Allen (1997) stated that organisational commitment is a psychological state that

characterises the employees' relationship with the organisation and implication for the decision to continue membership in the organisation. A positive correlation between organisational commitment and presence of meaning (r=.426) as seen in table 5 means that when the officer perceives his life as being meaningful and significant, his psychological attachment to the organization increases. Defence is an organisation where officers get frequently transferred, but in study by Arya and Manikandan (2016) on army officers, it was found that the presence of meaning was absolutely independent of the place of posting. One of the major job characteristics of the Indian defence is frequent movement and postings and since the presence of meaning is independent of the place of posting, it is a great contributor to organisational commitment i.e. sustained psychological attachment to the organisation. Positive correlation of organisational commitment with vigor, dedication and total work engagement as seen in table 11 ascertains that when an officer is in a positive fulfilling frame of mind where he works with vigor and dedication, the feelings such as attachment, identification, and loyalty to the organisation (Morrow, 1993) increases. Work engagement contributes to organisational success as it is related to the positive outcomes at work such as organisational commitment, high performance quality, productivity, low absenteeism, satisfaction and loyalty, lack of desire to change profession and safety (Bakker, Hakanen, Demerouti, & Xantholoulov, 2007).

These results are supported by Arya and Manikandan (2013), they reported a significant positive correlation among presence of meaning, organisational commitment and the three components of work engagement i.e. vigor, dedication

and absorption. The only exception is that in the study no relation was found between organisational commitment and absorption.

Risk Taking is a behaviour by which the individual exposes oneself to physical and psychological injury and even to death (Amy, Elkind, & Ginsberg, 2006). Risk is an inevitable part of service in the defence as there is 24*7 uncertainty i.e. anything can happen anytime. The positive correlation between risk taking behaviour and organisational commitment shows that when the officer has high psychological attachment to the defence organisation, he would be ready to take action or make a decision in the course of uncertainty irrespective of the loss he has to bear if any. Risk taking is not only a means to achieve a goal but is also a symbolic form of nonverbal communication. It is a credible way to signal seriousness of intention and the depth of commitment (Triska, 1966).

The search for meaning has significant negative correlation with presence for meaning (r= -.243, p< .01). This result is supported by the study which shows that search for meaning is related to low presence of meaning, and lower well-being overall (Crumbaugh, 1977; Steger et al., 2006; Steger, Kashdan, & Oishi, 2008). Search concerns the degree to which people are engaged in a search for meaning in life. It pertains to the dynamic, active effort by people in trying to establish and/or augment their comprehension of the meaning, significance, and purpose of their lives (Steger, Kashdan, Sullivan, & Lorentz, 2013). Positive correlation exists between Search for meaning and total meaning in life (r= .830, p<.01). Some investigations suggest that the search for meaning is a basic human motivation (Frankl, 1963; Maddi, 1970), which can lead to increased meaning in life as the

desired outcome. Thus it can be said that when the officers are making efforts to establish their life as meaningful, their overall meaning in life increases.

The presence for meaning has significant positive correlation with meaning in life (r= .340, p<.01), vigor (r= .275, p<.01), dedication (r= .375, p<.01), work engagement (r= .254, p<.01) and risk taking behaviour (r= .323, p<.01). When people perceive their lives as significant and purposeful there exists presence of meaning in life. From the results, it can be observed that when the officers serving in the defence identify their lives as meaningful the total meaning in life increases and they work with more dedication and vigor. Similar results have been obtained in the study by Arya and Manikandan (2013) which was conducted on employees and significant positive correlation was found between presence of meaning and total meaning in life, vigor and dedication. As far as the positive relationship between the presence of meaning and risk taking behaviour is concerned, the officers serving the defence have presence of meaning hence they identify themselves positively and significantly with their duty, they have a sense of purpose in life and do not hesitate from taking risky decisions or indulging in risky choices whenever and wherever needed.

The meaning in life has positive correlation with dedication (r= .312, p<.01) (a component of work engagement) and risk taking behaviour (r= .236, p<.01). 'Dedication' is characterized by a strong psychological involvement in one's work, combined with a sense of significance enthusiasm, inspiration, pride and challenge (Schaufeli et al., 2002). From the results, it can be concluded that as the officers perceive their lives as meaningful they tend to develop strong psychological

attachment to their work and carry forward with enthusiasm and pride. They also are always ready to face the risk that they might encounter in their duty irrespective of the price they may have to pay for seeking risk.

From table 11, it can be also seen that risk taking behaviour are significantly and positively correlated with work engagement (r=.225, p<.01) and its components vigor (r=.337, p<.01) and dedication (r=.371, p<.01). The results reveal that the risk taking behavior (which is inevitable part) would definitely associated with officers positively fulfilling frame of mind and willing to make appreciable efforts in his job and persist in difficult situations (work with vigor) along with being psychologically attached to the work (dedication).

The results of inter-correlation among work engagement and its components revealed that work engagement has significant positive correlation with its three components vigor (r=.842, p<.01), dedication (r=.733, p<.01) and absorption (r=.861, p<.01) thus verifying the three component model proposed by Bakker and Schaufeli (2002).

To find out the extent of work engagement, organisational commitment, meaning in life and risk taking behavior of commissioned officers of the Indian Army and Indian Navy, the mean scores and standard deviation of each variables were calculated and presented in table 12.

Table 12

Mean, Sd, and 'N' of study variables by Defense Offices

Category	Statistics	OC	Search	Presence	Mlife	Vigor	Dedict	Absorp	Rtb
Army	Mean	159.49	21.61	28.58	50.19	26.77	24.34	25.48	85.90
	N	160	160	160	160	160	160	160	160
	S. D	18.67	7.134	4.221	7.41	4.211	3.59	6.09	10.15
Navy	Mean	161.00	15.82	29.00	44.81	28.45	21.91	27.09	85.27
	N	11	11	11	11	11	11	11	11
	S. D	24.34	9.315	6.68	9.35	5.07	6.38	5.52	11.66
Total	Mean	159.59	21.24	28.61	49.85	26.88	24.19	25.58	85.86
	N	171	171	171	171	171	171	171	171
	S. D	19.00	7.398	4.393	7.63	4.274	3.847	6.058	10.21

(Note: OC= Organisational Commitment, Mlife= Meaning in life, Dedict= Dedication, Absorp= Absorption, Wkeg= Work Engagement, Rtb= Risk taking behaviour.)

From table 12, it can be seen that mean score of organizational commitment for army officers is 159.49 and for navy officers is 161; both values are above the test value of organizational commitment which is 117. This result indicates that the officers in the Army and the Navy have good amount of commitment towards the organization. Organizational commitment is the continuous and ongoing relationship that the employees maintain with the organization to continue working in the organization, to spend effort to prevent damaging the aims and goals of the organization and to reach those aims and goals (Mowday, Steers, & Porter, 1979). The defence organization has a very scientifically designed selection process as well as training format. Highly motivated individuals are selected, who are trained to become officers. In the defence system training is an ongoing phenomenon and happens at regular intervals throughout the service. This can play a very important role in keeping the motivation of the officers high and thus in turn lead to

commitment towards the organization. Studies have shown that motivating potential score had positive correlation with organisational commitment and thus it was verified that if any improvements are made in job characteristics in a way that it would offer a motivating environment to the employees then it will lead to a rise in the level of organisation commitment (Bharami, 2016). Leadership is one of the prime qualities of the defence system, which is marked by honesty and integrity. Previous studies have established that if employees perceive high ethical leadership, it in turn would influence their willingness to engage in positive organisational commitment such as psychological attachment, work continuance, normative commitment and also organisational citizenship behaviour such as altruism, conscientiousness, courtesy and civic virtue. Thus it can be said that highly ethical leaders can stimulate the commitment of employees towards achieving the values goals and missions of the organisation. Thus motivation through training and ethical leadership can be considered to be the contributing factors to the high organisational commitment in the sample.

While comparing the mean scores of meaning in life of Army officers (Mean= 50.19) and Navy officers (Mean=44.81) with the test score (Score=40.00), it can be concluded that the officers have high meaning in life. Similarly in army officers the mean score for search (Mean= 21.61) and presence (Mean= 28.58) is higher than the test score (Score=20.00). When the same comparison is done for the navy officers it is found that the Mean score (Mean=15.82) for search is lower than test value (Score= 20), but for the component presence the mean score (Mean= 29) is higher than the test value. The total meaning in life is high for the officers.

Theorists and researchers agree that having a meaningful life is critical for human beings (Deci & Ryan, 2000; Ryff & Singer, 1998) it plays an important role in the human positive functioning. It is possible that the officers serving the nation identify their life as meaningful and significant as they are involved in safeguarding their motherland. Thus they have higher mean scores in meaning in life which in turn can enhance their career adaptability. These results have been established in a study by Yuen and Yan (2015), that there exists a positive relationship between meaning in life and career adaptability. Presence of meaning was recognized as the predictor of male student's career concern, control, curiosity and confidence. In the navy officers the search component of meaning in life is low but they have higher levels of presence component and total meaning in life. Search concerns the degree to which people are engaged in a search for meaning in life. It pertains to the dynamic, active effort by people in trying to establish and/or augment their comprehension of the meaning, significance, and purpose of their lives (Steger, in press; Steger, Kashdan, Sullivan, & Lorentz, in press).

For the army officers, the mean score for vigor (Mean=26.77), dedication (Mean=24.34) and absorption (Mean=25.48) is much higher than the test value of 18, 18 and 15 respectively. In the navy officers where the mean score of vigor (Mean=28.45), dedication (Mean=21.91) and absorption (Mean=27.09) is much higher than the scale value. The extent of work engagement is reported higher in both army and navy officers because the mean scores of the components vigor dedication and absorption is much higher than the test value.

While explaining the occurrence of high work engagement in the officers, mainly two theoretical concepts can be considered. First the Social Exchange Theory and second the JD-R model of work engagement. The social exchange theory (Thibaut & Kelley, 1959) offers the basic idea that in return for the resources that the organization offers to the employees in the form of reward, salary, incentives etc. they return the favours by engaging themselves in the work. Reciprocity is the basic idea of this theory. The better salary and service condition of defence officers may create a positive work attitude and thus bring better work behaviour.

The second explanation can be based on the JD-R model which is the job demand-resource model. Majority of studies on work engagement is based on this model as an explanatory framework (Bakker & Demerouti, 2008; Schaufeli & Taris, in press). JD-R model pins down the relations between demand/resource and wellbeing and attitudinal outcomes. Many studies have demonstrated that job resources promote engagement. Schaufeli and Bakker (2009) demonstrated that constructive feedback, social support and coaching from supervisors are all ideals of job resources and were positively associated with the three dimensions of engagement; vigor, dedication and absorption.

The test score for the variable risk taking behavior is 63 whereas the mean score is Mean= 85.90 for army officers and Mean= 85.27 for navy officers i.e. the sample under study had a high risk taking behavior. An officer must have the capacity to lead under extreme conditions. What separates military leadership from leadership in most other organizations is the necessity to face and cope with extreme

situations where your own life as well as the lives of those you command is a danger. Under these demanding conditions an officer will have to make decisions that may result in both taking lives and risking lives. Officers after graduating from the military academy face challenges and unforeseen situations. Unforeseen situations will need sound risk taking abilities. The combat exposure tends to increase the tendency to indulge in risky behaviour. The systematic training and combat exposure during the service can be the predictors of high risk taking behaviour in the officers.

To know the influence of organisational commitment, meaning in life and risk taking behaviour of defence officers on their work engagement, the total participants were categorised into three groups as low, average and high group. This categorization was done separately for the three variables i.e. organisational commitment, meaning in life and risk taking behaviour using the principle Mean ± ½ SD. The details of classification and number of participants in each group for the variables organisational commitment, meaning in life and risk taking behaviour are given in table 13.

Table 13
Number of participants in each category for organisational commitment, Meaning in life and risk taking behavior

Group	Organizational commitment	Meaning in life	Risk taking behaviour
Low	49	62	56
Average	63	51	54
High	59	58	61
Total	171	171	171

From table 13, it can be seen that there were 49 participants in low group, 63 in average and 59 in high group of organizational commitment. In the case of variable meaning in life there were 62 participants in low group, 51 in average group and 58 participants belong to high meaning in life group. The classification of risk taking behaviour yielded 56 participants in low group, 54 in average group and 61 in high risk taking group.

To study the influence of organisational commitment, meaning in life and risk taking behaviour on work engagement, three-way ANOVA was carried out for work engagement and its three components vigor, dedication and absorption and the results are presented in the following tables.

Table 14

Summary of ANOVA of Vigor by Organisational commitment, Risk taking and Meaning in life (3 x 3 x 3)

Source of variance	Sum of Squares	Mean Square	df	F
Organisational commitment	39.710	19.855	2	1.32
Risk taking behavior	122.679	61.339	2	4.08*
Meaning in life	7.558	3.779	2	0.25
Organisational Commitment * Risk taking behavior	30.467	7.617	4	0.51
Organisational Commitment * Meaning in Life	2.333	.583	4	0.04
Risk taking behaviour* Meaning in Life	96.722	24.181	4	1.61
Organisational Commitment * Meaning in Life * Risk taking behavior	134.135	19.162	7	1.27
Error	2180.959	15.041	145	
Total	126687.000		171	

*p< .05

From table 14, it can be seen that the variable risk taking behaviour has significant main effect on the vigor component of work engagement ($F=4.08$, $p<.05$). Risk Taking is a behaviour by which the individual exposes oneself to physical and psychological injury and even to death (Amy, Elkind & Ginsberg, 2006). The standard understanding of risk represents it as having two key elements: action in the face of probabilistically modelled uncertainty concerning outcome (*chance*) and the idea of loss *(negativity)* (Rescher, 1983). It is a credible way to signal seriousness of intention and the depth of commitment (Triska, 1966). An officer must have the capacity to lead under extreme conditions. What separates the military leadership from leadership in most other organizations is the necessity to face and cope with extreme situations where his own life as well as the lives of those he commands is in danger.

Military leadership demands robustness in order to think clearly and effectively and cope with ones feelings when facing complex and difficult situations (Forsvant, 2012). Risk is prevalent in the entire working life of the officers and if they can manage the risk without getting distressed then it will definitely be a contributing factor towards the performance. When the officers would be high risk takers, they would be definitely be more vigorous about their performance as vigor indicates the high levels of energy and mental resilience while working and their willingness to make appreciable efforts in their job and persistence in difficult situations (Schaufeli, Bakker & Demerouti, 2002). Risk taking behaviour is considered as a personal resource of the officers. Personal resources are positive self-evaluations that are linked to resiliency and refer to individuals' sense of their

ability to control and impact upon their environment successfully (Hobfoll, Johnson, Ennis, & Jackson, 2003). The relationship between personal resource and engagement has been investigated by Rothmann and Storm (2003) and Xanthopoulou, Bakker, Demerouti and Schaufeli (2007c), according to the result, employees who have personal resources like self-efficacy, self-esteem, resilience, have confidence in their capabilities and are optimistic about their future, which allows them to be more engaged in their jobs.

A badly designed job or high job demands exhaust the mental and physical resources of an employee and therefore lead to exhaustion and health problems. Job stress or burnout develops when job demands are high and when job resources are limited, thus the result obtained in table 14 which shows the significant main effect of risk taking behaviour on the vigor dimension is empirically verified. Risk taking behaviour as a personal resource will help the officers to spurt into action with vigor whenever needed.

To find out which group of risk taking behaviour makes the difference the mean scores of low, average and high group of risk takers on vigor was calculated and analysed using one way ANOVA followed by multiple comparison of means (Scheffe's test) and the results are presented in table 15.

Table 15

Mean, SD, N and Scheffe's F of Vigor by Risk taking behaviour

Group	Mean	S. D	N	Low Risk	Average Risk	High risk
Low Risk	25.09	3.95	56	—		
Average Risk	26.87	3.67	54	5.39	—	
High risk	28.54	4.65	61	21.17**	4.87	—

*p< .01

From table 15, it can be seen that the group with high risk taking behaviour has the highest Vigor (Mean=28.54). The Scheffe's procedure revealed that there is significant difference between the high risk takers and the low risk takers (F= 21.17, p<.01) for the vigor component. As discussed above, the high risk taking officers are more mentally resilient and are willing at all times to energetically perform their duties. Vigorous officers are the assets of the nation. The vigor component of work engagement negatively predicts exhaustion and cynicism and positively predicts personal accomplishment in the officers (Queiros, Teixeira, & Marques, 2012). Thus Risk taking behaviour can be considered as an important trait of an officer as it has significant influence on the vigor of the officers.

Table 16

Summary of ANOVA of Dedication by Organisational commitment, Risk taking and Meaning in life (3 x 3 x 3)

Source of Variance	Sum of Squares	df	Mean Square	F
Organisational commitment	128.88	2	64.44	5.55**
Risk taking behaviour	27.63	2	13.81	1.19
Meaning in life	110.33	2	55.16	4.75**
Organisational Commitment * Risk taking behaviour	42.56	4	10.64	0.92
Organisational Commitment * Meaning in Life	65.67	4	16.41	1.41
Risk taking behaviour* Meaning in Life	16.98	4	4.24	0.37
Organisational Commitment * Meaning in Life * Risk taking behaviour	40.01	7	5.72	0.49
Error	1684.208	145	11.615	
Total	102554.00	171		

 *p< .01

Table 16 shows that organizational commit has significant main effect on dedication (F=5.55, p<.01). Similarly meaning in life has also significantly and independently influencing the dedication (F=4.75, P<.01) of the participants. There was no two-way or three-way interaction on dedication.

Meyer and Allen (1997) stated that organisational commitment is a psychological state that characterises the employees' relationship with the organisation and implication for the decision to continue membership in the organisation. Strong organisational commitment causes employees to work harder to achieve the objectives of the organisation (Allen & Meyer, 2004). An individual may commit to the organization because he/she perceives a high cost of losing organizational membership and social costs (friendship ties with co-workers) would be costs of losing organizational membership. Moreover without commitment from

employees, the organisation will face physical and psychological withdrawal behaviour that can cause losses in profit and lack of human resources. 'Dedication' is characterized by a strong psychological involvement in one's work, combined with a sense of significance, enthusiasm, inspiration, pride and challenge (Schaufeli et al., 2002). Thus it can be said that the officers who are highly committed to the defence organisation would thrive harder to accomplish their duties and hence be more dedicated towards their organisation.

According to Baumeister (1991) in our life we do face many complexities, adversity and unexpected and unpredictable situations yet many people find this experience as enriching and maintain that they have achieved their meaning in life. The officers while on duty are exposed to many unexpected and unpredictable situations every day. Those officers who are able to experience this situation as enriching are the ones having high meaning in life. Meaning in life has an important correlation with mental health and well-being. Significant relation was established between sense of meaning in life, positive work orientations, career commitment and work motivation (Bostioff & Vanwyk, 2010). Decades of research have provided empirical evidence that meaning in life plays an important role in human positive functioning. It is positively associated with psychological and subjective well -being, and quality of life (Ho, Cheung, & Cheung, 2010), self-esteem (Schlegel, Hicks, King, & Arndt, 2011), hope (Mascaro& Rosen, 2005), self-efficacy (DeWitz, Woolsey, & Walsh, 2009) etc. As far as defence officers are considered well-being is inevitable because they are expected to perform even in extremely unfavourable conditions. Thus officers with high meaning in life have

higher well- being and positive work attitudes. As a result they would have a strong psychological involvement in their work, combined with a sense of significance, enthusiasm, inspiration, pride and challenge or in other words will have high dedication towards their work. Arya and Manikandan (2013) also reported that workers who were having high meaning in life significantly influence their dedication-one of the component of work engagement.

To find out which group of organizational commitment makes difference on dedication, the mean, s.d and n of the dedication by organizational commitment was calculated and compared using Scheffe's test. The results are presented in table 17.

Table 17

Mean, SD, N and Scheffe's F of Dedication by Organisational Commitment

Group	Mean	S. D	N	Low OC	Average OC	High OC
Low OC	22.51	5.10	49	__		
Average OC	23.63	2.80	63	2.42	__	
High OC	26.17	2.59	59	24.97**	13.46**	__

**p<.01 (Note: OC= Organisational Commitment)

From table 17, it can be seen that the group with high organisational commitment has the highest dedication (Mean=26.17) and low mean score for low organizational commitment (Mean=22.51). The results revealed that the difference was between low and high (F=24.97, p< .01) organizational commitment and between average and high group (13.46, p< .01). When an individual is psychologically as well as physically involved in his work, enhanced performance

can be expected because they would thrive to sustain in their organisation by using their psychological capabilities.

Table 18

Mean, SD, N and Scheffe's F of Dedication by Meaning in life

Variable	Mean	S. D	N	Low MIL	Average MIL	High MIL
Low MIL	22.94	3.82	62	__		
Average MIL	23.80	4.24	51	1.38	__	
High MIL	25.86	2.84	58	17.09**	7.78*	__

*p<.05. **p<.01 (Note: MIL= Meaning in life)

The officers with high meaning in life have the highest dedication in their work (Mean=25.86). The follow up analysis revealed that the significant difference was between low and high meaning in life group (F=17.09, p< .01) and between average and high (F=7.78, p< .05). Meaning in life is considered as an important correlate of mental health and well-being. Significant relation was established between sense of meaning in life, positive work orientations, career commitment and work motivation. Commitment and motivation can also be expressions of a sense of meaning in one's life (Bostioff &Vanwyk, 2010). When the mental well-being is high, the officers would have a psychological attachment with their work, as accomplishment of their goals and duties is adding significance to their lives.

Table 19

Summary of ANOVA of Absorption by Organisational commitment, Risk taking and Meaning in life (3 x 3 x 3)

Source of variance	Sum of Squares	df	Mean Square	F
Organisational commitment	17.57	2	8.78	0.30
Risk taking behaviour	70.79	2	35.39	1.21
Meaning in life	21.84	2	10.92	0.37
Organisational Commitment * Risk taking behaviour	184.02	4	46.00	1.58
Organisational Commitment * Meaning in Life	27.81	4	6.95	0.24
Risk taking behaviour* Meaning in Life	493.73	4	123.43	4.23**
Organisational Commitment * Meaning in Life * Risk taking behaviour	243.35	7	34.76	1.19
Error	4230.29	145	29.17	
Total	118173.00	171		

**p< .01

From table 19, it can be seen that there is no significant 3-way interaction on absorption but there exist a significant two-way interaction between risk taking behaviour and meaning in life on absorption (F=4.23, p< .01). This indicates that the different levels of risk taking behaviour and the levels of meaning in life interact each other on the absorption which is one of the component of work engagement. There was no main or two-way interaction effect between risk taking behaviour and organizational commitment and organizational commitment and meaning in life.

To know more about the interaction of risk taking behaviour and meaning in life on absorption the cell mean of the variable absorption was calculated and the details are presented in table 20.

Table 20

Cell means, sd and n of groups of Risk Taking and Meaning in Life for Absorption.

Variable		Risk Taking Behaviour			Total
	Group	Low	Average	High	
Meaning in Life	Low	23.52 4.83 (29)	24.83 4.21 (23)	32.70 7.86 (10)	25.48 6.07 (62)
	Average	25.33 5.58 (15)	26.21 4.15 (14)	27.18 4.98 (22)	26.37 4.92 (51)
	High	29.00 3.54 (12)	28.06 3.53 (17)	21.55 7.79 (29)	25.00 6.92 (58)
Total		25.18 5.19 (56)	26.20 4.15 (54)	25.41 7.97 (61)	25.58 6.06 (171)

{Note: Cell order= Mean, Sd and n}

The officers with low meaning in life and high risk taking behaviour have the highest absorption (Mean= 32.70) and the officers with high meaning in life and high risk taking behaviour have the lowest absorption (Mean=21.55). To have more clarity where the interaction occurs the investigator has drew the interaction graph and presented as figure 1.
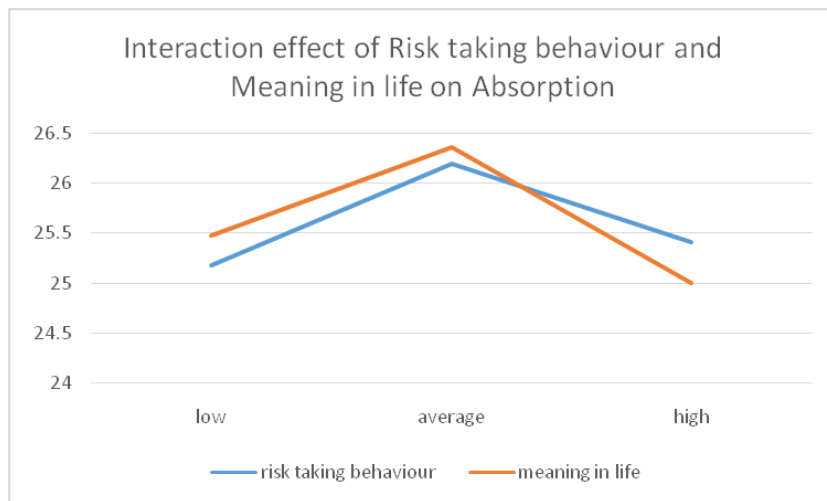
Figure 1: Interaction effect of risk taking behaviour and meaning in life

From figure 1, it can be seen that the interaction is in between average and high group of risk taking behaviour and meaning in life. This indicates that person with above average risk taking behavior and meaning in life will be having the character of absorption. Absorption is characterized by being fully concentrated and happily engrossed in one's work, whereby time passes quickly and one has difficulties with detaching oneself from work. Thus the participants with above average risk taking behaviour and meaning in life will voluntarily engage themselves in their duties and be fully focused without the need of any compulsion from the authorities.

Table 21

Summary of ANOVA of Work Engagement by Organisational commitment, Risk taking behaviour and Meaning in life (3 x 3 x 3)

Source of variance	Sum of Squares	df	Mean Square	F
Organisational commitment	440.26	2	220.13	2.03
Risk taking behaviour	545.90	2	272.95	2.51
Meaning in life	269.60	2	134.80	1.24
Organisational Commitment * Risk taking behaviour	445.56	4	111.39	1.03
Organisational Commitment * Meaning in Life	181.49	4	45.37	0.42
Risk taking behaviour* Meaning in Life	1059.58	4	264.90	2.44*
Organisational Commitment * Meaning in Life * Risk taking behaviour	801.99	7	114.57	1.06
Error	15740.973	145	108.558	
Total	1027810.00	171		

*$p < .05$

From table 21, it can be seen that there is no 3-way interaction among organizational commitment, meaning in life and risk taking behaviour, but there exists a two-way interaction between risk taking behavior and meaning in life on work engagement (F=2.44, p< .05).

Table 21 revealed that there is an interaction effect of risk taking behaviour and meaning in life on work engagement. To know more details about the mean scores of the interaction groups, the cell mean were calculated and presented in table 22.

Table 22

Cell means, sd and n of groups of Risk Taking and Meaning in Life for Work Engagement.

Variables		Risk Taking Behaviour			Total
	Group	Low	Average	High	
Meaning in Life	Low	69.07 1.01 (29)	74.52 9.47 (23)	90.10 8.84 (10)	74.48 1.20 (62)
	Average	75.53 1.35 (15)	76.43 8.35 (14)	82.36 9.35 (22)	78.13 1.09 (51)
	High	80.92 6.90 (12)	80.76 9.24 (17)	74.52 1.36 (29)	77.67 1.16 (58)
Total		72.80 6.90 (56)	76.98 9.35 (54)	79.90 1.28 (61)	76.66 1.16 (171)

{Note: Cell order= Mean, Sd and (n)

The officers with low meaning in life and high risk taking behaviour have the highest work engagement (Mean=90.10). The lowest score coincides for two cell combinations i.e.   the participants with high meaning in life and high risk taking

behaviour and the participants with low meaning in life and average risk taking behaviour. These two combinations have the lowest work engagement (Mean=74.52) as show in table 22. High meaning in life may make the participants philosophical where nothing else would seem to affect or motivate them because they might feel self-actualised. Since risk is dominant and prevalent in the nature of duties to be accomplished in the defence system, high risk taking is mandatory trait of the participants to have work engagement. To have more clarity where the interaction occurs the investigator has drawn interaction graph and presented as figure 2.
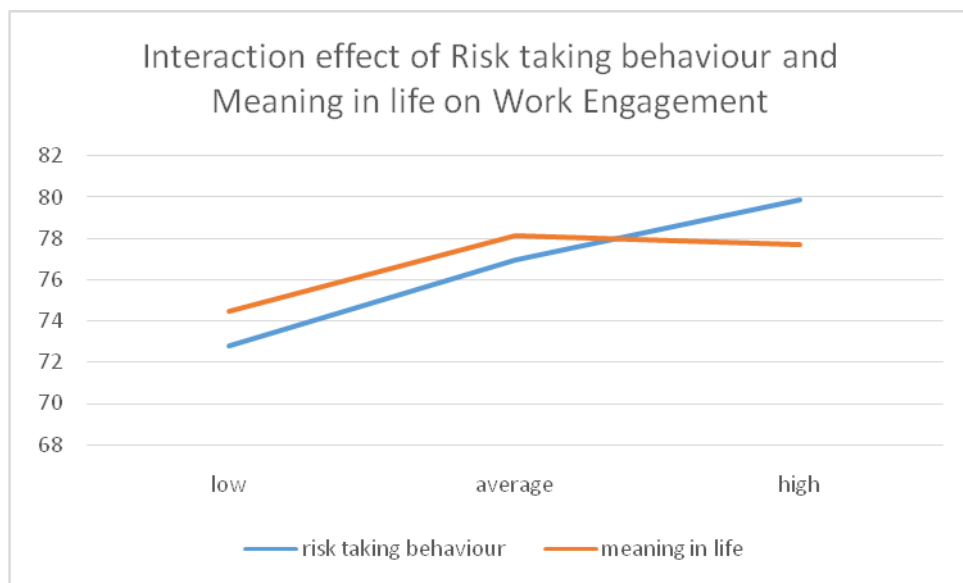
Figure 2: Interaction effect of risk taking behaviour and meaning in life on work engagement

The result reveals that the officers who have high risk taking behaviour and low meaning in life have higher work engagement. High risk taking means that the officer is physically and mentally ready to take action even when confronted with uncertain and ambiguous situation which may account to loss. Officers with low

meaning in life consider work life as more important than personal emotions. Engagement is a positive, fulfilling, work-related state of mind characterized by vigor, dedication and absorption. Officers who are high risk takers and who find their work as meaningful and significant would be more engrossed in their duties and would experience higher levels of positively fulfilled state at their work.

The officers are the national assets and the pride of the nation. They are more patriotic in their approach rather than being individualistic. High risk taking is an essential trait of the officers because risk is prevalent in all duties in the defence organisation. An officer must have the capacity to lead under extreme conditions. What separates military leadership from leadership in most other organizations is the necessity to face and cope with extreme situations where his own life as well as the lives of those he command is in danger. Under these demanding conditions an officer will have to make decisions that may result in both taking lives and risking lives. High risk takers will not be hesitant to take immediate action in the face of threat. Risk taking is not only a means to achieve a goal but is also a symbolic form of nonverbal communication. It is a credible way to signal seriousness of intention and the depth of commitment (Triska, 1966). In a study on military decision making it was found that individuals who felt that they can control the situation tended to make more risky decisions (Higbee, 1972). Though meaning in life is an indicator of wellbeing as indicated by many researches, people with very high meaning in life may have a more philosophical view towards life. They might be preoccupied with their life goals as the high meaning in life may lead to self- actualization. Charlotte Buhler (1972) mentioned that Self-actualization is neither man's ultimate aim nor a

primary intention. Self-actualization is an effect of meaning fulfilment just like happiness. If man tries to seek self-actualisation then it loses its importance, it's something that should follow and not to be sought after. It is life's unintentional effect of life's intentionality of achieving meaning.

The defence organisation needs officers who give more importance to their profession rather than focussing on a different purpose of life. The officers should be able to associate with the goals of the defence organisation to safeguard our mother land and be able to sense the purpose and significance of their lives by accomplishing their duties to the best of their potential.

From the discussion it can be concluded that to have more work engagement, the officers should be high risk takers but have low or average meaning in life, not high meaning in life so that they do not shift their focus on their personal goals and sentiments.

Part II

Influence of Demographic Variables

This part presents the influence of the defence variables (Rank and Posting) and the personal variables (Birth order and Marital status) on work engagement and its components namely vigor, dedication and absorption.

The army being a very specialized organization has a structure and functions which are quite different from organizations in the civil. Some of the job demands in the defence are similar to the civil jobs but some demands are relatively unique and quite exclusive to the military system. Frequent posting is one unique job demand of

the defence. Officers posted in the peace stations have to strike a balance between family and work life whereas officers deployed in the field area are expected to deliver high performance even though they may suffer from anxiety as they are away from the family and are also exposed to a novel and risky environment. In the field areas there is exposure to potentially traumatizing events, such as experiencing threats to one's safety, exposure to human suffering or death, including difficult living conditions without availability of basic amenities. Thus posting is an important defence variable and the influence of these variables on work engagement need to be studied. The defence has a comparatively rigid structure and the job roles are specifically limited to the defence hierarchy. Thus rank is another defence variable and the influence of rank has to be studied on work engagement. Information about certain demographic variables like birth order, age, native place etc were collected through the personal data sheet. The influence of birth order and marital status of the officers on the work variables were also studied because a large number of studies support that the birth order influences the personality of a person. Alfred Adler also considered birth order as a predictor of personality. The influence of marital status on work performance has also been established in many studies.

To find out the number of participants in each category of rank and posting, cross tabulation along with orgasnizational commitment was done and results are presented in table 23. Since there were only 6 colonels in the sample, they have been clubbed with Lt Colonels and a total of 24 officers were grouped into one group and named colonel for this model.

The breakup of participants show that total 49 officers have low organisational commitment in which there are 9 Lieutenants (6 in field and 3 in peace posting), 18 captains (7 in field and 11 in peace), 9 Majors (6 in field and 3 in peace) and 13 Colonels (10 in field and 3 in peace). In the sample 63 officers have average organisational commitment in which there are 15 Lieutenants (9 in field and 6 in peace posting), 31 captains (5 in field and 26 in peace), 9 Majors (3 in field and 6 in peace) and 8 Colonels (5 in field and 3 in peace). 59 officers have high organisational commitment. The break up is as follows 16 Lieutenants (15 in field and 1 in peace), 26 Captains (5 in field and 21 in peace), 14 Majors (8 in field and 6 in peace) and 3 Colonels wherein 1 is posted in field and 2 are posted in peace.

Table 23

Cell frequencies of Organizational Commitment x Rank x Posting

Variable	Rank		Statistics	Posting		Total
				Field	Peace	
Low Organizational commitment	Rank	Lieutenant	Observation	6	3	9
			% of Total	12.2%	6.1%	18.4%
		Captain	Observation	7	11	18
			% of Total	14.3%	22.4%	36.7%
		Major	Observation	6	3	9
			% of Total	12.2%	6.1%	18.4%
		Colonel	Observation	10	3	13
			% of Total	20.4%	6.1%	26.5%
	Total		Observation	29	20	49
			% of Total	59.2%	40.8%	100.0%
Average Organizational commitment	Rank	Lieutenant	Observation	9	6	15
			% of Total	14.3%	9.5%	23.8%
		Captain	Observation	5	26	31
			% of Total	7.9%	41.3%	49.2%
		Major	Observation	3	6	9
			% of Total	4.8%	9.5%	14.3%
		Colonel	Observation	5	3	8
			% of Total	7.9%	4.8%	12.7%
	Total		Observation	22	41	63
			% of Total	34.9%	65.1%	100.0%
High Organizational commitment	Rank	Lieutenant	Observation	15	1	16
			% of Total	25.4%	1.7%	27.1%
		captain	Observation	5	21	26
			% of Total	8.5%	35.6%	44.1%
		major	Observation	8	6	14
			% of Total	13.6%	10.2%	23.7%
		Colonel	Observation	1	2	3
			% of Total	1.7%	3.4%	5.1%
	Total		Observation	29	30	59
			% of Total	49.2%	50.8%	100.0%

To study the influence of defence variables i.e. rank, posting along with organisational commitment on the work engagement and its dimensions: vigor,

dedication and absorption, three-way ANOVA was carried out and the results are presented in the table 24.

Table 24

Summary of ANOVA of Work engagement by Rank x Posting x Organizational commitment (4 x 2 x 3)

Source of Variance	Sum of Squares	df	Mean Square	F
Rank	531.46	3	177.15	1.585
Posting	3.72	1	3.72	0.033
Organizational commitment	1623.81	2	811.90	**7.264**
Rank * Posting	800.49	3	266.83	2.387
Rank * Organizational commitment	1342.06	6	223.68	2.001
Posting * Organizational comitment	59.15	2	29.57	0.265
Rank * Posting * Organizational commitment	503.19	6	83.87	0.750
Error	15523.49	147	105.60	
Total	1027810.00	171		

**p<.01

From table 24, it can be seen that the main effect of organisational commitment on work engagement is evident (F= 7.264, p<.01). There was no two-way or three-way interaction effect in this model. Rank, posting and organisational commitment does not interact or no joint influence on the work engagement of the participants. This implies that Rank and Posting of the officers do not have any significant influence over the work engagement. But this model revealed that organisational commitment significantly influences the work engagement of defence officers.

Organisational commitment is an attitude which reflects feelings such as attachment, identification, and loyalty to the organisation (Morrow, 1993). Meyer

and Allen (1997) ascertained that commitment is a psychological state and has a minimum of three distinct components they are: 1) A Desire (Affective Commitment), 2) A Need (Continuance Commitment), and 3) An obligation (Normative Commitment). Northcraft and Neale (1996), said commitment is an attitude reflecting an employee's loyalty to the organisation and an ongoing process through which members express their concern and obligation for the organisation. The defence organisation needs highly committed officers because a big responsibility of safeguarding the nation is entrusted upon them. It can be said that highly committed officers would be more engaged in their work and possess more vigor, dedication and absorption. The result of table 24 shows that committed participants were in a positive fulfilled frame of mind.

To find out which group of organizational commitment makes difference on work engagement, the Mean, SD and N of the work engagement by organizational commitment was calculated and compared using Scheffe's test. The results are presented in table 25.

Table 25

Mean, SD, N and Scheffe's F of Work Engagement by Organisational Commitment

Group	Mean	S. D	N	Low OC	Average OC	High OC
Low OC	73.71	1.27	49	-	-	
Average OC	75.87	8.89	63	0.99	-	
High OC	79.93	1.26	59	7.94*	3.85	-

*$p<.05$ (Note: OC= Organisational Commitment)

In table 25 the multiple mean comparison by Scheffe's procedure shows that there is significant difference in the work engagement between participants having high and low organisational commitment (F=7.94, p<.01).

To study the influence of defence variables i.e. rank, posting along with organisational commitment on the dimension: vigor, 3-way ANOVA was carried out and the results are presented in the table 26.

Table 26

Summary of ANOVA of Vigor by Rank x Posting x Organizational commitment (4 x 2 x 3)

Source of variance	Sum of Squares	df	Mean Square	F
Rank	88.69	3	29.56	1.894
Posting	3.40	1	3.40	0.218
Organisational Commitment	206.26	2	103.13	6.606**
Rank * Posting	61.34	3	20.45	1.310
RANK * Organisational Commitment	140.40	6	23.40	1.499
Posting* Organisational Commitment	27.86	2	13.93	0.892
RANK * Posting * Organisational Commitment	73.08	6	12.181	0.780
Error	2294.84	147	15.61	
Total	126687.00	171		

**p<.01

From table 26, it can be observed that only the main effect of organisational commitment on vigor dimension is evident (F= 6.606, p<.01). Thus it can be said that organisational commitment significantly influences the vigor of the participants. Rank and Posting do not have any significant influence over the vigor dimension.

There was no two-way or three-way interaction effect in this model. Rank, posting and organisational commitment does not interact or no joint influence on the vigor of the participants. According to the results, the participants who are more attached to their work will be more willing to work with high levels of energy and be resilient during difficult situations or in other words, the participants who have high organisational commitment will have high vigor at work.

To find out which group of organizational commitment makes difference on vigor dimension, the Mean, SD and N of vigor by organizational commitment was calculated and compared using Scheffe's test. The results are presented in table 27.

Table 27

Mean, SD, N and Scheffe's F of Vigor by Organisational Commitment

Group	Mean	S. D	N	Low OC	Average OC	High OC
Low OC	25.94	3.92	49			
Average OC	26.17	3.83	63	.084		
High OC	28.42	4.63	59	9.57*	8.97*	

*p<.05   (Note: OC= Organisational Commitment)

In table 27 the multiple mean comparison by Scheffe's procedure revealed that there is significant difference in the vigor between participants having high and low organisational commitment (F=9.57, p<.05) and between participants having high and average organisational commitment (F=8.97, p<.05).

To study the influence of defence variables i.e. rank, posting along with organisational commitment on the dimension: dedication, 3-way ANOVA was carried out and the result is presented in the table 28.

Table 28

Summary of ANOVA of Dedication by Rank x Posting x Organizational commitment (4 x 2 x 3).

Source of variance	Sum of Squares	df	Mean Square	F
Rank	13.27	3	4.42	0.354
Posting	17.91	1	17.91	1.433
Organisational Commitment	214.54	2	107.27	8.583**
Rank * Posting	50.02	3	16.67	1.334
RANK *Organisational Commitment	67.30	6	11.22	0.897
Posting * Organisational Commitment	20.08	2	10.04	0.803
Rank * Posting * Organisational Commitment	93.94	6	15.66	1.253
Error	1837.20	147	12.50	
Total	102554.00	171		

**$p<.01$

From table 28, it can be observed that there is main effect of organisational commitment on dedication dimension of work engagement (F= 8.585, $p<.01$). This results implies that the variable organisational commitment significantly influences the dedication of defence officers. Rank and Posting do not have any significant influence over the dedication dimension. There is no interaction of rank, posting and organisational commitment. From the results of table 24, 26 and 28, one can infer that officers who have commitment towards their organisation will work with vigor and dedication and also their total work engagement will be high at work. They will be in a positively fulfilling frame of mind at work.

To find out which group of organizational commitment makes difference on dedication, the Mean, SD and N of dedication by organizational commitment was calculated and compared using Scheffe's test. The results are presented in table 29.

Table 29

Mean, SD, N and Scheffe's F of Dedication by Organisational Commitment

Group	Mean	S. D	N	Low OC	Average OC	High OC
Low OC	22.51	5.10	49			
Average OC	23.63	2.80	63	2.73		
High OC	26.17	2.59	59	28.32**	15.53**	

**p< .01. (Note: OC= Organisational Commitment)

Table 29 gives the results of multiple mean comparison by Scheffe's procedure of the variable dedication by different levels of organizational commitment revealed that there is significant difference in the dedication between participants having high and low organisational commitment (F=28.32, p<.01) and between participants having high and average organisational commitment (F=15.53, p<.05).

To study the influence of defence variables i.e. rank, posting along with organisational commitment on the dimension: absorption, 3-way ANOVA was carried out and the result is presented in the following table 30.

Table 30

Summary of ANOVA of Absorption by Rank x Posting x Organizational commitment (4 x 2 x 3).

Source of variance	Sum of Squares	df	Mean Square	F
Rank	150.05	3	50.02	1.803
Posting	17.20	1	17.20	0.620
Organisational Commitment	144.40	2	72.20	2.603
Rank * Posting	242.73	3	80.91	2.916*
Rank * Organisational Commitment	450.67	6	75.11	2.707**
Posting * Organisational Commitment	25.52	2	12.76	0.460
Rank * Posting * Organisational Commitment	131.85	6	21.98	0.792
Error	4078.17	147	27.74	
Total	118173.00	171		

*$p<.05$. **$p<.01$

From table 30, it can be seen that there is no 3-way interaction between organizational commitment, rank and posting but there exists 2 two-way interactions, that is between 1) rank and posting ($F=2.916$, $p< .05$) and 2) rank and organisational commitment ($F=2.707$, $p<.01$) on absorption.

Table 30 revealed that there is an interaction effect of rank and posting on absorption and between rank and organisational commitment on absorption dimension. To know more details about the interaction, the cell mean were calculated and presented in table 31, and then the result was plotted in the line graph presented as figure 3.

Table 31

Cell means, Sd and n of Absorption for different levels of Rank and posting

Variable		Posting		Total
	Group	Field	Peace	
Rank	Lieutenant	27.37 4.91 (30)	29.10 3.93 (10)	27.80 4.69 (40)
	Captain	27.41 6.03 (17)	22.47 5.74 (58)	23.59 6.13 (75)
	Major	28.12 7.59 (17)	26.73 5.93 (15)	27.47 6.79 (32)
	Colonel	25.62 5.23 (16)	25.62 4.59 (8)	25.62 4.92 (24)

{Note: Cell order= Mean, Sd and (n)
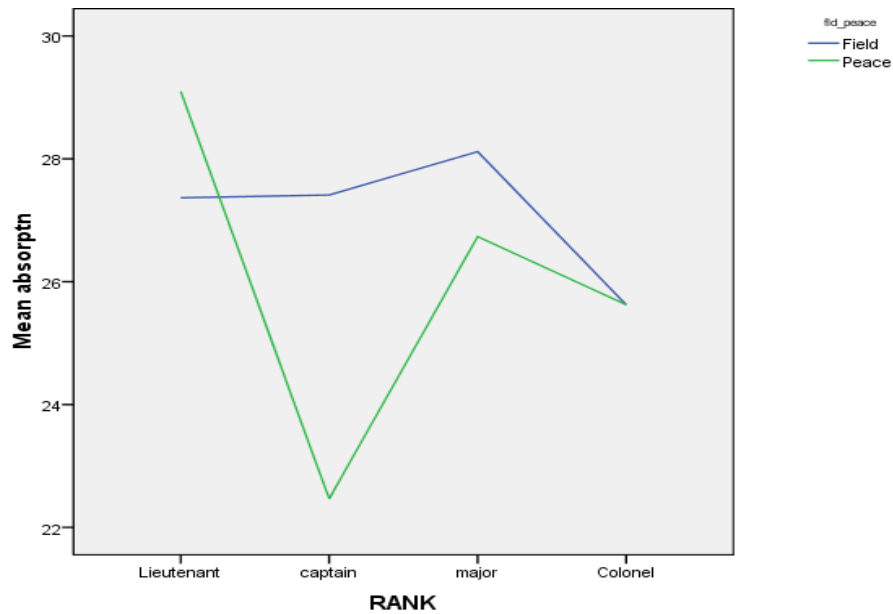
Fig 3: Interaction graph of Rank and Posting on Absorption.

From figure 3, it can be seen that absorption of the officers in field and peace is interacting at two points. This interaction is present in the Lieutenants and the

Colonels. The graph also shows that the Absorption is highest for the Lieutenants in field and is lowest for the captains in the field.

Table 32

Cell means, Sd and n of Absorption for different levels of posting and organisational commitment

Variable		Posting		Total
	Group	Field	Peace	
Organisational Commitment	Low	25.28 5.79 (29)	25.25 5.20 (20)	25.27 5.49 (49)
	Average	26.45 5.02 (22)	25.85 4.21 (41)	26.06 4.48 (63)
	High	29.66 5.69 (29)	21.17 7.32 (30)	25.34 7.79 (59)

{Note: Cell order= Mean, Sd and (n)

.

Fig 4: Interaction graph of Organisational commitment and Posting on Absorption

Figure 4 shows that the absorption of the officers posted in the field and peace are interacting when the organisational commitment is low. Towards high organisational commitment there is a sharp increase in the absorption of the officers posted in the field whereas there is sharp decline in absorption in the officers posted in the peace. Thus in the field higher the organisational commitment, higher is the absorption at work whereas in the peace higher the organisational commitment lower is the absorption.

To study the role rank, posting along with independent variable risk taking behaviour on the work engagement and its dimensions: vigor, dedication and absorption, 3-way ANOVA was carried out and the result is presented in table 33.

Table 33

Summary of ANOVA of Work Engagement by Rank X Posting X Risk Taking Behaviour

(4 x 2 x 3).

Source of Variance	Sum of Squares	df	Mean Square	F
Rank	838.57	3	279.52	2.647
Posting	74.82	1	74.82	0.708
Risk taking behaviour	1300.78	2	650.39	6.159**
Rank * Posting	283.31	3	94.44	0.894
Rank * Risk taking behaviour	497.60	6	82.93	0.785
Posting * Risk taking behaviour	674.89	2	337.45	3.195*
Rank * Posting * Risk taking behaviour	1091.55	6	181.93	1.723
Error	15523.49	147	105.60	
Total	1027810.00	171		

*p<.05. **p<.01

From table 33, it can be seen that there is no three-way interaction among Rank, Posting and Risk taking behaviour. Two way interaction of posting and risk taking behaviour is found on work engagement (F=3.195, p<.05) and the main effect of risk taking behaviour on work engagement (F=6.159, p<.01). In this model posting and rank are interacting with each other and significantly influencing the work engagement of the officers. Risk taking behaviour had significant independent influence over work engagement.

As the follow up analysis of the main effect of risk taking behaviour on work engagement, post hoc analysis (Scheffe's procedure) for multiple mean comparison was calculated after the one way ANOVA of work engagement by risk taking behaviour was found to be significant. This procedure was carried out to determine which combination makes the difference.

Table 34

Mean, SD, N and Scheffe's F of Work Engagement by Risk taking behaviour

Group	Mean	Standard Deviation	N	Low Rtb	Average Rtb	High Rtb
Low Rtb	72.80	11.39	56	-		-
Average Rtb	76.98	9.35	54	3.75	-	
High Rtb	79.90	12.76	61	11.48*	1.90	-

*p< .05 (Note: Rtb= Risk taking behaviour)

In table 34 the multiple mean comparison by Scheffe's procedure shows that there is significant difference in the work engagement between participants having high and low risk taking behaviour (F=11.48, p<.05) .

Since two way interaction was found in table 33 between posting and risk taking behaviour on work engagement, the cell means of work engagement by posting and risk taking behaviour were calculated and tabulated in table 35.

Table 35

Mean, SD, N of Work Engagement by Risk taking behaviour* Posting

Posting	Risk	Mean	N	S D
Field	Low	71.90	22	13.44
	Average	75.19	27	9.32
	High	86.68	31	9.25
	Total	78.74	80	12.29
Peace	Low	73.38	34	10.03
	Average	78.78	27	9.20
	High	72.90	30	12.18
	Total	74.82	91	10.77

From table 35, it can be seen that the participants who have high risk taking behaviour and are posted in the field have the maximum work engagement (Mean=86.68) and participants who are posted in the field and have low risk taking behaviour have the lowest work engagement (Mean=71.90). In most field areas families cannot join and even the basic amenities are not available. In short the life is difficult in the field and bestowed with great responsibility and threat round the clock. Generally they have to live in temporary barracks, tents, bunkers etc. In high altitude areas they face many problems as there is lack of oxygen and harsh weather conditions. Normal life style cannot be maintained in high altitude areas. Special diet is needed for survival at higher altitudes. In the field areas regular training for war is not possible. Field areas are generally in and around the borders of the country where the threat of foreign attack and invasion is very high. Since the nature

of duties in the field areas is very risk prone only the officers with high risk taking abilities will be able to thrive. Only those officers who can handle the uncertainity will be able to be in a positively fulfilled frame of mind at work.

To study the influence of rank, posting along with independent variable risk taking behaviour on the dimension vigor 3-way ANOVA was carried out and the results are presented in the following table 36.

Table 36

Summary of ANOVA of Vigor by Rank x Posting x Risk Taking Behaviour (4 x 2 x 3).

Source of variance	Sum of Squares	df	Mean Square	F
Rank	128.20	3	42.733	3.02*
Posting	20.68	1	20.677	1.461
Risk taking behaviour	291.81	2	145.905	10.31**
Rank * Posting	57.15	3	19.050	1.35
Rank * Risk taking behaviour	76.61	6	12.768	0.90
Posting * Risk taking behaviour	40.48	2	20.239	1.43
Rank * Posting * Risk taking behaviour	178.02	6	29.669	2.10
Error	2080.656	147	14.154	
Total	126687.00	171		

*p<.05. **p<.01

From table 36 it can be seen that there is a significant main effect of rank and risk taking behaviour on Vigor. Rank (F=3.02. p<.05) and risk taking behaviour (F=10.31, p<.01) are independently having significant influence on vigor. There is no evidence of two-way interaction or three-way interaction. To get more clarity about the result, follow up analysis was done.

One way ANOVA of vigor by rank and one way ANOVA of vigor by risk taking behaviour was calculated and presented in table 37 and 39 respectively. One way ANOVA was followed by multiple mean comparisons using Scheffes procedure. The results are presented in the following tables.

Table 37

Summary of one-way ANOVA of Vigor by Rank

Source of variance	Sum of Squares	Df	Mean Square	F
Between Groups	190.387	3	63.462	
Within Groups	2915.274	167	17.457	3.64**
Total	3105.661	170		

**p<.01

The one way ANOVA of vigor by rank revealed that the mean scores on vigor of officers belongs to different rank significantly differ (F=3.64, p<.01). The Indian army follows a particular code of honour which has been in practice for the past few eras. Indian army stands by its valour, fidelity and honour. The main characteristics of Indian soldiers are valour, self-sacrifice, honesty, discipline, integrity, courage and determination. The defence organisation has a highly formal structure with great emphasis on hierarchy. The commissioned officers join service as Lieutenants and then reach the higher ranks based on experience and performance. Rank defines the power exercised by the officers. To find out how exactly the vigor dimension varies across the hierarchy, multiple mean comparison was done using Scheffe's procedure and the results are presented in table 38.

Table 38

Mean, SD, N and Scheffe's F of Vigor by Rank.

Group	Mean	SD	N	Lieutenant	Captain	Major	Colonel
Lietenant	27.93	4.75	40				
Captain	25.69	3.10	75	35.96**	-		
Major	27.66	4.08	32	.36	23.91**	-	
Colonel	27.83	3.86	24	.041	6.99	.012	-

From table 38 it can be seen that there exists significant main difference between the vigor of Lieutenants and that of Captain. When we look into the mean score of these two groups, Lieutenants score high mean score than the Captains. Similarly there exists a significant difference between the mean scores of Captain and Major on their vigor score and on comparing again it could be seen that Captains have the lowest mean score. This could have been possible because the Captains in the sample were undergoing a training program at the time when data was been collected.

Table 39

Summary of ANOVA of Vigor by Risk taking behaviour

Source of variance	Sum of Squares	Df	Mean Square	F
Between Groups	347.87	2	173.93	
Within Groups	2757.79	168	16.42	10.596**
Total	3105.66	170		

**p<.01

The result of one way ANOVA revealed that there exist significant mean difference among the difference group of risk taking behavior on vigor of the officers (F=10.596, p<.01)..

Any situation is said to be risky when there exists ambiguity in the situation, uncertainty in the result and the probability of loss is high, hence people can say that all risky situations are uncertain but not vice-versa. Risk is the likelihood that validly predictable direct and indirect consequences with potentially adverse values will materialize, arising from particular events, self-behaviour, environmental constraints or the reaction of an opponent or third party. The result in table 39 shows that participants with high risk taking behaviour will be highly vigorous at work. They will work with high levels of energy and mental resilience and will be willing to make appreciable efforts in the job along with persistence in difficult situations (Schaufeli, Bakker & Demerouti, 2002). Participants who are vigorous at work are highly motivated by the job and remain very persistent while facing difficulties or obstacles at work.

Table 40

Mean, SD, N and Scheffe's F of Vigor by Risk taking behaviour.

Group	Mean	SD	N	Low Rtb	Average Rtb	High Rtb
Low Rtb	25.09	3.95	56	-		
Average Rtb	26.87	3.37	54	5.30	-	
High Rtb	28.54	4.65	61	21.16**	4.87	-

**$p<.01$ (Note: Rtb= Risk taking behaviour)

From table 40, the multiple comparison of mean (Scheffe's procedure) shows that there is significant difference in the vigor between participants having high and low risk taking behaviour (F=21.16, p<.01) . The participants with high risk taking behaviour have higher work engagement than the participants with low risk taking behaviour.

To study the influence of rank, posting along with independent variable risk taking behaviour on the dimension dedication 3-way ANOVA was carried out and the result is presented in table 41.

Table 41

Summary of ANOVA of Dedication by Rank X Posting X Risk Taking Behaviour (4 x 2 x 3).

Source of variance	Sum of Squares	df	Mean Square	F
Rank	35.134	3	11.711	.881
Posting	47.076	1	47.076	3.540
Risk taking behaviour	175.640	2	87.820	6.604**
Rank * Posting	11.688	3	3.896	.293
Rank * Risk taking behaviour	38.300	6	6.383	.480
Posting * Risk taking behaviour	.887	2	.444	.033
Rank * Posting * Risk taking behaviour	115.804	6	19.301	1.451
Error	1954.768	147	13.298	
Total	102554.000	171		

**p<.01

From table 41 the main effect of risk taking behaviour is found to be significant. Risk taking behaviour (F=6.604, p<.01) is independently having significant influence ovn dedication. There is no evidence of two-way or three-way interaction. To get more clarity about the result, follow up analysis was done.

Table 42

Summary of ANOVA of Dedication by Risk taking behaviour

Source of Variance	Sum of Squares	df	Mean Square	F
Between Groups	346.694	2	173.347	
Within Groups	2169.318	168	12.913	13.43**
Total	2516.012	170		

**p<.01

The result of one way ANOVA of dedication by risk taking behaviour was found to be significant (F=13.43, p<.01). 'Dedication' is characterized by a strong psychological involvement in one's work, combined with a sense of significance enthusiasm, inspiration, pride and challenge (Schaufeli, Bakker & Demerouti, 2002). The participants who are capable of taking risk will be more psychologically attached to their work as the nature of work in the defence is of high risk nature. They will not shirk from duties and will be efficient even when the situation is ambiguous and may pose a threat to life.

Table 43

Mean, SD, N and Scheffe's F of Dedication by Risk taking behaviour.

Group	Mean	SD	N	Low Rtb	Average Rtb	High Rtb
Low Rtb	22.54	4.39	56	-		
Average Rtb	23.91	3.67	54	3.84	-	
High Rtb	25.95	2.57	61	25.28**	8.88*	-

*p<.05. **p<.01   (Note: Rtb= Risk taking behaviour)

Table 43 gives the result of multiple mean comparison (Scheffe's procedure) and the results revealed that there exists significant mean difference on dedication between participants having high and low risk taking behaviour (F=25.28, p<.01) and between participants having high and average risk taking behaviour (F=8.88, p<.05). This means that the dedication of participants with high risk taking behaviour is higher than that of the participants with low risk taking behaviour. Similarly the dedication of the participants with high risk taking behaviour is higher than that of the participants with average risk taking behaviour.

To study the influence of rank, posting along with variable risk taking behaviour on absorption 3-way ANOVA was carried out and the results are presented in the table 44.

Table 44

Summary of ANOVA of Absorption by Rank x Posting x Risk Taking Behaviour (4 x 2 x 3).

Source of variance	Sum of Squares	Df	Mean Square	F
Rank	196.541	3	65.514	2.506
Posting	7.611	1	7.611	0.291
Risk taking behaviour	33.959	2	16.979	0.650
Rank * Posting	74.368	3	24.789	0.948
Rank * Risk taking behaviour	107.223	6	17.871	0.684
Posting * Risk taking behaviour	373.157	2	186.578	7.138**
Rank * Posting * Risk taking behaviour	212.162	6	35.360	1.353
Error	3842.370	147	26.139	
Total	118173.000	171		

**$p<.01$

From table 44, it can be seen that there is no three-way interaction between Rank, Posting and Risk taking behaviour on absorption. But significant two-way interaction of posting and risk taking behaviour is found on absorption (F=7.138, p<.01). In this model posting and rank are interacting with each other and significantly influencing the absorption of the officers. To understand where the interaction occurs, the cell mean of absorption by rank and posting were calculated and presented in table 45.

Table 45

Mean, SD, N of Absorption by Risk taking behaviour x Posting

Posting	Risk taking behaviour	Mean	N	S D
Field	Low	24.45	22	5.484
	Average	25.59	27	4.190
	High	30.52	31	5.784
	Total	27.19	80	5.812
Peace	Low	25.65	34	5.020
	Average	26.81	27	4.114
	High	20.13	30	6.329
	Total	24.18	91	5.949
Total	Low	25.18	56	5.191
	Average	26.20	54	4.159
	High	25.41	61	7.967
	Total	25.58	171	6.058

From table 45, it can be seen that total 80 participants are posted in the field out of which the participants having the highest risk taking behaviour have the highest absorption (Mean=30.52, N=31). Similarly 91 participants were posted in the peace and among them 27 participants who had average risk taking behaviour had the maximum absorption (Mean=26.81). Thus it can be concluded that the participants posted in the field and having high risk taking behaviour has the highest absorption. Absorption refers specifically to the total concentration on and immersion in work characterized by quick passage of time and difficulty in detaching oneself from one's work. The participants posted in the field and having high risk taking behaviour will have the maximum absorption in work because the

nature of wok in the field is highly demanding and risky. The officers have to be vigilant all the time because there is always a high probability of attack from the neighbouring nations. They have to be focused in their duties and cannot detach themselves from their work.

To study the influence of rank, posting along with meaning in life on work engagement 3-way ANOVA was carried out and the results are presented in the table 46.

Table 46

Summary of ANOVA of Work Engagement by Rank x Posting x Meaning in Life (4 x 2 x 3)

Source of variance	Sum of Squares	df	Mean Square	F
Rank	838.406	3	279.469	2.308
Posting	10.964	1	10.964	0.091
Meaning in Life	1170.571	2	585.285	4.833**
Rank * Posting	862.712	3	287.571	2.375
Rank * Meaning in Life	417.003	6	69.501	0.574
Posting * Meaning in Life	196.379	2	98.190	0.811
Rank * Posting * Meaning in Life	1105.516	6	184.253	1.522
Error	17801.302	147	121.097	
Total	1027810.000	171		

**p<.01

From table 46, it can be see that there is no three-way or two-way interaction among Rank, Posting and meaning in life on work engagement and but there is a main effect of meaning in life on work engagement (F=4.833, p<.01). Meaning in life had significant independent influence over work engagement. The mean, sd and

n have been tabulated in table 47 to determine which group has the highest work engagement.

Table 47

Mean, Sd, n of work engagement by Meaning in life

Meaning in Life	Mean	N	SD
Low	74.48	62	12.04
Average	78.14	51	10.98
High	77.67	58	11.61

From table 47 it was evident that the participants with average meaning in life had the highest work engagement (Mean=78.14) and the participants with lowest meaning in life are the least work engaged (Mean=74.48). According to Baumeister (1991) 'in our life we do face many complexities and adversity along with unexpected and unpredictable situations yet many people find this experience as enriching and maintain that they have achieved their meaning in life'. Average meaning in life indicates that the person is considering his life as meaningful but is not solely focussed on establishing the meaning by prioritising his emotions. He gives more importance to the organisational goals and strives to achieve them. He would mould his life goals in sync with that of the organisation. So it was established that average meaning in life caters to highest work engagement among the participants.

To study the role of defence rank, posting along with independent meaning in life on the vigor dimension, 3-way ANOVA was carried out and the results are presented in table 48.

Table 48

Summary of ANOVA of Vigor by Rank x Posting x Meaning in Life (4 x 2 x 3)

Source of Variance	Sum of Squares	df	Mean Square	F
Rank	58.571	3	19.524	1.228
Posting	1.284	1	1.284	0.081
Meaning in Life	178.048	2	89.024	5.598**
Rank * Posting	69.779	3	23.260	1.463
Rank * Meaning in Life	152.050	6	25.342	1.594
Posting * Meaning in Life	19.090	2	9.545	0.600
Rank * Posting * Meaning in Life	140.178	6	23.363	1.469
Error	2337.586	147	15.902	
Total	126687.000	171		

**p<.01

From table 48 it can be observed that there is no three way interaction among Rank, Posting and meaning in life on vigor but the main effect of meaning in life on vigor is found to be significant (F=5.598, p<.01). In this model posting and rank are not interacting with each other. Meaning in life is found to be the single variable which significantly influencing the vigor of the participants.

To study the influence of defence variables i.e. rank, posting along with independent variable meaning in life on the dedication, 3 way ANOVA was carried out and the result are presented in the following table 49.

Table 49

Summary of ANOVA of Dedication by Rank x Posting x Meaning in Life (4 x 2 x 3)

Source of variance	Sum of Squares	df	Mean Square	F
Rank	34.994	3	11.665	0.839
Posting	6.776	1	6.776	0.488
Meaning in Life	197.924	2	98.962	7.122**
Rank * Posting	18.006	3	6.002	0.432
Rank * Meaning in Life	58.998	6	9.833	0.708
Posting * Meaning in Life	36.169	2	18.085	1.301
Rank * Posting * Meaning in Life	58.504	6	9.751	0.702
Error	2042.604	147	13.895	
Total	102554.000	171		

**p<.01

From table 49, it can be observed that there is no three-way interaction among Rank, Posting and meaning in life on dedication, but there was a main effect of meaning in life on dedication (F=7.122, p<.01). This implies that posting and rank are not interacting with each other. Meaning in life had significant independent influence over the dedication dimension. To get more clarity about the result, follow up analysis was done.

Table 50

Summary of ANOVA of Dedication by Meaning in Life

Source of variance	Sum of Squares	df	Mean Square	F
Between Groups	267.334	2	133.667	
Within Groups	2248.678	168	13.385	9.986**
Total	2516.012	170		

**p<.01

The result of one way ANOVA on dedication by meaning in life was found to be significant (F=9.986, p<.01). This means the mean scores of participants who belongs to different meaning in life groups significantly differ on their dedication. To have more understanding, the mean, sd and n of dedication by meaning in life was calculated and multiple mean comparison by Scheffe's procedure has been done to know which groups significantly differ. The result of Scheff's test was given in table 51.

Table 51

Mean, SD, N and Scheffe's F of Dedication by Meaning in Life

Group	Mean	SD	N	Low MIL	Average MIL	High MIL
Low MIL	22.94	3.819	62	-		
Average MIL	23.80	4.238	51	2.07	-	
High MIL	25.86	2.844	58	25.58**	11.53*	-

*p<.05. **p<.01   (Note MIL=Meaning in Life)

In table 51 gives the result of multiple mean comparison by Scheffe's procedure and revealed that there is significant difference in the dedication between participants having high and low meaning in life (F=25.58, p<.01) and between participants having high and average (F=11.53, p<.05) meaning in life. This means that the dedication of participants with high meaning in life is higher than that of the participants with low meaning in life. Similarly the dedication of the participants with high meaning in life is higher than that of the participants with average meaning in life. 'Dedication' is a strong psychological involvement in one's work, combined with a sense of significance enthusiasm, inspiration, pride and challenge (Schaufeli, Bakker & Demerouti, 2002). The participants with highest meaning in

life will be the most dedicated to their work. When the work life is considered significant and the person believes that his purpose of life is being served then he will feel psychologically attached to his work and take pride in accomplishing his work goals.

To study the role of the variables rank, posting along with independent variable meaning in life on the absorption dimension, 3-way ANOVA was carried out and the results are presented in table 52.

Table 52

Summary of ANOVA of Absorption by Rank x Posting x Meaning in Life (4 x 2 x 3)

Source of variance	Sum of Squares	df	Mean Square	F
Rank	265.439	3	88.480	2.710*
Posting	22.862	1	22.862	0.700
Meaning in Life	90.236	2	45.118	1.382
Rank * Posting	289.959	3	96.653	2.960*
Rank * Meaning in Life	16.456	6	2.743	.084
Posting * Meaning in Life	40.348	2	20.174	.618
Rank * Posting * Meaning in Life	267.652	6	44.609	1.366
Error	4799.212	147	32.648	
Total	118173.000	171		

*p<.05

Table 52 gives the details of main and interaction effect of rank, posting and meaning in life on absorption of defence officers and found that there exist main effect of rank on the absorption (F=2.710, p<.05). The rank of the participants is significantly influencing the absorption dimension. There   is no three-way interaction among Rank, Posting and meaning in life on absorption but there exist

two-way interaction of rank and posting on absorption (F=2.960, p<.05). To get more clarity about the result, follow up analysis was done. The results of one way ANOVA was found to be significant. The multiple mean comparison by Scheffe's procedure has been done and the results are presented in table 53.

Table 53

Mean, SD, N and Scheffe's F of Absorption by Rank

Group	Mean	N	Lieutenant	Captain	Major	Colonel
Lieutenant	27.80	40	-			
Captain	23.59	75	13.72*	-		
Major	27.47	32	.06	10.01	-	
Colonel	25.62	24	2.11	2.22	1.39	-

*p<.05. **p<.01

When the mean scores of people belonging to different rank on absorption was calculated and compared, it was found that the mean scores of Lieutenant and Captain significantly differ on absorption (f = 13.7, P<.05).

To verify the third hypothesis that the personal variables birth order and marital status will have a significant influence on work engagement and its dimensions vigor, dedication and absorption, oneway ANOVA was done for work engagement and its dimensions by birth order and by marital status seperatley.

Birth order has been considered as an influencing factor on personality Alfred Adler (1976) who considered birth order as a predictor of personality. Certain personality traits are associated with the birth order like the first born individuals are considered to be most authoritarian, middle children usually receive the least attention in the home and may develop strong peer relationship to compensate and

the youngest children may receive too much attention and be spoiled. According to Frank Sulloway (1999) first born children tend to be conservative and conformists but youngest children tend to be independent and rebellious in regard to family and cultural norms. In order to find the influence of birth order on the work engagement of defence officers one way ANOVA was carried out and the results are presented in table 54.

Table 54

Summary of ANOVA of Work Engagement by Birth order

Variables	Source of Variance	Sum of Squares	df	Mean Square	F
Work Engagement	Between Groups	241.90	2	120.949	0.892
	Within Groups	22774.75	168	135.564	
	Total	23016.64	170		
Vigor	Between Groups	44.54	2	22.268	1.222
	Within Groups	3061.13	168	18.221	
	Total	3105.66	170		
Dedication	Between Groups	10.80	2	5.397	0.362
	Within Groups	2505.22	168	14.912	
	Total	2516.01	170		
Absorption	Between Groups	46.66	2	23.328	0.633
	Within Groups	6192.86	168	36.862	
	Total	6239.52	170		

From table 54, it can be seen that work engagement and its dimensions vigor, dedication and absorption are not significantly influenced by birth order. This result

could be contributed to the fact that the base of performance in the defence context is independent of birth order and largely dependent on the tough and thorough training that the officers undergo. The training moulds their personality and this effect may overpower the influence of birth order on personality.

Indian defence is an organisation where it is mandatory that the individual should be unmarried at the time of recruitment and can get married only after the training is completed. The prevalence of this norm in the defence made the investigator explore if marital status of the officers had an influence on the work engagement and its dimensions. For the mean score on work engagement and its dimension of married and unmarried were compared and the results are presented in table 55.

Table 55

Mean, Sd and 't' value of work engagement and its dimensions by Marital status

Variables	Marital Status	N	Mean	SD	't' Value
Work Engagement	Married	73	77.04	11.34	0.37
	Unmarried	98	76.37	11.90	
Vigor	Married	73	27.22	4.03	0.89
	Unmarried	98	26.63	4.45	
Dedication	Married	73	24.45	3.70	0.78
	Unmarried	98	23.99	3.96	
Absorption	Married	73	25.37	6.28	0.39
	Unmarried	98	25.74	5.92	

From table 55 it was seen that there was no significant mean difference on work- engagement, vigor, dedication and absorption of married and unmarried officers. Thus it could be inferred that marital status does not have a significant effect on work engagement and its dimensions.

Alcohol is an intoxicant and the prolonged use can create a dependency (Arya & Manikandan, 2016). Moreover studies have shown that exposure to combat in the field regions is a risk factor for elevated symptoms of depression (Lapierre, Schwegler & La Bauve, 2007), Post traumatic stress disorder, (PTSD) (Bullman & Kang, 1994), Abuse of alcohol and other substance. In the sample both teetotallers and alcohol consumers had been reported. To find out the influence of alcohol consumption of participants on work engagement and its dimension, the mean scores of those who consume alcohol and not, on work engagement and its dimension were compared using 't' test and the results are presented in table 56.

Table 56

Mean, Sd and 't' value of work engagement and its dimensions by Alcohol Consumption

Variables	Alcohol consumption	N	Mean	S D	't' value
Work Engagement	yes	104	76.38	11.98	0.39
	no	67	77.09	11.16	
Vigor	yes	104	26.83	4.38	0.22
	no	67	26.97	4.13	
Dedication	yes	104	23.95	4.12	0.99
	no	67	24.55	3.39	
Absorption	yes	104	25.60	5.78	0.03
	no	67	25.57	6.51	

From table 56 it can be inferred that there is no mean difference between the alchohol consumers and the teetotallers on the work engagement, vigor, dedication and absorption as the t-value is not significant. Thus it can be said that alchohol consumption does not affect the work engagement and its dimension.

Chapter 6

Summary and Conclusion

A job attitude is a set of evaluations of one's job that constitute one's feeling towards, beliefs about, and attachment to one's job. Employees evaluate their advancement opportunities by observing their job, their occupation, and their employer. Job attitudes like job satisfaction and organisational behaviour are being investigated upon for many years but recently the concept of work engagement has been added to the list of job attitudes. Since work engagement is a comparatively new concept, there are very few studies that have been conducted and there is enormous scope of research on work engagement.

Schaufeli and his co-researchers (2002) defined engagement as a positive, fulfilling, work-related state of mind characterized by vigor, dedication and absorption. Most of the studies on work engagement is based on the JD-R model because though there are many other models which form a theoretical base, JD-R model most specifically and most accurately defines the concept of engagement at work. For the person to work with vigor dedication and absorption, it is important that they have some psychological attachment towards their work. There is need to identify oneself with the work and have intentions to continue with the work. Thus organisational commitment does play a role in engaging the employees. Meaning in life is man's basic striving and people who establish meaning in their life would prove to be better performance at work as significant relation has been established between sense of meaning in life, positive work orientations, career commitment and work motivation. Commitment and motivation can also be expressions of a sense of meaning in one's life (Bostioff & Vanwyk, 2010). According to Tolman

Risk Taking is a purposive behaviour that is enacted with the goal of achieving a particular outcome. Risk taking behaviour can be an important contributor to work performance if the nature of work is risk prone because , the greater is one's need to obtain a specific outcome, the greater is the individual's willingness to endure harm to reach the desired outcome.

Despite the tough selection process which involves a thorough psychological screening and fitness tests of the candidates, the recommended candidates (by the service selection board) can at any point of their service in the defence fall victim to the highly stressful work conditions. This will lead to deteriorated mental health and would affect their work performance and lead to self-destructing tendencies and fragging.

It was observed that throughout the service a lot of emphasis is laid on the physical fitness, which is evident from the regime that is set for the officers. Mental fitness is a key factor in enhancing performance at work and the probability that mental health in officers may deteriorate is evident from the conditions in which they work especially when they are posted in the field and during war. Thus it can be said that the person declared fit to be commissioned in the defence at the time of selection, can any time succumb to the pressure of the working conditions and become unfit both mentally and physically if proper measures are not taken to maintain the same. The officers are working in the field as well as the peace formations. The work nature in the two areas are entirely of different nature. Life is difficult in the field and bestowed with great responsibility and threat round the clock. Generally they have to live in temporary barracks, tents, bunkers etc. In high

altitude areas they face many problems as there is lack of oxygen and harsh weather conditions. Normal life style cannot be maintained in high altitude areas. Special diet is needed for survival at higher altitudes. In the field areas regular training for war is not possible. A unit is brought back to the peace station for rest, refitting and training every three years. In the peace station since the location is away from the borders, the nature of work is administrative. It is in the peace that training is programmed and the tanks and equipment are refitted and maintained.

Keeping in mind the above facts the investigator tried to identify variables (through a thorough review) which could:

- Enhance performance at work in the context with the work nature in defence

- Determine life's meaning and significance

- Determine risk taking during highly stressful and risk prone conditions

- Help to establish psychological attachment to work

- Determine how the interaction of the selected variables would affect work performance.

Based on the above mentioned criteria the four variables namely Work Engagement, Meaning in Life, Risk Taking Behaviour and Organisational Commitment were selected to be studied.

Statement of the Problem

The present study is entitled as **"ORGANISATIONAL COMMITMENT, MEANING IN LIFE AND RISK TAKING BEHAVIOUR ON WORK ENGAGEMENT OF DEFENCE OFFICERS".**

Objectives

1. To find out the extent of Work engagement, Organisational commitment, Meaning in life and Risk taking behavior of officers who are commissioned in the Indian Army and Indian Navy.

2. To find out how the variables Work engagement, Organisational commitment, Meaning in life and Risk taking behavior of officers are related to each other.

3. To find out how the Organizational commitment, Meaning in life and Risk taking behavior of defense officers influence their Work Engagement.

4. To find out the influence of defence and personal variables along with organizational commitment and meaning in life on work engagement.

Hypotheses

1. Defense officers have remarkably high Work engagement, Organisational commitment, Meaning in life and Risk taking behavior.

2. Work engagement, Organisational commitment, Meaning in life and Risk taking behaviorof are significantly correlated.

3. Organisational commitment, Meaning in life and Risk taking behaviorof will have significant influence on work engagement.

4.   Personal and defence variables will have a significant influence over work engagement and its dimensions vigor, dedication and absorption.

Participants

Participants of the study consist of 171 Indian defence officers in which 160 were Army officers and 11 were Navy officers. Among the total participants 80 officers were posted in the field and 91 officers were posted in the peace locations. Out of the total number of participants, 74 officers were first born, 60 second born and 37 third born. With regard to the marital status, 73 officers were married and 98 were unmarried. Convenient sampling method has been used to select the sample.

Instruments

- Utrecht Work Engagement Scale (Schaufeli& Bakker, 2006).

- Meaning in Life Questionnaire (Steger, Frazier, Oishi, &Kaler, 2006).

- Organisational commitment Scale (Balachandran& Thomas, 1996).

- Personal Data Sheet

- Risk Taking Behaviour Scale (Arya & Manikandan, 2013).

Procedure

The investigator got prior appointment from the scientist of DIPR (Defense Institute of Psychological Research), New Delhi to discuss about the purpose of the study and to get an insight into the formal procedure to seek the permission from different units to conduct the study in the officers. As per the discussion, request letters were sent to various army brigades, Kochi naval base and Jodhpur Air force

station. With the permission of the general officer commanding, a suitable time and day was fixed for the investigator to interact with the officers and distribute the research instruments to the participants. For the data collection, the officers were invited to the army officer's mess and the investigator gave them an insight into the purpose of this study and assured about the confidentiality. The research instruments were distributed to the officers with all the necessary instructions. After completion, the filled research instruments were collected back and checked for omissions. In the same way data was collected from the naval officers of Kochi Naval Base. After the research instruments were filled by the officers, it was collected back, scored and fed into the spreadsheet for further statistical analysis. The investigator also sent a letter of gratitude to the senior officials for their support and co-operation amidst their very busy schedule which helped to make the study successful.

Statistical Techniques Used

The statistical techniques used were based on the objectives set and the hypotheses which was formulated. The following were the statistical techniques used.

1. Correlation
2. ANOVA
3. Scheffe's Test
4. t-test

Findings of the study

Extent of work engagement, vigor, dedication and absorption, organisational commitment, meaning in life and risk taking behaviour among the participants.

- The army and navy officers have high organisational commitment.

- The meaning in life, presence of meaning as well as search for meaning is high for army officers.

- For the navy officers the extent of meaning in life and presence of meaning is high whereas the search for meaning is low.

- The army as well as navy officers have high vigor, dedication and absorption. Thus their total work engagement is high.

- Both army and navy officers have high risk taking behaviour.

Relation among work engagement and its three dimension vigor, dedication and absorption with organisational commitment, meaning in life and risk taking behaviour.

- Work engagement has significant positive correlation with organisational commitment, meaning in life, presence of meaning and risk taking behaviour.

- Vigor has significant positive correlation with organisational commitment, risk taking behaviour and presence of meaning.

- Dedication is significantly correlated to organisational commitment, risk taking behaviour, meaning in life and presence of meaning.

- Absorption does not have any significant correlation with organisational commitment, meaning in life and risk taking behaviour.

The influence of organisational commitment, meaning in life and risk taking behaviour on the work engagement and its dimensions vigor dedication and absorption of the defence officers.

- The risk taking behaviour has significant influence on the vigor dimension of work engagement.

- There is a significant difference in vigor between high and low risk takers.

- Organisational commitment and meaning in life have independent significant influence on dedication.

- There was significant difference in dedication between officers having high organisational commitment and low organisational commitment as well as between officers having high organisational commitment and average organisational commitment.

- There was significant difference of dedication between high meaning in life group and low meaning in life group as well as between high meaning in life and average meaning in life group.

- There was a significant two-way interaction between risk taking behaviour and meaning in life on absorption.

- The officers with low meaning in life and high risk taking behaviour have the highest absorption and the officers with high meaning in life and high risk taking behaviour have the lowest absorption.

- The officers with above average risk taking behavior and above average meaning in life will be having the character of absorption.

- There is two-way interaction between risk taking behaviour and meaning in life on work engagement.

- The officers with low meaning in life and high risk taking behaviour have the highest work engagement.

- The officers with high meaning in life and high risk taking behaviour and the officers with low meaning in life and average risk taking behaviour have the lowest work engagement.

Influence of Demographic variables on wok engagement, vigor, dedication and absorption

- The defence variables rank and posting are not independently influencing work engagement and its dimensions vigor and dedication.

- Organisational commitment is having an independent influence on work engagement, vigor and dedication when taken along with rank and posting.

- There was a significant two-way interaction between rank and posting on absorption when taken along with organisational commitment.

- There was significant two-way interaction between rank and organisational commitment on absorption.

- Risk taking behaviour is independently influencing the work engagement when taken along with rank and posting.

- Work engagement of officers with high risk taking behaviour is higher than that of the officers having low risk taking behaviour.

- There was significant two-way interaction between Posting and Risk taking behaviour on work engagement of officers.

- The officers who had high risk taking behaviour and are posted in the field have the maximum work engagement and officers who are posted in the field and have low risk taking behaviour have the lowest work engagement.

- The rank of the officers has significant influence on vigor.

- The vigor of lieutenant is significantly different from that of Captains.

- The vigor of captains is significantly different from that of Majors.

- Risk taking behaviour has independent influence on vigor when taken along with rank and posting.

- There was a significant difference in the vigor between officers having high and low risk taking behaviour.

- Risk taking behaviour has independent influence on dedication when taken along with rank and posting.

- There was a significant difference in the dedication between officers having high and low risk taking behaviour and between officers having high and average risk taking behaviour.

- There was a significant two-way interaction of posting and risk taking behaviour on absorption.

- Officers who were posted in the field with highest risk taking behaviour had the highest absorption.

- Officers who were posted in the peace with high risk taking behaviour had the lowest absorption.

- Meaning in life was found to have independent significant influence on the work engagement of officers when taken along with demographic variables rank and posting.

- The officers with average meaning in life had the highest work engagement and the participants with lowest meaning in life were the least work engaged.

- Meaning in life was found to have independent significant influence on the vigor of officers when taken along with defence variables rank and posting.

- Meaning in life was found to have independent significant influence on dedication of officers when taken along with defence variables rank and posting.

- There was a significant difference in the dedication between officers with high and low meaning in life and also between officers with high and average meaning in life.

- There was significant independent influence of rank on absorption when taken along with posting and meaning in life.

- There was significant two-way interaction between rank and posting on absorption when taken along with posting and meaning in life.

- The birth order and marital status were not found to have any significant influence on work engagement, vigor, dedication and absorption.

Conclusion

From the present study it can be seen that the variables organisational Commitment, meaning in life and risk taking behaviour were associated with the work engagement and its dimensions vigor, dedication and absorption. The role of these psychological variables in modulating the work engagement and its dimensions has to be given high importance as changes in these would affect work performance and this in return will bring beneficial career outcomes like satisfaction and career adaptability. Thus the problem of early turnover, suicide, interpersonal conflict etc can also be dealt with.

Organisational Implication of the study

- The Defence Institute of Psychological Research (DIPR) can integrate the knowledge from the present study into their intervention and bring modification in the selection system.

- Training programs can be introduced to help officers maintain their performance in the field tenure by being work engaged so that they do not suffer from burnout.

- A test has been developed to measure the risk taking behaviour of the defence officers which can be used for various purposes. Risk is prevalent in the entire working life of the officers and if they can manage the risk without getting distressed then it will definitely be a contributing factor towards the

performance. A lot of psychological tests like the intelligence test, personality test, projective techniques etc. are used to screen the candidates at the time of selection by the service selection board. If the tool constructed can also be incorporated then it might help in the selection procedure because definitely defence forces need self- driven men who are trainable and it would be a bonus to get people who have sufficient levels of risk taking as well.

- The risk taking behaviour scale can also be used by the defence research organisations to access the risk taking behaviour among commissioned officers and develop certain training programs to maintain the same risk taking behaviour which influence influence the work engagement of officers.

- This study can be used as a general guide which highlights the psychological factor which contributes to work engagement of officers and might help a defence aspirant understand the same.

- Since the Army does not indulge in large-scale publicity and advertising, there is always a knowledge gap present in the civil society about the defence. This study can act as an eye-opener to the aspirants as well as general public as it provides an insight into the defence system in brief.

Limitations of the study

- The instruments used were not standardised among the defence population.

- The sample size was not adequate.

- Airforce officers could not be included in the study.

Scope of further research

- The same study can be done on the women defence officers to find out if gender difference would influence the interaction between the study variables i.e. work engagement, organisational commitment, meaning in life and risk taking behaviour.

- The study can be extended in airforce officers as they could not be included in the current study.

- The defence institute of psychological research can standardise the risk taking behaviour scale developed by the investigator and can use it as a screening tool at the time of selection.

- Training modules for the enhancement of work engagement maybe developed among various categories of defence officers.

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Appendices

APPENDIX I

DEPARTMENT OF PSYCHOLOGY

UNIVERSITY OF CALICUT

Utrecht Work Engagement Scale

Instructions:

The following statements are about how you feel at work. Please read each statement carefully and decide if you ever feel this way about your job. If you have never had this feeling, write "0" (zero) in the space after the statement. If you have had this feeling, indicate how often you felt it by writing the number (from 1 to 6) that best describes how frequently you feel that way. You canrefer to the key below for responding. Your answers will be kept confidential and used only for research purposes.

0= **Never**

1= **Almost Never** (a few times a year or less)

2= **Rarely** (Once a month or less)

3= **Some times** (A few times a month)

4= **Often** (One a week)

5= **Very often** (A few times a week)

6= **Always** (Every day)

No	Statements	Rating
1	At my work, I feel bursting with energy.	
2	I find the work that I do full of meaning and purpose.	
3	Time flies when I am working.	
4	At my job, I feel strong and vigorous.	
5	I am enthusiastic about my job.	
6	When I am working, I forget everything else around me.	
7	My job inspires me.	
8	When I get up in the morning, I feel like going to work.	

9	I feel happy when I am working intensely.	
10	I am proud of the work that I do.	
11	I am immersed in my work.	
12	I can continue working for very long periods at a time.	
13	To me, my job is challenging.	
14	I get carried away when I am working.	
15	At my job, I am very resilient, mentally.	
16	It is difficult to detach myself from my job.	
17	At my work, I always persevere, even when things do not go well.	

APPENDIX II

DEPARTMENT OF PSYCHOLOGY

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Meaning in Life Questionnaire (MLQ)

Please take a moment to think about what makes your life and existence feel important and significant to you. Please respond to the following statements as truthfully and accurately as you can, and also please remember that these are very subjective questions and that there are no right or wrong answers. Write your response in the space provided according to the key below:

Write '1" if Absolutely Untrue

Write '2" if Mostly Untrue

Write '3' if Somewhat Untrue

Write '4' if Can't Say True or False

Write '5' if Somewhat True

Write '6' if Mostly True

Write '7' if Absolutely True

Sl No	Statements	Rating
1	I understand my life's meaning.	
2	I am looking for something that makes my life feel meaningful.	
3	I am always looking to find my life's purpose.	
4	My life has a clear sense of purpose	
5	I have a good sense of what makes my life meaningful	
6	I have discovered a satisfying life purpose.	
7	I am always searching for something that makes my life feel significant	
8	I am seeking a purpose or mission for my life.	
9	My life has no clear purpose.	
10	I am searching for meaning in my life.	

APPENDIX III

DEPARTMENT OF PSYCHOLOGY

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Organisational Commitment Scale

INSTRUCTIONS: Given below are some statements reflecting your interests, feelings, responsibilities, etc regarding your work. Indicate how much you agree or disagree with each statement using one of the response categories viz. **A, B, C, D, & E.**

'A' denotes 'STRONGLY AGREE', 'B' denotes 'AGREE', 'C' denotes 'UNDECIDED', 'D' denotes 'DISAGREE', 'E' denotes 'STRONGLY DISAGREE'.

After reading each statement mark your response indicating the letter in the appropriate bracket.

Example , I am very satisfied with this job [ ]. If you strongly agree with statement put [A]; if agree [B]; if undecided [C]; if disagree [D] and if strongly disagree [E]. Please do not omit any statement. Your response will be kept confidential and will be used only for research purpose.

No	Items	Response
1	I continue in this job just because I could not find any other employment.	
2	I am solely responsible for all recognition and blame in my job.	
3	Our superiors are able to solve all our labour/Job related problems.	
4	I am not given proper recognition here.	
5	I continue in this job only due to circumstantial compulsions.	
6	I do not want to shrink away from the responsibilities in my job.	
7	The employees are actively involved in all the functioning and	

	achievements of this institution .	
8	The working of this institution makes me disappointed.	
9	Compared to any other job I like the present one.	
10	I am proud of being an employee of this institution.	
11	This institution assists each of its employees to achieve their life goals.	
12	My desires and ambitions get shattered here.	
13	IfI would have got the job I liked , I could have performed better.	
14	I am fully satisfied with the performance of this institution.	
15	The management is very much interested in the needs and welfare of employees.	
16	This job helps me gain nothing.	
17	This job is in line with my interests and aptitudes.	
18	I have a very good opinion about the institution in which I work.	
19	Dedication and ernest work are the characteristics ofthe employees of this institution.	
20	Others block my efforts to work.	
21	I have nothing to gain even if I work better here.	
22	This institution has no future if it continues to move in its present course.	
23	My decision to take up work in this institution was a big blunder.	
24	Many irrelevant and meaningless regulations exist here.	
25	Since expected results are not forthcoming I have no sincerity in this job.	
26	I am satisfied with the overall functioning of this institution.	
27	I am prepared to make any sacrifice for the success of this institution.	
28	Whenever I somehow manage the work towards successful completionseveral obstacles start appearing .	
29	I work just to please my superiors.	

30	I would never behave in a manner that would affect the prestige and good tradition of this institution.	
31	This institution inspires me to do my best and be sincere in my job.	
32	The lack of cp-operation from the part of other employees puts me to a lot of difficulties.	
33	There is nothing to gain from this job which offers no mental satisfaction.	
34	I have faith and respect for the executives and management of this institution.	
35	Even though the job in this institution fetches me salary to tell the truth it's a waste of time for me.	
36	The existing labour system acts as a hindrance in increasing efficiency.	
37	I am solely responsible for anything I do in connection with my job.	
38	The employees are put to lot of difficulties because of the management's policies and regulations.	
39	Even when I am working in the company of my co-workers I feel the pangs of loneliness.	

APPENDIX IV

DEPARTMENT OF PSYCHOLOGY

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Personal Data Sheet

Rank :

Age   :

Native Place :

Birth Order: □First born   □Second born   □Later born

Education Qualification   :

Are you first generation officer in the defence: ☐ Yes   ☐ No

If No please specify:

Marital Status :   ☐ Unmarried   ☐ Married   ☐ Divorced

No of dependents: Parents ☐   Children ☐   Wife: Yes/No   Others
(Specify):

Have you been a part of any counter insurgency operation: ☐ Yes   ☐ No

Have you served a tenure in the field: ☐ Yes   ☐ No

     If 'Yes' how many years:

Have you served a tenure in high altitude: ☐ Yes   ☐ No

     If 'Yes' how many years:

Are you the recipient of any gallantry awards : ☐ Yes   ☐ No

Do you consume alcohol: ☐ Yes   ☐ No

APPENDIX V

DEPARTMENT OF PSYCHOLOGY

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Risk Taking Behaviour Scale (Draft)

Instructions: Some statements related to your work behaviour are given below. Read each statement carefully and think that if you **encountered a new situation in job,** decidehow you will respond to it? The possible responses are given below:

A-Strongly Agree, B-Agree, C-Undecided, D-Disagree, E-Strongly Disagree.

Read each statement and mark your answer by putting a circle (O) on the chosen letter. Answer all statements. Your responses will be kept confidential and used only for research purposes.

When I Encounter a New Situation in Work......

1	I explore the situation because I find it interesting.	A	B	C	D	E
2	I can keep aside distractions and focuses on my goals.	A	B	C	D	E
3	Every failure strengthens me for the future.	A	B	C	D	E
4	Nothing ventured is nothing gained.	A	B	C	D	E
5	I choose to take risk.	A	B	C	D	E
6	No matter how difficult the task is I can strive hard and	A	B	C	D	E
7	I keep trying even when others become hopeless.	A	B	C	D	E
8	Those who dare win.	A	B	C	D	E
9	Taking risk seems to be a pleasant activity.	A	B	C	D	E
10	I can think of a solution to the problem even when I am	A	B	C	D	E
11	I can adapt well with the changing situations.	A	B	C	D	E
12	I am responsible for the success and failures of my life.	A	B	C	D	E
13	I do not need a push from my superiors to perform my	A	B	C	D	E
14	I can handle unforeseen situations.	A	B	C	D	E
15	I am proud of all my achievements.	A	B	C	D	E

16	I prefer taking actions rather than waiting for miracles to	A	B	C	D	E
17	If the situation demands I can proceed without the help of	A	B	C	D	E
18	I think I can perform better than my colleagues in the	A	B	C	D	E
19	I am quick at resolving trouble and bringing back the	A	B	C	D	E
20	I am unable to perform because I never get the right	A	B	C	D	E
21	I can perform my duties only when I have a backup from	A	B	C	D	E
22	I can keep calm even when surrounded by a problem.	A	B	C	D	E
23	I do not generally hold on my anger for long	A	B	C	D	E
24	When I have to choose between two options, I prefer	A	B	C	D	E
25	I try to avoid risky situation.	A	B	C	D	E
26	I can proceed in my work without getting nervous.	A	B	C	D	E
27	The goal is my target and not the outcome.	A	B	C	D	E
28	Protecting the nation is the duty of the government, my	A	B	C	D	E
29	I perform my duty because I am obliged to do so.	A	B	C	D	E
30	I set practical goals which are slightly above my	A	B	C	D	E
31	I have to do my duty because I have no choice.	A	B	C	D	E

APPENDIX VI

DEPARTMENT OF PSYCHOLOGY

UNIVERSITY OF CALICUT

Risk Taking Behaviour (Final)

Instructions: Some statements related to your work behaviour are given below. Read each statement carefully and think that if you **encountered a new situation in job,** decidehow you will respond to it? The possible responses are given below:

A-Strongly Agree, B-Agree, C-Undecided, D-Disagree, E-Strongly Disagree.

Read each statement and mark your answer by putting a circle (O) on the chosen letter. Answer all statements. Your responses will be kept confidential and used only for research purposes.

When I Encounter a New Situation in Work......

1	I explore the situation because I find it interesting.	A	B	C	D	E
2	Every failure strengthens me for the future.	A	B	C	D	E
3	Nothing ventured is nothing gained.	A	B	C	D	E
4	I choose to take risk.	A	B	C	D	E
5	I keep trying even when others become hopeless.	A	B	C	D	E
6	Those who dare win.	A	B	C	D	E
7	Taking risk seems to be a pleasant activity.	A	B	C	D	E
8	I can think of a solution to the problem even when I am in	A	B	C	D	E
9	I can adapt well with the changing situations.	A	B	C	D	E
10	I am responsible for the success and failures of my life.	A	B	C	D	E
11	I do not need a push from my superiors to perform my task.	A	B	C	D	E
12	I can handle unforeseen situations.	A	B	C	D	E
13	I am proud of all my achievements.	A	B	C	D	E
14	I prefer taking actions rather than waiting for miracles to	A	B	C	D	E
15	If the situation demands I can proceed without the help of	A	B	C	D	E
16	I am quick at resolving trouble and bringing back the situation	A	B	C	D	E
17	I am unable to perform because I never get the right opportunity.	A	B	C	D	E
18	When I have to choose between two options, I prefer flipping a	A	B	C	D	E
19	I try to avoid risky situation.	A	B	C	D	E
20	I can proceed in my work without getting nervous.	A	B	C	D	E
21	I have to do my duty because I have no choice.	A	B	C	D	E