Chapter One

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The Arab world consists of 22 developing nations and territories, with a combined population of 358 million people. “These countries are Algeria, Bahrain, Comoros, Djibouti, Egypt, Iraq, Jordan, Kuwait, Lebanon, Libya, Mauritania, Morocco, Oman, the Palestine territory (Gaza Strip and West Bank), Qatar, Saudi Arabia, Somalia, Sudan, Syria, Tunisia, United Arab Emirates, and Yemen. Although the Gulf States vary socio-economically, they contribute a similar language, culture, tradition, and religion, all of which play a vital role in designing and providing population-based health promotion and preventive care programs and interventions, rehabilitation centre, and health care services”. Researches’ reported the severity of rheumatoid arthritis and hypertension in Jordan. The Arab world characterised by a large proportion of young people with an average life expectancy of 70 years (World Health Organization, 2012). The region has a high prevalence of rheumatoid arthritis (35% for men and 24.5% for women), hypertension (54.3%), (World Health Organization, 2012).

The majority of patients come from Yemen, Libya and Syria due to the ongoing civil wars in those countries. Jordanian doctors and medical staff have gained experience in dealing with war patients through years of receiving such cases from various conflict zones in the region (Al Emam, 2015). Life expectancy in Jordan is around 74.6 years (The World Factbook – Jordan”. CIA World Factbook, Retrieved 11 December 2016.). The leading cause of death is cardiovascular diseases, followed by cancer (Malkawi, 2015). Life expectancy in Jordan was 74 years in 2013. 99% of Jordan's population has access to clean water and sanitation despite it being one of the world’s poorest in water resources. There were 203 physicians per 100,000 people in the years 2000–2004, a proportion comparable to many developed countries and higher than most of the developing world.
Background of the Study

Present paradigm shift in behavioural research has changed the outlook, and paved the way for progress in the investigation of social sciences and psychiatry that essentially influence the course of research and the concentration has been moving from individual characteristics of the general population who had created mental maladjustment which included mental issues to the individual qualities which shield individuals from creating comparative maladjustments at whatever point they are animated or are presented to life misfortunes (Patterson, 2002). Not really all people grow such mental maladjustments under distressing life circumstances (Rak and Patterson, 1996). These characteristics might just be ascribed to an adaptable adjustment limit as opposed to an inflexible nature of protection when experienced by unpleasant circumstances. Behavioural scientists have characterised and portrayed this idea as strength.

Mental researches in the Middle-East, in accordance with restorative inconveniences and their results, has experienced numerous advances. In the event of Jordan, it could be watched that before there were no mental points of view of a medicinal issue, with time, the therapeutic science has understood the significance of managing the mental difficulties in the recovering procedure of a restorative condition. Adapting to restorative issues significantly prompts a superior way of life up and down the life expectancy yet abnormalities in adapting may prompt poor life fulfilment and could influence flexibility antagonistically. Subsequently, a medicinal condition would leave a man crushed without any expectations of carrying on with an ordinary life once more. The present examination would endeavour to research the connection between flexibility; prospering and life fulfilment among moderately aged patients of rheumatoid joint inflammation and hypertension arranged in Jordan and would additionally investigate regardless of whether there are any impacts in life fulfilment and strength of such patient (Torgerson, Dowling & Abo-Shehada, 2001).

Before presenting the description of the variable undertaken for present investigation, it is imperative to discuss the diseases which were considered while recruiting participants. Hence, the description of rheumatoid arthritis (RA) and hypertension follows respectively.
1.1 Rheumatoid Arthritis (RA)

In the context of arthritis, qualities that help the individual view the pain, functional limitations, and other disease-related stressors as something manageable can serve as resilience factors that promote positive adjustment (Smith & Zautra, 2008; Strand, Zautra, Thoresen, Odegard, Uhlig, Finset, 2006). Several of these factors have been identified in the literature as being potentially beneficial for people living with chronic illness in general and arthritis in particular. These include optimism and benefit finding, and there is also some emerging evidence that gratitude and self-compassion are also important personal qualities to consider.

Rheumatic diseases were first recognised by Hippocrates in the fourth century B.C. In the first century A.D., the term ‘rheuma’ was first introduced to indicate a flow of pain through the joints of the body. The appearance and distribution of lesions in ancient skeletons suggest that rheumatoid arthritis (RA) may have existed in North America at least 3000 years ago (Goemaere et al., 1990). The first clinical description of RA is credited to Augustin-Jacob Landre Beauvais in his thesis in 1800 (Sangha, 2000). Sir Alfred Garrod first introduced the term ‘rheumatoid arthritis’ in 1876 (Garrod, 1876). Pale pathologic studies have identified bone erosions consistent with RA in many Native American skeletons dating as far back as 6500 years ago in a circumscribed area of the Mississippi Basin (Rothschild, 1988). Rheumatic diseases have a major impact on individuals and societies, and economic costs in all countries.

Rheumatoid arthritis is prevalent worldwide among all races. Studies indicate a point prevalence of between 0.5 to 1% (Spector & Silman, 1990). Throughout the world, there are pockets of ethnic groups that have a much higher incidence of rheumatoid arthritis. North American Indians are one of such groups. In one geographic area, for instance, non-Indian populations had an RA prevalence of 0.9 to 1.1% between 1986 and 1994, whereas the prevalence in Algonquian Indians in the same region ranged from 2 to 2.1% and the disease onset was 12 years earlier in the Indian population (Peschken, Elgabalawy, Roos, & Esdaile, 1998).

Many factors contributing to rheumatoid arthritis are:

**Age:** An age-associated increase in the prevalence of RA has also been observed in both males and females (Jakob, Gaestel, Engel, & Buchner, 1993).
Education level: There is increased mortality and morbidity from RA in patients, particularly women, who have had less formal education (Nicassio et al., 1985).

Environmental changes: In the Northern hemisphere, the onset of RA is more frequent in winter than in summer. In several seasons, the onset of RA from October to March in the Northern hemisphere was found to be twice as frequent as in the other six months (Jacoby, Jayson, & Cosh, 1973).

Genetic Factors: Studies have indicated a genetic predisposition for rheumatoid arthritis (Seldin, Amos, Ward, & Gregersen, 1999, Cornelis et al., 1998). Severe RA is found approximately four times higher than the expected rate in first-degree relatives of individuals with the disease associated with the presence of rheumatoid factor, and ~10% of patients with RA have an affected first-degree relative (Silman et al., 1993). In addition to age and sex-related predisposing factors, a number of other factors, including socio-economic status, education and stress have been suggested to play predisposing roles (Sangha, 2000).

American Rheumatism Association criteria for the classification of Rheumatoid Arthritis

<table>
<thead>
<tr>
<th>S.No.</th>
<th>Criterion</th>
<th>Definition</th>
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<tbody>
<tr>
<td>1.</td>
<td>Morning Stiffness</td>
<td>Morning stiffness in and around the joints lasting at least 1 hour before maximal improvement</td>
</tr>
<tr>
<td>2.</td>
<td>Arthritis of three or more joint areas</td>
<td>At least three joint areas simultaneously having soft tissue swelling or fluid (not bony overgrowth alone) observed by a physician (the 14 possible joint areas are (right or left) PIP, MCP, wrist, elbow, knee, ankle, and MTP joints)</td>
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<tr>
<td>3.</td>
<td>Arthritis of hand joints</td>
<td>At least one joint area swollen as above in wrist, MCP, or PIP joint</td>
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<tr>
<td>4.</td>
<td>Symmetric arthritic</td>
<td>Simultaneous involvement of the same joint areas (as in criterion 2) on both sides of the body (bilateral involvement of PIP, MCP, or MTP joints is acceptable without absolute symmetry)</td>
</tr>
<tr>
<td>5.</td>
<td>Rheumatoid Nodules</td>
<td>Subcutaneous nodules over bony prominences or extensor surfaces, or in juxta-articular regions, observed by a physician</td>
</tr>
<tr>
<td>6.</td>
<td>Serum Rheumatoid factor</td>
<td>Demonstration of abnormal amounts of serum “rheumatoid factor” by any method that has been positive in less than 5 percent of normal control subjects</td>
</tr>
<tr>
<td>7.</td>
<td>Radiographic changes</td>
<td>Changes typical of RA on PA hand and wrist radiographs, which must include erosions or unequivocal bony decalcification localised to or most marked adjacent to the involved joints (osteoarthritis changes alone do not qualify)</td>
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For classification purposes, a patient is said to have RA if he or she has satisfied at least four of the seven criteria. Criteria 1 through 4 must be present for at least six weeks. Patients with two clinical diagnoses are not excluded. Designation as classic, definite, or probable rheumatoid arthritis is not to be made. Abbreviations: MCP: Metacarpophalangeal; MTP: Meta-tarsophalangeal; PA: Posteroanterior; PIP: Proximal interphalangeal. Rheumatoid arthritis is a multifactorial systemic autoimmune disease. Rheumatoid arthritis can be broadly classified into various phases, based on its pathobiology, clinical, diagnostic and therapeutic stages (Choy, Panayi, 2001).

The cross-section of a normal joint patient and joint with early and established rheumatoid arthritis (Choy, Panayi, 2001).

The symptoms and physical signs start with mild joint stiffness, swelling of small joints, fever, malaise and weakness leading to deformity of the joints in the last stages (Harris, 1990).

Stages of Rheumatoid Arthritis are:

1. Presentation of antigen to the T-cells
2. The proliferation of the T & B cells followed by angiogenesis in the synovial membrane (SM)
3. Accumulation of the neutrophils in synovial fluid (SF). Synovial cells proliferation without the invasion of the cartilage

4. A polarisation of the synovitis into the centripetally invasive pannus with the activation of the chondrocytes and initiation of enzyme degradation of cartilage

5. Subchondral bone, invasion of the cartilage by the pannus, chondrocytes proliferation and stretched ligaments around the joints (Folkman, Klagsbrun, 1987; Koch, Polverini, & Leibovich, 1986)

Global Relevance of the Study

Rheumatic diseases are a huge burden on the healthcare systems of countries worldwide and account for significant disability, lost productivity and a reduction in quality of life (Sangha, 2000). Depression, anxiety and poor self-esteem are common consequences which must be addressed if adequate rehabilitation is to be achieved. RA patients are best managed within the context of a multidisciplinary team including medical specialist, nursing, occupational therapy, physiotherapy and surgical specialists. As appropriate, advice from psychologists, social workers and employment officers will be required to ensure maximal rehabilitation of the patient into an active role in the community (Doran, Wordsworth, Bresnihan, & Fitzgerald, 2001). Studies have suggested that musculoskeletal conditions are among the most prevalent chronic conditions, accounting for a high proportion of those with disability in the workforce as well as in the elderly (Verbrugge & Patrick, 1995). Rheumatoid arthritis (RA) is the most common inflammatory musculoskeletal disease, affecting approximately 0.5 – 1% of the population, and frequently leading to structural and functional damage, impairment of daily activities and loss of quality of life (Emery, Breedveld, Dougados, Kalden, Schiff, & Smolen, 2002). Early and correct diagnosis is of great importance because on this basis, early and effective treatment can be initiated, which may not only suppress inflammatory activity but also prevent disease progression and improve outcome (Scott et al., 2000). In the USA, arthritis and rheumatism have been demonstrated to be the leading causes of disability in persons 15 years of age (Centre for Disease Control, 1994). It has been estimated that 43 million Americans are affected by arthritis; and as the population ages, this number is expected to increase to >60 million by the year 2020 (Centre for Disease Control,
The World Health Organization (WHO) has reported the figures for burden due to musculoskeletal disease and shown that not only are they significant in terms of absolute disability-adjusted-life years (DALYs) but that this burden is seen (and is growing) in both the developed and developing world (Brooks, 2006). From a social perspective, the burden of disease is generally measured in terms of dollars.

A study demonstrated clearly that persons with RA, show poor and declining function and bear much higher cumulative costs of care (Yelin & Wanke, 1999). Preliminary results from an Indian setting reflect the economic burden of this disease directly on the family and indirectly to the nation due to loss of work and productivity (Agarwal & Tiwari, 2007).

Mortality: In well-established RA, the median life expectancy is less than in control populations (Wolfe, Pinals, Aelion, & Goodman, 1987; Vandenbroucke, Hazevoet, & Cats, 1984). The disability develops most rapidly during the first two years of rheumatoid arthritis (Sherrer, Bloch, Mitchell, young, & fries, 1986; Kirwan, 1997). A 25-year prospective follow-up study of 208 patients showed that the median life expectancy was shortened by seven years in males and three years in females (Reilly, Cosh, Maddison, Raker, & Silman, 1990). Rheumatoid arthritis presents a major socioeconomic burden that has and will continue to attract major research and development efforts aimed at elucidating the basis of the disease as well as developing effective therapies. Until there is a fundamental advancement in our understanding of the aetiology and pathogenesis of the disease, treatment is likely to remain palliative rather than curative. It will be interesting to study the disease with respect to the biochemical changes occurring in the peripheral blood related to the inflammation and the genetic polymorphisms of pivotal genes to understand the disease in our population. Such a study may prove to be helpful in providing further insights into the pathogenesis of the disease and may be helpful in monitoring treatment (Sangha, 2000; Brooks, 2006).

1.2 Hypertension

Hypertension is a major health problem throughout the world because of its high prevalence and its association with increased risk of cardiovascular disease. Advances in the diagnosis and treatment of hypertension have played a major role in recent dramatic declines in coronary heart disease and stroke mortality in industrialised
countries. However, in many of these countries, the control rates for high blood pressure have slowed in the last few years. It is estimated that by 2010, 1.2 billion people will be suffering from hypertension worldwide (Joint National Committee on Prevention, Detection, Evaluation & Treatment, 1997). Of greater concern is that cardiovascular complications of high blood pressure are on the increase, including the incidence of stroke, end-stage renal disease and heart failure. According to the World Health Organization (WHO, 2002), non-transmissible diseases will be the leading cause of functional disability in the next two decades and, among chronic degenerative conditions, arterial hypertension will be the most important reason. In the Eastern Mediterranean Region, the prevalence of hypertension averages 26%, and it affects approximately 125 million individuals (Regional Consultation on Hypertension Prevention and Control, 2003). Hypertension is a public health concern due to its magnitude, risks and difficulty in management, high medical and social costs and severe cardiovascular and renal complications (Chobanian et al., 2003). The number of deaths due to hypertension as the primary cause was estimated to be over 7 million in 2002, approximately 13% of all reported deaths (World Health Organization, 2002). Hypertensive adults will reach 1.5 billion by 2025, around 30% of the world population (Kearney, Whelton, Reynolds, Muntner & Whelton, 2005). Hypertension management comprises a drug and/or non-drug therapeutic approaches for an effective recovery. Although there is clear evidence that anti-hypertensive medications are useful in controlling hypertension and reducing the incidence of stroke and infraction (Kearney, Whelton, Reynolds, Muntner & Whelton, 2005). Long-term drug treatment can be expensive, and side-effects can threaten patients’ adherence to drug prescriptions. The identification of non-pharmacological methods to prevent, or significantly delay the onset of hypertension would represent an important advance in the prevention of cardiovascular disease (Kawachi & Malcolm, 1991). Hypertension is the most common primary diagnosis in America. About 78 million US adults have been diagnosed with high blood pressure. The higher the blood pressure, the greater is the chance of heart attack, heart failure, stroke, kidney disease and vascular disease. Medical Associates Health Plans supports increasing awareness, prevention, treatment, and control of hypertension (high blood pressure (BP)). Optimally, a screening blood pressure measurement should be obtained from any patient greater than or equal to 18 years of age in the health care system at every healthcare encounter. Prevention of hypertension begins with increasing patient
awareness of blood pressure readings, providing education to inform that high blood pressure is often asymptomatic, and alerting patients to the risks associated with unmanaged hypertension. Hypertension should not be diagnosed on the basis of a single measurement. The classification should be based on the average of two or more properly measured seated BP readings on each of two or more office visits. BP measurements <120/80 are considered normal. Systolic BP measurements 120 - 139 or diastolic BP between the levels of 80 to 89 considered pre-hypertensive. BP reading ≥140/90 is considered hypertensive. Hypertension can occur as primary hypertension (accounting for 95% of all cases) where no known cause is identified, and as secondary hypertension (remaining 5%) where an underlying disease is responsible for hypertension. Disease processes which result in hypertension include renal, vascular and endocrine disorders; the effects of drugs or toxins and other conditions such as scleroderma, systemic lupus erythematosus or polyarteritis nodosa. Rarer causes include conditions such as aortal coarctation. Indications that hypertension may result from an underlying disease include age <40, rapid onset of hypertension or a sudden change in blood pressure elevation when an individual has been previously well controlled, or hypertension that is difficult or impossible to control using normal pharmacological therapies (Feild, 2014: Strevel & Siu, 2009). What counts as the range of ‘normal’ blood pressure may vary from individual and vary according to the reason the blood pressure is being monitored, but in general, there is a range of blood pressure seen in the population which may be considered as normal (Hawthorne, Greaves & Beevers, 1974). Blood pressure increases and decreases over the course of 24 hours in a pattern which is predictable, even for night workers. Blood pressure is at its most elevated when an individual first wakes but become more stable over the time that the individual is awake (during the daytime for day workers). While an individual is sleeping blood pressures reduce by 10-20%. Although the average readings in an individual with hypertension may be higher than in an individual without hypertension, the pattern is still repeated.

1.2.1 The Effect of Anxiety – ‘White Coat Syndrome’

Hypertension is known to rise artificially in some individuals when they are in contact with medical professionals. ‘White Coat’ hypertension is caused by a stress reaction to a perceived threatening environment. The individual is likely to have a normal blood pressure is measured in an appropriate setting. Some estimates suggest that
‘white coat syndrome’ can result in artificially raised blood pressure in as many as 20% of all individuals, suggesting that there are individuals who are being diagnosed and treated for hypertension who may only have an anxiety response at the point their blood pressure was measured (Parati et al., 2008). A Turkish study in 2006 of almost 500 consecutive patients found that 43% had blood pressure measurements which were artificially raised due to anxiety (Helvaci & Seyhanli, 2006). The issue of potential treatment for individuals who are thought to have hypertension which is artificially raised in this way is controversial. It is suggested that home or ambulatory monitoring is undertaken in order to confirm suspected ‘white coat syndrome’. Treatment should be commenced if there is evidence of target organ damage or the individual scores highly in a cardiovascular risk assessment. Lifestyle modification recommendations should be made regardless of whether treatment is commenced (Cifkov et al., 2003).

1.2.2 Primary Hypertension

Primary or essential hypertension accounts for the majority (95%) of all cases of hypertension and is of unknown etiology. It has been suggested that there is a genetic influence in hypertension and that this may account for about 30% to 70% of the variation in blood pressure. Approximately 50% of individuals with high blood pressure have a family history of raised blood pressure or early cardiac death (Beevers, Lip, & O'Brien, 2014). There are also thought to be pre-natal influences on the development of hypertension. These involve low birth weight or abnormal foetal growth patterns, above average maternal hypertension and/or pregnancy-induced hypertension but the mechanisms behind these influences are not fully understood (Beevers, Lip, & O'Brien, 2014). Lifestyle factors such as obesity, lack of physical activity, alcohol intake, and high salt intake are also thought to play a part. Psychosocial stress also plays a part in the development of hypertension. Studies have shown that in both men and women, work stress (encountered when an individual has a demanding occupation but with low control over the occupation, for example, a factory production line worker) results in raised blood pressure both at work and outside work (Tonelli et al., 2004). The effect this has on hypertension is as strong as obesity. However, studies on individuals with highly demanding occupations but who do have control over work factors (for example solicitors) do not show the same effect with respect to hypertension.
Contributory Factors for Developing Hypertension Include

- Obesity
- Excess alcohol consumption above recommended limits
- Excess salt intake
- Lack of physical exercise
- Environmental or work-related stress

1.2.3 Secondary Hypertension

Secondary Causes of Hypertension Include

Vascular

- Renal artery stenosis
- Coarctation of the Aorta (radio-femoral delay or weak femoral pulses)

Pregnancy

- Pregnancy Induced Hypertension (eclampsia, pre-eclampsia)

Drugs

- Non-steroidal anti-inflammatory drugs
- Oral contraceptives
- Steroids
- Some cold cures (Bramham, Nelson-Piercy, Brown, & Chappell, 2013; Roe, & Khong, 2015)

Renal Disease

- Chronic kidney disease
- Obstructive uropathy
- Polycystic kidney disease – hypertension often present before renal function abnormalities

Endocrine Disease

- Phaeochromocytoma (paroxysmal symptoms)
- Cushing’s syndrome
Hypothyroidism

Sleep disorders

- Sleep apnoea (mechanism of relationship unclear). (Beevers, Lip, & O'Brien, 2014; Helvaci & Seyhanli, 2006; Tonelli et al., 2004).

1.2.4 Clinical Silent Features of Hypertension

Hypertension is typically asymptomatic, with many new cases identified as a result of presenting for assessment of an alternative condition, or through opportunistic screening. Many texts suggest that individuals who present with hypertension may report headaches, nausea, nosebleeds, visual disturbances or neurological symptoms; however, the evidence suggests that such symptoms are not linked to hypertension (Beevers, Lip & O'Brien, 2014).

The physical examination is often normal. The aim of assessment of an individual with hypertension is to exclude secondary causes of hypertension (which occur in approximately 5% of individuals) and to ascertain if there has been any target organ damage resulting from hypertension.

Hypertension is usually diagnosed using a threshold measurement of a systolic blood pressure sustained above or equal to 140 mmHg, or a diastolic blood pressure sustained above or equal to 90 mmHg, or both (Guidelines Committee, 2003).

1.2.5 Hypertensive Emergencies

There are a number of hypertensive conditions which should be treated as immediate medical emergencies. Secondary care referral is required, which will commonly require treatment in a high-dependency or intensive care unit with appropriate specialist input. Such conditions include:

1. **Hypertensive Encephalopathy**: This condition presents with severe hypertension accompanied by a headache, vomiting, visual disturbance, mental status changes, seizure, and papilloedema. There may be additional cardiopulmonary symptoms including angina, myocardial infarction, or pulmonary oedema.
2. **Hypertensive Left Ventricular Failure**: This condition presents as the cardiac failure with shortness of breath, pulmonary oedema, lethargy, paroxysmal nocturnal dyspnoea, and orthopnoea (Lim et al., 2003).

3. **Acute Aortic Dissection**: This condition typically presents with acute, severe chest pain radiating to the back or jaw. Altered cognition, anxiety and syncope are also common. This condition may be suggested by a differential of >20mmHG in diastolic to systolic blood pressure. Treatment includes surgical repair, the use of stents or medical therapy alone. (Zampaglione, Pascale, Marchisio, & Cavallo-Perin, 1996; Hirschl, & Woisetschlager, 1998). Hence, the present investigation was undertaken to find out the difference between patients suffering from rheumatoid arthritis and hypertension compared with control groups.

Having completed the description of disease undertaken, now the description of variables considered follows.

1.3 **Resilience: Historical background**

Resilience can be defined as “good outcomes despite of serious threats to adaptation or development” (Masten, 2001). Hence, it refers to the capacity of a dynamic system to adapt successfully to disturbances that threaten the viability, the function, or the development of that system (Masten, 2014). Resilience is a process, rather than a trait. It is a process of individuation through a structured system with the gradual discovery of personal and unique abilities (Rutter, 2008). Resilience in psychological terms refers to the very idea of an individual’s ability to cope with stress and adversity. This kind of coping might result in the person-centred bouncing back to some of the previous states of orderly and normal functioning, or even experiencing the exposure of adversity, which could further lead to a steeling effect. This enables an individual to function in a better way than expected. Resilience can successively indicate an individual’s capacity to imply resistance to a very sharp decline in functioning, in situations when a person temporarily appears to get worse (Ahern, 2007). Resilience is an overwhelming quality that allows some people to be knocked down by life and come back stronger than ever, the factors that make someone resilient are the positive attitude, optimism, the ability to regulate emotions, and the ability to see failure as a form of helpful feedback. Even after misfortune, resilient people are blessed with such
an outlook that they can change course and soldier on. Several factors, which are not necessarily inherited, develop and sustain a person's resilience such as the ability to make realistic plans and being capable of taking the steps necessary to follow through with them, confidence in one's strengths and abilities, communication and problem-solving skills and the ability to manage strong impulses and feelings. The American Psychological Association (2014) defines resilience as "the process of adapting well in the face of hardship, disturbance, disaster, threats or even significant sources of stress". There are certain complex natures of resilience, which the American Psychological Association miscarries (Southwick, Douglas-Palumberi & Pietrzak, 2014). The determinants of resilience comprise a clump of biological, psychological, social and cultural factors that interact with each other to determine the response of individuals in stressful situations. It is quite important to specify whether resilience is being viewed as a trait, a process, or an outcome, and it is often appealing to consider a twofold approach whether resilience is present or absent in the individual. However, in reality, resilience more likely exists on a continuum that may be present to differing degrees across various domains of life (Pietrzak & Southwick, 2011). An individual who adapts well to stress in a workplace or an academic setting may fail to adapt well to their personal life or their relationships. Resilience may change over time as a function of development and one's interaction with the environment (Kim-Cohen & Turkewitz, 2012).

Psychological resilience is defined as an individual's ability to successfully adapt to life tasks in the face of social disadvantage or highly adverse conditions (Pecillo, 2016). Adversity and stress can come in the shape of family or relationship problems, health problems, workplace and financial worries, among others (APA, 2014). Resilience is the ability to bounce back from a negative experience with "competent functioning". Resilience is not a rare ability, rather, it is found in the average individual, and it can be learned and developed by any of the near ones. Most of the times, resilience is best understood as a process but sometimes assumed to be a trait of the individual, which is typically referred to as "resiliency" (Masten, 1994). When an individual is highly resilient, they can interact with their environments and the processes that either promote the welfare or protect them against the devastating effect of various risk factors (Zautra, Hall, & Murray, 2010). It is essential to understand the process or this cycle of resiliency. The other approach promotes well-
being and is beneficial in some ways. It is employed by resilient people, who become
dissatisfied with the disturbing state and try to change their existing pattern to manage
the situation. Showing aggression and going numb may lead people to adopt the
victim role by blaming others, undergoing denial-mode and rejecting any coping
methods even after the crisis is over. Such individuals fail to understand their problem
and when a counterattack by the same situation in the future; fail to cope with it
further leading to a downward spiral of negative emotions. Such people prefer to
impetuously react, rather than respond to the situation. Those who respond to the
unfavourable conditions by adapting themselves tend to cope, bounce back, and
manage the crisis. Negative emotions involve panic, irritation, worry, sorrow,
helplessness, and hopelessness which decline a person's ability to solve the problems
they face and weaken a person's resiliency. Constant fears and worries weaken
people's immune system and increase their vulnerability to illnesses (Siebert, 2005). A
common delusion about resilient people is that they are free from negative emotions
or feelings, and remain optimistic in most or all situations. To the contrary, resilient
individuals have developed proper coping techniques that allow them to effectively
and relatively easily navigate around or through crises (Block & Block, 1980;
Klohnern, 1996; Werner & Smith, 1992; Wolin & Wolin, 1993). Such people who
demonstrate resilience are people with an optimistic attitude and positive emotionality
and are, by practice, able to effectively balance negative emotions with positive
emotions (APA, 2014). Individual coping strategies contains processes or may be
helped by a protective environment like good families, schools, communities, and
social policies that make resilience more likely to occur (Leadbeater, Dodgen, &
Solarz, 2005). Therefore, "resilience" occurs when there are increasing "protective
factors". These factors are likely to play a more important role when there is greater
exposure to cumulative risk factors (Siebert, 2005).

1.3.1 Concept of Resilience

The focus on the conceptualisation of resilience forms a major part of the discussion.
While definitions describe the meaning of a term, a concept is an abstract notion that
is derived from a combination of personal intuition and consistent evidence. The
concept of resilience was therefore applied in the field of positive psychology, which
proposed the spread of positivity through behaviour modification and debated the
idealism of behaviour. Researchers have recently conducted concept-based analyses
to elucidate the backgrounds, consequences, and essential attributes of psychological 
resilience (Earvolino-Ramirez, 2007; Windle, 2011). The main background of 
resilience is deemed to be adverse, and the main consequence is considered to be a 
positive adaptation to stressful issues and health-related problems. Coping and 
recovery are often discussed in relation to resilience and sometimes used 
interchangeably with the term. Richardson (2002) illustrated three distinct periods of 
resiliency in research. The first period focuses on the phenomenological details of the 
resilient qualities of individuals and their respective support systems, predicting social 
and personal success. The second period explained that resilience was not merely a 
personality trait, but also a process of coping with changes, adversities, stressors, or 
opportunity in a particular manner, which otherwise resulted in the fortification, 
identification and enrichment of protective factors. Lastly, the third period described 
that resilience as a multidisciplinary pursuit for identifying the motivational forces 
within individuals and groups, and this led to the creation of experiences, which 
ultimately fostered the due activation and utilisation of the forces involved in the 
process (Kidd & Shahar, 2008). The psychological construct of resilience has garnered 
considerable attention over the last four decades. Many researchers determined the 
traits, characteristics and miscellaneous protective mechanisms which seem to have 
allowed individuals to adapt and cope efficiently in stressful situations to be 
successful despite of becoming victim to the suffering caused by those adverse 
conditions (Luthans, Youssef, & Avolio, 2007).

1.3.2 Resilience as a Process

The conceptualisation of resilience as either a trait or a process has been largely 
debated (Windle, 2011). Resilience as a trait represents a group of characteristics that 
enable individuals to adapt to the circumstances they encounter (Connor & Davidson, 
2003). Block and Block (1980) suggested the term “ego-resilience” describe a set of 
traits reflecting general resourcefulness, the strength of character, and flexibility of 
functioning in response to varying environmental demands. Individuals with high 
levels of ego resilience were characterised by various protective factors such as high 
levels of energy, a sense of optimism, curiosity, and the ability to detach and 
conceptualise problems (Block & Block, 1980). According to (Rutter, 1985) these 
factors “modify, ameliorate, or alter a person’s response to some environmental 
hazard that predisposes to a maladaptive outcome”, including hardiness (Bonanno,
2004), positive emotions (Tugade & Fredrickson, 2004), extraversion (Campbell-Sills, Cohan & Stein, 2006), self-efficacy (Gu & Day, 2007), spirituality (Bogar & Hulse-Killacky, 2006), self-esteem (Kidd & Shahar, 2008), and positive affect (Zautra, Johnson & Davis, 2005). The identification of these protective factors supports Rutter’s (1987) view that psychological resilience is the “positive role of individual differences in people’s response to stress and adversity”. The primitive factors of resilience help and protection from the potential negative effects of an event. There are psychological-related phenomena that impute an independent positive value by yielding benefits such as frequent success experiences (Sameroff, Gutman & Peck, 2003). The protective and primitive factors should be considered in relation to their specific function and that an appreciation of the nature and array of these factors is critical to understanding and developing psychological resilience. Resilience has also been conceptualised as a process that changes over time. Luthar and Cicchetti, 2000 referred to it as a “dynamic process encompassing positive adaptation within the context of significant adversity”. The process conceptualisation of resilience recognises that the effects of the protective and primitive factors will vary contextually from situation to situation and temporally throughout a situation and across an individual’s lifespan. Individuals react positively to various kinds of stressors differently at different point of times in their lives (Davydov, Stewart. Ritchie & Chaudieu, 2010; Rutter, 2006; Vanderbilt-Adriance & Shaw, 2008) According to Rutter, 1981, “if circumstances change, resilience alters”. An important aspect of resilience is the process of agitation, whereby individuals, especially the athletes reported that positive adaptation occurred gradually; often requiring numerous shifts of thought use a range of coping strategies to deal with a combination of unpleasant emotions and mental struggles (Galli & Vealey, 2008). This supports the notion that resilience is a capacity that develops over time in the context of person-environment interactions (Egeland, Carlson & Sroufe, 1993). The interaction between people and their environments is an important consideration when conceptualising resilience.

1.3.3 Stress Process

A new insight into the role of resilience includes a theoretical meta-model of stress process, emotion and performance (Fletcher & Fletcher, 2005; Fletcher, Hanton, & Mellalieu, 2006; Fletcher & Scott, 2010), the basic premise of which is that the
stressors which arise from the environment on an individual operates in, are mediated by the processes of perception, appraisal and coping and, as a consequence, it results in positive or negative responses, feeling states, and outcomes. This ongoing process is moderated by various personal and situational characteristics, including positive affect (Schaubroeck, Ganster, & Fox, 1992), self-esteem (Ganster & Schaubroeck, 1995) and self-efficacy (Schaubroeck & Merritt, 1997). These variables appear conceptually analogous to a number of the mentioned protective and primitive factors. Importantly, according to the meta-model, these resilience-related variables influence the stress process at multiple stages namely, an individual’s appraisal of stressors, his or her meta-cognitions in response to felt emotions, and his or her selection of coping strategies. It is commonly believed that resilience results from the operation of basic human adaptation systems (Masten, 2001) the construct has often been closely aligned with coping. For example, Richardson (2002) proposed that resilience is “the process of coping with stressors, adversity, change or opportunity in a manner that result in the identification, fortification, and enrichment of resilient qualities or protective factors”. While resilience and coping are often used interchangeably, there is a growing body of evidence to suggest that these are conceptually distinct constructs (Campbell-Sills, Cohan & Stein, 2006; Major, Richards, Cozzarella, Cooper, & Zubek, 1998; Van Vliet, 2008). Thus, resilience may be influenced by how an event is appraised, whereas, coping refers to the strategies employed following the appraisal of a stressful encounter.

Another key distinction between resilience and coping relates to the consequences associated with aspects of the stress process (Skinner & Zimmer-Gembeck, 2007; Van Vliet, 2008). Resilience predicts a positive response to a potentially stressful situation (e.g., the experience of positive emotions) whereas the nature of reactionary coping strategies may be positive (e.g., encouraging self-dialogue) or negative (e.g., substance abuse). While individuals who demonstrate resilience are likely to also exhibit effective coping strategies (Major, Richards, mozzarella, cooper, Zubek, 1998), it is important at this juncture to distinguish between coping “behaviours” and “styles”. Whereas specific behaviours are more likely to mediate linkages between individuals’ responses and outcomes (Folkman & Moskowitz, 2004), dispositional styles may function as a resilient protective factor that moderate components of the stress process (Campbell-Sills, Cohan, stein, 2006). Hence, resilience is characterised
by its influence on one’s appraisal prior to emotional and coping responses and by its positive, protective impact, whereas coping is characterised by its response to a stressful encounter and by its varying effectiveness in resolving outstanding issues.

1.3.4 Theories of Resilience

During the past three decades, over a dozen theories of resilience have been proposed by various researchers. The majority of theories incorporate the notion that resilience is a dynamic process that changes over time. Furthermore, most researchers acknowledge that, within the process itself, the interaction of a wide range of factors determines whether an individual demonstrates resilience. The conceptual model of medical students’ well-being (Dunn, Iglewicz & Moutier, 2008) highlights personality and temperament factors as being fundamental to resilience, whereas the conceptual model for community and youth resiliency emphasises the importance of social support (Brennan, 2008). In addition, while resilience is considered to be the most desirable outcome in the majority of theories, some researchers include other (positive) outcome indicators in their theories, such as optimal coping (Agaibi & Wilson, 2005), job satisfaction (Paton, Johnston, Clarke, Violenti, Burke, Keenan, 2008), and productivity (Riolli & Savicki, 2003). Hence, theoretical explanations of resilience often summarise other related psychosocial constructs and overlap with other areas of scientific inquiry.

I. Resiliency Theory

Resiliency Theory, focusing on primitive factors, provides a conceptual framework for considering a strength-based approach to understanding child and adolescent development and informing intervention design (Fergus & Zimmerman, 2005; Zimmerman & Brenner, 2010). Resiliency theory supplies the conceptual scaffolding for studying and understanding why some youth grow up to be healthy adults in spite of risks exposure (Garmezy, 1991; Masten, 2009; Rutter, 1987; Werner & Smith, 1982). Resiliency focuses attention on positive contextual, social, and individual variables that interfere or disrupt developmental trajectories from risk to problem behaviours, mental distress, and poor health outcomes. These positive contextual, social, and individual variables are called primitive factors (Fergus & Zimmerman, 2005), operate in opposition to risk factors, and help youth overcome the negative effects of risk exposure. Fergus & Zimmerman (2005) identified two types of
primitive factors: assets and resources. Positive factors that reside within individuals such as self-efficacy and self-esteem are defined as assets. Resources refer to factors outside individuals such as parental support, adult’s mentors and youth programs that provide youth with opportunities to learn and practice skills. Assets and resources provide youth with the individual and contextual attributes necessary for healthy development. In the compensatory model, primitive factors neutralise risk exposure in a counteractive fashion. Thus, compensatory factors have an opposite effect on a developmental outcome (e.g., healthy eating, violence) than risks. This is a direct and independent effect of risks.

II. Meta-theory of Resilience

The majority of resilience theories are specific to particular populations (e.g., adolescents, families, patients, etc.) but the most common theory of resilience is the meta-theory of resilience and resiliency (Richardson, Neiger, Jensen, & Kumpfer, 1990; Richardson, 2002). This particular theory (and its accompanying model) can potentially be applied to different types of stressors, adversities and life events and at various levels of analysis (such as individual, familial and community). Furthermore, meta-theory of resilience merely includes a range of theoretical ideas clubbed from physics, psychology and medicine altogether (White, Driver & Warren, 2008). Richardson (2002) suggested that the history of resilience research can be categorised into three subareas, which he described as “waves”. The first wave of research was a pursuit by scholars to identify the qualities (i.e., protective factors) of individuals who react positively to difficult conditions in their lives. The second wave of research examined resilience in the context of coping with stressors, adversity, change or opportunity. The third wave of research explored the identification of motivational forces within individuals and groups that drive them toward self-actualisation in their lives (Root, 2011; Fletcher & Sarkar, 2013).

1.3.5 Resiliency Model

One of the main contributions of Richardson (2002) is the presentation of their resiliency model. In the model, the resilience process begins with a state of psycho-spiritual homeostasis, or a comfort zone, where a person is in balance physically, mentally and spiritually. Disruption of this homeostatic state occurs if an individual has insufficient resources (i.e., protective factors) to buffer him or her against
stressors, adversities or life events. In time, an individual who has experienced disruption will adjust and begin the reintegration process. This process leads to one of four outcomes: resilient reintegration (where disruption leads to the attainment of additional protective factors and a new, higher level of homeostasis); homeostatic reintegration (where disruption leads to people remaining in their comfort zones, in an effort to “just get past” the disruption); reintegration with loss (where disruption leads to the loss of protective factors and a new, lower level of homeostasis); and dysfunctional reintegration (where disruption leads to people resorting to destructive behaviours such as substance abuse).

Some researcher has been pointed that Challenge Model of Resiliency Rutter (1987) introduced the challenge model of resiliency which operates as inoculation whereby exposure to modest levels of risk help people overcome subsequent exposures that make them vulnerable to negative outcomes. It is more vital; however, that the initial risk exposure must be challenging enough to help youth develop the coping mechanisms to overcome its effects, but not too taxing as to overwhelm any effort to cope.

1.3.6 Resilience among Rheumatoid Arthritis and Hypertension Patients

If an individual is resilient, he or she can keep going mentally and physically in spite of the pain, grief and anger that may come with adversity. Any problem or disease can be fought with and drawn on effective coping mechanisms like optimism, acceptance and faith that can change things and get past setbacks without giving in to hopelessness and frustration. Developing resilience is especially important for those with arthritis (Wicks, 2009). The chronic disease poses regular, and often immense, psychological and physical setbacks. One should be able to cope with them in an adverse situation. People who demonstrate higher levels of resilience may tend to recover faster, manage pain better, maybe less susceptible to chronic depression and anxiety, and may have better overall health outcomes than those who are less resilient. Further, resilience requires tapping into a set of coping skills that reduce stress levels and the stress hormones that are known to worsen arthritis pain and hypertension. People with these diseases may face work management problems, and other hardships such as total dependency on family members and interpersonal fights, quitting jobs and giving up in life and may also face money loss. It is required for such patients to
build resiliency to further flourish their lives by understanding their problems, bouncing back and managing the environmental stressors (Kroenke, Spitzer, & Williams, 2001; Ozbay, 2007).

The second variable is that of life-satisfaction that also needs explanation. The details are given below:

1.4 Life-satisfaction

Life-satisfaction is an overall assessment of feelings and attitudes about one’s life at a particular point in time ranging from negative to positive. It is one of the three major indicators of well-being: life-satisfaction, positive affect and negative affect (Diener, 1984). Life-satisfaction is defined as one’s introspection of life as a whole, not to the day to day feeling of emotions that we experience at the moment. In simple words, life-satisfaction is a degree of how much a person is contented or how much he/she likes the life he/she is leading. Veenhoven defined life-satisfaction as our subjective appreciation of our life-as-a-whole. Life-satisfaction is in fact satisfaction of all spheres of life which was described by Sousa & Lyubomirsky, (2001). Life dissatisfaction disregarding its causes has many negative consequences. Life dissatisfaction is related to poor health status, depression symptoms, personality problems, poor health behaviours and poor social conditions (Bahreinian & Yavari Kermani, 2009). It is a cognitive assessment of an underlying state of thought to be relatively consistent and influenced by social factors” (Ellison, Christopher, David, gay, Thomas & glass, 1989). It is a complex term and is sometimes used interchangeably with the emotion of happiness, but they are indeed two separate concepts. Life-satisfaction is defined as one’s evaluation of life as a whole, rather than the feelings and emotions that are experienced at the moment. Happiness is an immediate, in-the-moment experience, whereas life-satisfaction is happiness that exists when we think about our lives as a whole, looking at the big picture. Life-satisfaction is our subjective appreciation of our life-as-a-whole. The synonyms are happiness and subjective well-being (Veenhoven, 2014). Life-satisfaction has been conceptualised as a cognitive constituent of subjective well-being (Prasoon, Chaturvedil, 2016). This adds a little more clarity to the difference between the ideas of happiness and life-satisfaction. It is not based on the criterion that researchers deem to be important, but instead on our cognitive judgments of the elements that we
consider to be valuable. Based on the researches on life-satisfaction and quality of life is associated with living conditions, such as food, health, shelter, and so on (Veenhoven, 1996).

As a cognitive component of subjective well-being, life-satisfaction is a measure of one’s overall satisfaction with his or her life. It is considered a rational evaluation of one’s well-being. Some researchers define the terms happiness, life-satisfaction and subjective well-being differently, while others use these terms interchangeably because of their direction of understanding and the way the phenomenon was conceived.

The sources of life-satisfaction are not completely understood yet, but what is known, is that there is the complex combination of:

1. Collective action
2. Individual behaviour,
3. Simple sensory experiences
4. Higher cognition
5. Stable characteristics of the individual
6. The environment
7. Chance factors, etc.

There has been standing by Veenhoven (1996), a state in his study of life-satisfaction. Variance in satisfaction between nations has been studied; it has been shown that living conditions are the major determinant of life-satisfaction. Economically prosperous countries tend to experience more when compared to poorer nations. The correlation between income and life-satisfaction is higher in poorer countries compared to more affluent countries. Life-satisfaction tends to be higher in egalitarian countries; people will experience less inequality and be able to choose lifestyles that best fit their abilities and desires where equality is more prominently displayed.

Education is an interesting point when studying life-satisfaction. As pointed out from the variance in satisfaction between nations’ resource, more highly educated countries generally experience higher levels of satisfaction, but with this education reached the opportunity for aversive consequences: loss of previous opportunities that come along with achieving such education, job competition, or even lack of jobs. That being said,
those more educated tend to experience more favourable events compared to adverse events. Variables such as mental and physical health, energy, extroversion, and empathy have all been shown to be strongly correlated to satisfied individuals, but it is sometimes hard to determine whether these are products or causes of life-satisfaction. Our past experiences undoubtedly affect the way we think about our lives in terms of satisfaction (Griffin, 2007) and Oswald, 1997). In the view of establishing a satisfying life for ourselves is not decided only by circumstances; it is also influenced by the way we think about and relate to the environment around us.

1.4.1 Determinants of Life-satisfaction

Happiness, life-satisfaction and well-being as a measurement of the human condition have been viewed in the socio-economic context of the country. The level of development of a country may be determined by its economic condition and growth, improvement in the standard of living of her people, poverty reduction, health improvement, educational attainment and other related conditions. With higher disposable income, individuals have the means to spend and consume material things to maximise their utility and life-satisfaction. Maslow’s hierarchy of need reflects this progress aptly in his pyramid model of 5 categories of needs progressing from physiological needs, safety needs, love or belonging, esteem and self-actualisation. Once one level of need hierarchy has been fulfilled, people will tend to crave for the next higher level of the hierarchy. From the perspective of happiness study, this movement up the higher hierarchies indirectly projects the happiness, satisfaction and well-being need for the people. Much of the research on happiness has evolved around the Maslowian postulation (NGO, Tey, & Tan, 2015).

Scores of past studies have examined the determinants of life-satisfaction, happiness or subjective well-being. These determinants include age, gender, marital status, education level, income and the perceived role of the government. The effect of income on life-satisfaction, happiness or subjective well-being has not been consistent across different studies. Many studies found that higher income has positive effect on life-satisfaction or happiness, on the premise that higher income will bring happiness or subjective well-being (Ball, Chernova, 2008; Appleton& Song, 2008; Clark& Oswald, 1994; Blanch flower & Oswald, 2004; Peiro, 2006; Dolan, Peasgood & White, 2008). The positive effect of higher income on happiness is stronger in the
short term than in the long term (Hagerty and Veenhoven, 2003). However, other studies found that higher income level raises happiness only to a small extent (Frey & Stutzer, 2002), and it may not have the same effect on different individuals (Easterlin, 1995). The positive income effect on happiness and life-satisfaction were also found to be stronger for the poor than for the rich (Helliwell and Huang, 2011). The study (Vendrik and Woltjer, 2007) found concavity of the income effect on life-satisfaction in the United States, i.e. happiness increases with income, up to a certain level, but this does not appear to be the case in Europe and Japan (Binder & Coad, 2011; Vendrik and Woltjer, 2007). The curvilinear relationship between income and happiness can be attributed to the decrease in the marginal utility of income on happiness (Easterlin, 2005; Diener and Biswas Diener, 2002; Inglehart and Klingemann, 2000).

Studies also found a U shaped relationship between age and happiness or life-satisfaction. Middle age people tend to be less happy as compared to younger and older people (Clark and Oswald, 1994; Blanchflower and Oswald, 2004; Blanchflower and Oswald, 2008). According to (Sotgiu et al., 2011), older people are happier as they survived the unhappy moments in their mid-life and were able to adapt themselves.

The gender differential on life-satisfaction, happiness or subjective well-being varies from country to country, but the differentials are generally insignificant. Only a few studies have found significant gender differential in life-satisfaction or subjective well-being. For example, females are happier than males in the United States, but the reverse is true in Russia (Graham, 2004; Dolan, Peasgood and White, 2008).

Married people are happier as compared to the singles and singles are happier than the separated or divorced (Clark & Oswald, 1994; Peiro, 2006; Dolan & Peasgood, 2008). According to Gove et al., 1983: “family function to provide private satisfaction that makes life meaningful and rewarding for adults who live in families.”, and that “married people tend to have better mental and physical health as well as life-satisfaction and well-being, and are less inclined to negative psychological behaviour such as suicide”. (Patricia Frazier, Benson, Losoff, & Maurer, 1996) explained that married people, especially men, tended to have more support from their family, and hence have a higher life-satisfaction.
Past studies found that higher education increases subjective well-being, life-satisfaction and happiness (Cunado & Degricia, 2012; Chen, 2012; Dolan et al., 2008). However, some studies also found that education does not automatically increase happiness, but its effect is mediated through the higher opportunity created by education to earn a higher income, which is an important determinant of life-satisfaction, subjective well-being and happiness (Schimmel, 2009). However, according to (Binder & Coad, 2011), the positive relationship between education and subjective well-being, life-satisfaction and happiness will become negative beyond a certain level. Generally, good governance will reduce inequality and increase happiness (Kim & Kim, 2012; Ott, 2011). There are two theories on the role of government in the individuals’ quality of life. The neoclassical economic theory explains the rationale of the government’s intervention and its’ impact on the individuals’ quality of life. The failure on the part of the government to discharge its duty will adversely affect the quality of life of the citizens. Failures on the part of the government may arise due to the selfish act of those in power to fulfil their interest, for example, lobbying, cronyism, and lack of control in monitoring the budget. The government’s role is to solve the market failures such as externalities through the provision of public goods in order to improve welfare and people’s quality of life and enhance their life-satisfaction (Besley & Coate, 1997). Public choice theory suggests that the government’s involvement and regulation would affect the quality of life of the citizens. Furthermore, happiness is also affected by cross-country cultural differences, per capita income level, political freedom and access to public goods (Graham, 2011; Lai et al., 2013).

1.4.2 Theories of Life-Satisfaction

There are two theoretical approaches to the concept of life-satisfaction i.e. the ‘bottom-up’ and ‘top-down’ perspectives which differs in casual assumption (Lance, Lautenschlager, Sloan & Varca, 1989) ‘Bottom-up perspective assumes that a person’s overall life-satisfaction depends on his or her satisfaction in many concrete areas of life, which can be classified into broad life domains such as family, friendship, work, leisure etc. (Veenhoven, 1996). Multiple discrepancy theory, need hierarchy theory, and the self-concordance model is examples of ‘bottom-up’ theories that conceive domain satisfactions as needs. According to these theories, the more needs are satisfied, the greater the satisfaction with life as a whole. From the ‘bottom-
up’ perspective, domain satisfactions mediate the effects of situational factors on life-satisfaction. The ‘top-down’ perspective is a dispositional explanation, which contends that differences in personality and other stable traits of the person predispose people to be differentially satisfied with their lives (Steel, Schmidt, Shultz, 2008). Defendants of the ‘top-down’ perspective rather than denying the influence of situational factors (Diener, 1996), claim that both dispositional and situational factors interact in relation to life-satisfaction (Brief, butcher, George & Link, 1993) ‘Top-down’ and ‘bottom-up’ perspectives have often been presented as competing theories; however, both approaches are not incongruent when dispositional factors are viewed as more distal predictors of life-satisfaction than domain satisfactions (Erdogan, Bauer, Truxillo & Mansfield, 2012). The dispositions of each person influence his or her perceptions of environmental conditions, resulting in more or less satisfaction with life domains. Thus, personality has a distal effect on global life-satisfaction according to this integrating approach (Brief, butcher, George & Link, 1993).

For instance, a meta-analysis by Heller et al. (2004) showed that job and marital satisfaction mediate the effect of personality on life-satisfaction. (Erdogan, Bauer, Truxillo & Mansfield, 2012) claimed that the ‘treating personality as a distal predictor in models of life-satisfaction might be more consistent with theory as opposed to treating it as a control variable that needs to be partially out.’ We focus on the closest predictors in the causality chain in this article. Drawing from the ‘bottom-up’ perspective, subjective well-being (SWB) researchers have put forth a myriad of life domain satisfaction, which is thought to be relevant to overall life-satisfaction. Among the life domains that have generated more consensuses is satisfaction with health, family, income, social related (Flanagan, 1978). Although these essential life domains may be generalised among most people, there is evidence that people from different cultures (Diener, 2000) and in distinct developmental life stages (Cantor & Blanton, 1996) weigh life domains differently when asked to judge their global life-satisfaction. The number of life domains likely to be relevant to someone’s life-satisfaction can range from a small number to an almost infinite recount of spheres being (Rojas, 2006). However, according to the compatibility principle, the relationship between the two variables increases when both are assessed at the same level of specificity (Fishbein & Ajzen, 1974). Given that, life-satisfaction is a broad concept, then life domains will probably need to be relatively broad as well. Rojas
(2006) suggested that partitions of human life must value parsimony, should relate to the way people think about their lives, and be useful to the understanding of life-satisfaction. Some of the life domain satisfactions that subjective well-being research has consistently identified as relevant to life-satisfaction are health, financial situation, social relationships, self-worth, leisure-time, family, and work. Other domains such as sex life, education, and safety have also needed considerable attention (Headey & Wearing, 1992).

The third variable is that of flourishing that also needs explanation. The details are given below:

1.5 Flourishing

In positive psychology is a science of the best qualities of life and is founded on the belief that people want to lead meaningful and fulfilling lives, to cultivate what is best within themselves, and to enhance their experiences of love, work and play (Seligman & Csikszentmihalyi, 2000); a scientific study of optimal human functioning (Linley & Josep, 2004); and the study of the conditions and processes that contribute to the flourishing or optimal functioning of people, groups, and institutions and also investigates happiness, well-being, human strengths and flourishing (Gable & Haidt, 2005). According to Fredrickson and Losada (2005), flourishing is living within an optimal range of human functioning, one that connotes goodness, generatively, growth, and resilience.

According to the Mental Health Foundation of New Zealand, flourishing is “a state where people experience positive emotions, positive psychological functioning and positive social functioning, most of the time.” In more philosophical terms this means access to the pleasant life, the engaged or good life and the meaningful life. It requires the development of attributes and social and personal levels that exhibit character strengths and virtues that are commonly agreed across different cultures (Seligman, Steen, Park & Peterson, 2005). On the other hand, languishing includes states of experience where people describe their lives as "hollow" or "empty" (Fredrickson & Losada, 2005). According to Keyes (2007), mental health does not imply an absence of mental illness. Rather, mental health is a "separate dimension of positive feelings and functioning." Individuals described as flourishing have a combination of high levels of emotional well-being, psychological well-being, and social well-being and
flourishing people are happy and satisfied; they tend to see their lives as having a purpose; they feel some degree of mastery and accept all parts of themselves; they have a sense of personal growth in the sense that they are always growing, evolving, and changing; finally, they have a sense of autonomy and an internal locus of control, they chose their fate in life instead of being victims of fate. According to Fredrickson and Losada (2005), flourishing is characterised by four main components: goodness, generative, growth, and resilience.

Flourishing is related to the Aristotelian concept of eudemonia. According to a Neo-Aristotelian view, the concept of human flourishing offers a view of the human good that is objective, inclusive, individualised, agent-relative, self-directed and social. It views human flourishing objectively because it is desirable and appealing. Flourishing is a state of being rather than a feeling or experience. It comes from engaging in activities that both express and produce the actualisation of one's potential (Curtis, Groarke, Coughlan & Gsel, 2005). One of the leading research areas of Positive Psychology, apart from positive individual traits (Character strengths and virtues) and positive emotions and thinking (Happiness, joy, gratitude, hope, optimism, forgiveness) is flourishing families, schools, institutions and individuals suffering from various diseases, physical and psychological. For decades, psychology has emphasised the reduction of distress and disorder. While this emphasis has led to efficacious treatments for a variety of psychological problems, the primary reasons for living have been ignored. Positive Psychology is not merely the absence of distress and disorder, and rather there are other ingredients to a life well lived as well, which have been the focus of positive psychology research and practice (Gable & Haidt, 2005).

The different concepts in Positive Psychology that focus on making life flourished and meaningful and full of happiness are:

Hedonic and Eudemonia perspective on well-being introduced by Aristotle:

- Hedonic and Eudemonia perspective on well-being
- Feeling good x functioning well (Seligman, 2002)

PERMA model of Well-being:

- Positive emotions
- Engagement
Psychological flourishing is a state of optimal mental health that extends beyond the mere absence of mental illness (Keyes, 2007). Flourishing entails the experience of positive emotional well-being (i.e., positive emotions and high life-satisfaction), positive psychological functioning (i.e., self-acceptance, personal growth, purpose in life, environmental mastery, autonomy, positive relations with others), and positive social functioning (i.e., social acceptance, social actualization, social contribution, social coherence, and social integration). Flourishing encompasses both effective and social components of well-being, suggesting that flourishing is not only good for the individual but good for society as well. It is a combination of feeling good and functioning well. For example, people who reported relatively greater flourishing missed fewer work days and experienced fewer limitations in daily activities.

Individuals suffering from diseases such as Rheumatoid arthritis and Hypertension tend to develop certain characteristics and thinking which may have the adverse effect on their overall health, well-being and behaviour which may further disturb others’ lives as well. Such diseases should be diagnosed and treated properly in order to enhance positive emotions in the individuals (Watson & Pennebaker, 1989; Keyes, 2005).

According to Keyes, only 18.1% of Americans are flourishing. The majority of Americans can be classified as mentally unhealthy (depressed) or not mentally unhealthy or flourishing (moderately mentally healthy/languishing).

Keyes collaborated with Carol Ryff in testing her Six-factor Model of Psychological Well-being. Barbara Fredrickson developed the broaden-and-build theory of positive emotion. According to Fredrickson, there is a wide variety of positive effects that positive emotion and experiences have on human lives. Fredrickson notes two
characteristics of positive emotions that differ from negative emotions. The broaden and-build theory of positive emotions states that while negative emotions narrow thought-action tendencies to time-tested strategies as handed down by evolution, positive emotions broaden thought-action repertoires. Positive emotions often cause people to discard time-tested or automatic action tendencies and pursue novel, creative, and often unscripted courses of thought and action. These positive emotions and thought-action repertoires can be seen as applicable to the concept of flourishing because flourishing children and adults have a much wider array of cognitive, physical, and social possibilities, which results in the empirical and actual successes of a flourishing life. There are certain pieces of evidence which reported that positive emotions and positive actions in individuals are related to each other. Positive emotions function to broaden thinking and build psychological resources, such as flourishing and resilience, over time (Fredrickson, 2013). In other studies, it was speculated that daily positive emotions predicted an increase in life-satisfaction and resilience over the course of a month (Cohn, Fredrickson, Brown, Mikels, Conway, 2009). In another investigation, the experience of more positive emotion and fewer negative emotions explained the association between resilience and life-satisfaction (Liu, Wang, Lu, 2013). In addition, people high in psychological flourishing have been shown to experience relatively bigger boosts in positive emotion in response to everyday events, which leads to subsequently greater flourishing over time (Catalino & Fredrickson, 2011).

Flourishing is “a state where people experience positive emotions, positive psychological functioning and positive social functioning, most of the time”, living “within an optimal range of human functioning”. It is a descriptor and measure of positive mental health and overall life well-being, and includes multiple components and concepts, such as cultivating strengths, subjective well-being, “goodness, generatively, growth, and resilience”. Flourishing is the opposite of both pathology and languishing, which are described as living a life that feels hollow and empty. It is a central concept in positive psychology, developed by Keyes and Fredrickson (2000). Positive emotion does not seem to elicit specific action tendencies the same way that negative emotions do. Instead, they seem to cause some general, non-direction oriented activation. Positive emotions do not necessarily facilitate physical action but do spark significant cognitive action. Therefore, Fredrickson conceptualises two new
concepts: thought-action tendencies, or what a person normally does in a particular situation, and thought-action repertoires, rather an inventory of skills of what a person is able to do.

Previous theories of emotion stated that all emotions are associated with urges to act in particular ways, called action-tendencies. According to Fredrickson, most positive emotions do not follow this model of action-tendencies, since they do not usually occur in life-threatening circumstances and thus do not generally elicit specific urges. Bio-psychosocial approaches to arthritis emphasise the importance of psychological and individual difference as predisposing, precipitating or perpetuating factor in arthritis through their interface with pain-related, inflammatory, and immunological responses. Rather than just focusing on understanding how loss is experienced, positive psychological approaches emphasise the importance of promoting and understanding how the adjustment is experienced. Arthritis is a chronic disease that can challenge daily functioning and psychological well-being. Pain, fatigue and functional limitations are common features of most forms of arthritis which can compromise the quality of life and contribute to the high rates of anxiety and depression associated with this group of chronic diseases (Wright et al. 1996; Murphy, Sacks, Brady, Hootman, Chapman, 2012). Indeed, much of the research on the psychological implications of arthritis have focused on identifying and addressing the factors that contribute to poor adjustment rather than those that are protective and may even promote positive adjustment. However, researchers have recently noted that improving the quality of life for individuals living with arthritis may depend just as much on understanding positive psychological growth as it does on understanding how loss is experienced (Sirois, Hirsch, 2013).

Similar to most chronic diseases, the daily limitations and symptoms associated with arthritis can be viewed as ongoing stressful events that are akin to living with a chronic stressor. Although these challenges may wax and wane from day to day, for the individual living with arthritis the anticipation of the flares, pain, and other symptoms are stressful simply because they are unpredictable and uncontrollable (Taylor, Sirois, 2014). In addition, research has demonstrated that general perceived stress may be a better predictor of psychological adjustment to arthritis than disease severity (Curtis, Groarke, Coughlan & Gsel, 2005). Taken together with research suggest an exacerbating role for chronic stress in inflammatory processes (Cohen et
al., 2012). It is clear that stress is an important indicator of disease adjustment and perhaps even disease progression. For example, in one prospective study of rheumatoid arthritis patients both the experience of daily stressors and stress vulnerability factors, including a tendency to excessively worry, were predictive of fatigue, self-reported disease activity, swollen joint count and pain one month later (Evers et al., 2013). As other researchers have suggested that stress may influence pain and other symptoms via non-immunological mechanisms (Hassett, Clauw, 2010) leading to a vicious circle of stress, pain and inflammation Understanding the psychological factors that may help buffer stress in general, as well as disease-related stress, is, therefore, an important objective for improving quality of life among arthritis patients.

The assertion that certain psychological characteristics may promote positive adjustment to arthritis is in line with the view of personality as a predisposing, precipitating or perpetuating factor in arthritis. In so much that negative qualities can exacerbate pain, symptoms and stress can, therefore, contribute to further functional limitations and even disease progression (Straub & Kalden, 2009) positive qualities may mitigate stress and counteract negative symptoms. This view of positive psychological characteristics and personality factors as moderating stress and promoting well-being emerges from the perspective that studying human strengths and flourishing is an important goal for supporting quality of life and adjustment in chronic illness populations (Evers, Kraaimaat, Geenen, Jacobs, Bijlsma, 2003). One way to view these positive qualities is as coping resources that help in building resilience and reduce general and illness-related stress. Appraisal based models of coping and stress posit that how a stressor is viewed, and not just its presence alone, plays a central role in both the initiation and continuance of the stress response (Aspinwall, Tedeschi, 2010). Accordingly, stress is experienced if an individual view a demand from the environment (including the internal somatic environment) as both negatives (posing harm, threat, or challenge to well-being) and as exceeding available coping resources. In this model internal coping resources, such as character strengths, can play a critical role in down-regulating the stress response by shifting the appraisal of the event as something threatening or harmful to something that may be challenging but manageable. In addition to this primary appraisal, opportunities to view or locate other coping resources to deal with a stressor can occur through a
secondary appraisal process (Lazarus & Folkman, 1984). Here again, personal characteristics can play a role in the way resources are viewed as well as the effectiveness of efforts to garner external resources such as social support from the environment to help manage the stressor (Smith & Zautra, 2008).

Having completed description of variables taken for this research investigation and the diseases considered while selecting the sample now, it is important to talk about the significance of the study.

The Significance of the Study

Health researchers have become more interested in the co-morbidity between chronic physical conditions and psychosocial health consequences such as depression and psychological distress. Several studies have found that only 60% of patients with known hypertension receive treatment, and in fewer than 50% of treated patient’s blood pressure was controlled (Sharma et al., 2004). In the USA only one-third of patients with hypertension undergoing treatment had their blood pressure controlled (Chobania, et al., 2003; Spranger, Ries, Berge, Radford & Victor, 2004) Previous studies showed that patients with chronic illnesses suffer psychological stressors due to requirement related to management of their physical health problems (Doumit & Nasser, 2010). However, patients’ psychosocial status may interfere with their ability to manage their needs independently which exacerbates their health condition (Sareen, Cox, Clara, & Asmundson, 2005). In Jordan during 2004, about 400,000 (15%) adults reported hypertension (Brown et al., 2009). Very few studies have addressed the management of hypertension in this country. A study of prevalence, awareness and management of hypertension in eastern Jordan revealed that 68.5% of people who were aware of their diagnosis did not achieve control of their blood pressure (Jaddou, Batieha & Ajlouni, 2000) and among Bedouins in Northern Jordan, 57.1% of those aware of their diagnosis did not achieve control (Jaddou, Batieha, Al-Khateeb & Ajlouni, 2003).
After describing variables in consideration, it is imperative to mention the objectives of the study.

1.6 Objectives of the Study

1. To examine the difference between rheumatoid arthritis and hypertensive patients from Jordan on the measures of resilience, life-satisfaction and flourishing.

2. To compare rheumatoid arthritis patients, hypertensive patients, patients suffering from both and normal group of individuals from Jordan on the measures of resilience, life-satisfaction and flourishing.

After highlighting the objectives of the present investigation, now we have to move to describe the review of literature which will be the bases for formulating hypotheses.