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Impact of Dance and Movement on Stress and Mental Health

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Abstract:
Today, dance and movement have also become fundamental elements of artistic performances - be it solo presentations, duet performances or even group performances; thus leading to the formation of different dance forms and styles with certain rules and regulations. Several research papers, over a span of many years, suggest that dance and movement have potential healing effects. Therapeutic movement has recently been known to manage stress, anxiety,
symptoms of depression, and other mental health disorders. However, an interest in the systematic evaluation of the psychotherapeutic impact of dance and movement based modalities in different population settings in the context of psychotherapy is relatively recent. (C. Quiroga Murcia et al., 2010).Dancing and movement have become an integral part of our lives. For many, it is a medium to express their emotions; for some people, it is now a source of income and livelihood. Over time, dance and movement have evolved from tools and driving force that built societal relationships, to performance art-forms with choreographic roles on-stage and off-stage, to a formally recognised mode of therapy practice - known as Dance / Movement Therapy - an arts-based
psychotherapeutic intervention that aims to facilitate the integration of the physical and psychological aspects of human beings.

Keywords: Dance, Stress, Mental Health

CHAPTER 1:
INTRODUCTION

1.1 Background of Dance and Movement

Dance and movement based activities, as well as rituals, have existed for eons beyond measure. Dance is an art form that creates both religious and recreational experiences, whereas “movement” in the field of psychology and psychotherapy has been defined as a mode of communication that “reflects inner emotional states and that changes in movement behaviour can lead to changes in the psyche ,thus promoting health and growth.”. (Levy, Fran J., 1988)

The origins of dance and movement can be traced to some archaeological evidence as well, namely “dancing scenes” and “dancing accessories”. In a paper titled “Archaeology of Dance” by Yosef Garfinkel, he has identified several scriptures on stones across sites at different geographical locations that depict dance and movement — be it at Gönnerdorf with a rich artistic assemblage of 224 anthropomorphic figures

engraved on 87 stone plaques and 11 anthropomorphic figurines, or the Tell Halula with painted scenes of dancing females. (Garfunkel, Y, 2014)

In the Indian subcontinent, historians and archaeologists have traced the origin of dance and movement to statues and structures found across multiple regions of the country. For instance, the "Bhimbhekta Rock Shelters" in Madhya Pradesh, a UNESCO world heritage site showcasing some of the oldest paleolithic and neolithic cave paintings, show illustrations of dance. (Vatsyayan, K, 1982)

Another scripture depicting dance is the "Dancing Girl scripture", a 10.5 cm (4.1 inches) high figurine in a dance pose, which is dated to approximately 2500 BC.

Starting from celebrating developmental milestones to different social occasions, such as birth; marriage; celebration of various festivals; arrival of a season; etc., dance and movement rituals have been the ultimate driving force behind uniting people from all over the world. Be it in tribal, rural areas of the country or the urban, metropolitan cities — dancing and movement bring people together to show togetherness, kindness, compassion and celebration.

Today, dance and movement have also become fundamental elements of artistic performances - be it solo presentations, duet performances or even group performances; thus leading to the formation of different dance forms and styles with certain rules and regulations.

Despite being practised across multiple cultures and geographical regions, there are some unifying elements such as music and rhythmic patterns, physical postures, various formations, and coordinated movements that all dance forms possess regardless of their styles that provide a sense of unity, belongingness and harmony.

On the other hand, movement is intuitive, instinctive, and omnipresent — the ticking of the clock, the sway in the hands and the briskness of the feet while walking, the germination of a seed to a plant and then a tree. Movement exists everywhere, across all living beings.

Several research papers, over a span of many years, suggest that dance and movement have potential healing effects. Therapeutic movement has recently been known to manage stress, anxiety, symptoms of depression, and other mental health disorders. However, an interest in the systematic evaluation of the psychotherapeutic impact of dance and movement based modalities in different population settings in the context of psychotherapy is relatively recent. (C. Quiroga Murcia et al., 2010).

Dancing and movement have become an integral part of our lives. For many, it is a medium to express their emotions; for some people, it is now a source of income and livelihood. Over time, dance and movement have evolved from tools and driving force that built societal relationships, to performance art-forms with choreographic roles on-stage and off-stage, to a formally recognised mode of therapy practice - known as **Dance / Movement Therapy** - an arts-based psychotherapeutic intervention that aims to facilitate the integration of the physical and psychological aspects of human beings.

1.2 Background and Philosophy of Dance / Movement Therapy

Tripura Kashyap, one of the pioneers of Dance / Movement Therapy in India (alternatively known as Dance Therapy or Creative Moment Therapy) and founder of the Creative Movement Therapy Association of India (CMTAI), has described movement as "a mode of expression, but more so, as a sustainer of life".

She further adds - "Apart from its social role in building cultural communities and ritualistic practices, performative role in choreographic settings, the place of movement in therapy is being formally recognised and examined, since the beginning of the 20th century.". (Kashyap, et. al., n.d.)

Dance / movement therapy was originally developed by Marian Chace in the 1940s and 1950s, in the United States of America. Chace first started work with her students, who wanted to dance without the intention of becoming performers, which was known as "Dance for Communication". In the 1940s, when Chace started working with people who were psychologically affected by the casualties of World War II at the St. Elizabeth Hospital, it was renamed to "Dance / Movement Therapy".

Chace was also appointed as the first president of the American Dance Therapy Association (ADTA) from 1966 to 1968. The ADTA is the first organisation to have formalised dance and movement therapy across the world. The association has defined dance / movement therapy as the "the psychotherapeutic use of movement to promote emotional, social, cognitive and physical integration of the individual". (ADTA, 2013).

Today, there are several organisations across the world that work in the field of Dance Movement Therapy to facilitate holistic well-being of individuals from various walks of life. From young adults working in corporate set-ups to people who are differently abled, from people suffering from behavioural issues, learning disabilities and mental disorders to senior citizens residing in old age homes, Dance Movement Therapy has found its space across all population groups and is slowly becoming a recognised and accepted mode of arts-based psychotherapy.

In India, there are primarily three organisations and associations working in the field of Dance Movement Therapy —

1. **Creative Movement Therapy Association of India** (abbreviated as CMTAI): CMTAI was founded by Tripura Kashyap, one of the pioneers of Dance Movement Therapy in India, in the year 2014. It is legally registered under Section 8 (formerly Section 25) of the Companies Act. CMTAI is a member of Conseil International de la Danse (CID, Paris) and the American Dance Therapy Association (ADTA).
2. **Kolkata Sanved**: Kolkata Sanved is a women-led organisation established in 2004 that uses Dance Movement Therapy as a tool to heal and empower women and marginalised communities who have undergone human trafficking and other forms of gender-based violence in India and other south-asian countries. This organisation is registered under the West Bengal Societies Registration Act of 1961.
3. **Indian Association of Dance Movement Therapy** (abbreviated as IADMT): The Indian Association of Dance Movement Therapy (IADMT) is a professional body for Dance Movement Psychotherapists (DMP), Dance/Movement Therapists (DMT), Dance Movement Therapy Practitioners (DMTP),

Dance Movement Therapy Facilitators (DMTF), and Dance Movement Therapy Researchers (DMTR) in India. It is a National Association registered under the Tamil Nadu Societies Registration Act, 1975.

1.3 Background of Indian classical dance

Indian classical dance forms are an age-old, traditional practice that showcase countless mythological stories, folklores, and other anecdotes from various epics pertinent to our country — thus showcasing its rich and vast cultural heritage. Classical dance forms are also a form of communication that bring out the innermost feelings while depicting the cultural aspects of a civilisation. (Sudhakar, 1994)

The history and origin of Indian classical dance remains unclear till date. However, a treatise titled "Natyashastra" by Bharatamuni was published between 500 BCE to 500 CE. (Dace, W. 1963) which talks about Indian classical arts in great detail and depth — spanning across 36 chapters and 6000 verses, known as shloka in Sanskrit — this encyclopeadic treatise covers stage-craft, make-up, costumes, names and execution of various bodily movements, and integration of various disciplines in performing arts to create a well-rounded performance.

Indian classical dance forms are not just expressive, they are highly methodical and follow a strict pedagogy based on old scriptures and texts — mainly the "Natyashastra" written by Bharatamuni, and the "Abhinaya Darpana" written by Acharya Nandikeshwara.

According to these texts and scriptures, the Indian classical dance forms contain all the ingredients that evoke emotions, which are known as the Navarasa — translating to "nine emotions". (Acharya and Jain, 2017). These nine emotions comprise of Shringara (love / desire), Hasya (happiness), Karuna (compassion), Raudra (fury), Bhayanaka (fear), Vibhatsa (disgust), Veer (bravery or valour), Adbhuta (surprised), and Shant (serenity or peace). On further understanding and analysis, underlying emotions emerging from these nine primary emotions have also been identified — for example: Shoka (sorrow), Krodha (anger), Rati (love), Utsaah (excitement), Jugupsa (disgust), Vismaya (wonder), etc.

In Indian classical dance forms, these emotions are expressed through facial expressions and hand gestures known as "mudra" or "hasta mudra". In Amy Weinstraub's book titled "Yoga for Depression: A Compassionate Guide to Relieve Suffering Through Yoga", she mentions how neuroscience has linked the sacred use of these "mudras" with the connection of mind and heart to the sustenance of physical, emotional, mental and spiritual well-being. (Weinstraub, 2004). Moreover, dance also helps release "endorphins" — neurotransmitters that promote well-being.

In an academic journal titled "Rupkatha Journal On Interdisciplinary Studies on Humanities", Arpita Chatterjee's "The Therapeutic Value of Indian Classical, Folk and Innovative Dance Forms" talks of how Indian Classical dance forms, namely as Kathak, Bharatanatyam, Manipuri, Kathakali, Odissi, Kuchipudi and Mohiniattam, carry a therapeutic value. For instance, in Kathak, the usage of feet in Tatkaar (intricate footwork in rhythmic stomping motion) can help release tension and anger, whereas the Thaat (a technical piece that is initially static in the beginning and later evolves to be highly expansive in terms of movement and footwork) includes the use of facial expressions and torso movements, which is now used for the treatment purpose also as a form of physical exercise. In Bharatanatyam, the usage of bending postures

such as the Aramandi can strengthen the hamstring muscles, whereas Manipuri can help facilitate command and control over bodily movements. Kathakali, being a dance-drama based art form is extensively reliant on dramatised facial expressions, unlike any other dance form, with immense emphasis on the movement of the eyes.

Therefore, classical dance is being introduced as a psychological means of expression in therapy sessions to help manage and treat symptoms of anxiety, depression, and other psycho-social problems. (Acharya and Jain, 2017).

1.4 Concept of Stress

The term **"stress"** was first coined by Hans Selye, who described it as the **"nonspecific response of the body to any demand"**; whereas the World Health Organisation (W.H.O.) has defined "stress" as a **state of worry or mental tension caused by a difficult situation**.

The W.H.O further adds - "Everyone experiences stress to some degree. The way we respond to stress, however, makes a big difference to our overall well-being."

Stress can be classified into three categories with respect to definition -

a) A stimulus-based definition
b) A response-based definition
c) A process-based definition

The stimulus-based definition of stress states that stress is a result of pressure (Butler, 1993). The more intense the impact of pressure, the higher the chances are of the respondent or recipient succumbing to it. Hence, when the stimulus becomes too overpowering, the chances of giving in become more and more inevitable.

The response-based definition of stress states that stress is a *response* to aversive stimuli (Butler, 1993). This definition was earlier proposed by Hans Selye in 1936, who measured stress according to physiological responses.

The process-based definition of stress states that stress is a dynamic process. This perspective of stress has become more and more relevant with the advent and prevalence of clinical practice. Stress as a dynamic process implies that it reflects internal and external characteristics of an individual and their circumstances, as well as the interactions between the two situations.

In 1976, Hans Selye developed an approach to a type of stress, called *systemic stress*, which specifically focused on the relationship between external demands (stressors) and bodily processes (stress) based on physiology and psycho-biology. This theory of stress became known as the General Adaptation Syndrome (abbreviated as GAS) wherein he elaborates upon the long-term as well as the short-term responses to stress. The GAS has been divided into three stages which are as follows -

a) Alarm reaction stage
b) Resistance stage

c) Adaptation stage

The alarm reaction stage is the initial phase wherein the body's homeostasis is disrupted due to stress. The alarm reaction stage lasts for a short time, where people normally feel their muscles, being tensed, their mouth is getting dry, rising levels of blood pressure, increased heart rate, breathing rapidly, slowing of digestion, sweating, and pangs inside the stomach. The alarm stage stimulates the mind and body to cope effectively with the current stress or present. While facing a negative stimulus, the alarm response initiates the sympathetic nervous system system to either fight the stress or move away from the stressor.

The resistance stage, which is the second phase of the GAS, Marks a decline in in the initial response generated during the alarm stage. There is a new found adaptive energy, which helps fight the stress or present in the body, and is capable of actively dealing with the current stressful situation. A prolonged reaction to stress may result in the bodies, inability to repair and replenish from all the effort in carrying out coping mechanisms to stress as the body becomes more, divide of rest and relaxation, which is essential to restore Home status and equilibrium in the human body. This reaction is initiated through regulation and secretion of hormones, therefore, turning into a long-term reaction.

The third and final stage of the GAS, which is the exhaustion stage, indicates a failure of the resistance stage (the second stage of the GAS). The exhaustion stage is activated after once the human body cannot cope with excessive and chronic stress, which is long-term stress. The manifestation of the exhaustion stage can be seen as adaptation breakdown, where in individuals become more vulnerable to several bio psychosocial symptoms. Constant exposure to stress facilitates response to further stresses which results in negative feedback in the human body. Physical illnesses such as cold, cough, arthritis and some heart diseases are common amongst those individuals who constantly battle chronic stress.

The American Psychological Association further elaborated on the definition and divided "stress" into two broad categories - "acute" stress and "chronic" stress.

Acute stress is the more common form of stress that people experience by and large. It is brief in duration, and emerges from "reactive thinking", and the "demands and pressures of the recent past and anticipated demands and pressures from the future" (A.P.A, 2011). Furthermore, acute stress or short-term stress can increase the expression of pathological and protective immune responses (Khanam, S. 2017).

Chronic stress, on the other hand, has a longer duration; it is characterised by feelings of "despair" and "hopelessness". Furthermore, the continuous and repeated exposure to a either stressor, numerous stressors, or exposure to a severe acute stressor can result in alterations in psychological and neurobiological processes. This can lead to the development of stress-related psychiatric disorders (i.e. - mood, anxiety, etc), somatic disorders, especially amongst individuals who are vulnerable and sensitive to stress (Bauduin, S. E. E. C., 2022) or other health related problems such as respiratory infections, lack of sleep, poor diet. Furthermore, chronic or long-term stress can suppress the pathological and protective immune responses. (Khanam, S. 2017)

Besides physical reactions to stress (such as sweating, palpitations, headaches, dizziness, difficulty, and catching one breath, muscle tension, body aches, et cetera), there are several other types of reactions, such as -

a) Emotional
b) Cognitive
c) Behavioural
d) Spiritual
e) Burnout and Post Traumatic Stress Disorder

Emotional reactions to stress include feelings of fear, grit, panic, anxiety, anger, crime spells, overwhelm, denial, et cetera.

Cognitive reactions to stress include lack of concentration, destructed, or distorted, thinking, inability, to remember, memory, problems, forgetfulness, feeling disoriented, trouble in decision, making, bringing changes in normal thinking, process, et cetera.

Behavioural stress reactions include changes and sleep cycle, increase and decrease in appetite, increased usage of substances like alcohol / nicotine / tobacco et cetera, anger outbursts, increased frustration, so on and so forth.

Spiritual reactions to stress include feelings of abandonment and betrayal by God, experiencing loss in faith, difficulty in praying, blaming God for negative circumstances, et cetera.

Burnout manifest in the form of feeling dysfunctional, apathetic, being prone to mistakes, and acting on impulse. On the other hand, post traumatic stress disorder includes irritability, decreased concentration, feelings of anxiety, sexual, frustration, hyper-vigilance, and blunted affect due to poor, psychological adaptation to stressors.

Hence, if the prone individual does not work towards alleviating stressors in their life, it can result in the development of poor coping mechanisms such as alcoholism, substance abuse, social withdrawal, or other maladaptive avoidance techniques.

1.5 Concept of Mental Health

Mental health is a contested and still much debated concept, with no universally accepted definition (Heron and Trent 2000; Friedli, 2004). It has also been argued that there can be no universally accepted definition (Heron and Trent 2000; Friedli, 2004; War, 1987) due to the fact that mental health is multi dimensional and value-laden.

However, the World Health Organisation (abbreviated as W.H.O.) defined mental health as “a state of well-being in which every individual realises his or her own potential, can cope with the normal stresses of life, can work productively and fruitfully, and is able to make a contribution to her or his community”. (W.H.O, 2014)

In 2012, a document by the W.H.O. titled "Risks to Mental Health" addressed various determinants of Mental Health and well-being. Mental health and well-being are not just limited to the influence of individual attributes, rather, the social circumstances of an individual play an equal and influential role in determining whether their mental health is protected or threatened. The determinants of mental health and well-being are as follows -

a) Individual attributes and behaviour
b) Social and economic circumstances
c) Environmental factors

Individual attributes and behaviour - Individual attributes and behaviour are a person's inner and acquired abilities to deal with feelings and thoughts, manage themselves on a day-to-day situation and deal with the outside world through participation in social activities, respecting other peoples views, and taking social responsibilities. An individual state of mental health can be influenced by biological and genetic factors as well, that is what the individual is born with, including chromosomal abnormalities and intellectual disabilities caused by a parent exposure to substances such as alcohol, or deprivation of oxygen at birth. (W.H.O, 2012)

Social and economic circumstances - Social and economic circumstances refer to the individual's capacity to develop and grow. This is heavily influenced by the individual's immediate social surroundings, such as - the opportunity to positively engage with family members, friends, colleagues, as well as earning a living for themselves and their families, especially keeping in mind the social economic circumstances, where they find themselves. Pertinent factors that restrict development and growth of an individual include limited or lack of opportunities to gain and education as well as gaining an income. (W.H.O., 2012)

Environmental factors - The broader, more inclusive outer environment consisting of geopolitical and social cultural factors can also impact an individual's, household's, as well as a community's, mental health status. The determinants of environmental factors include access to basic amenities and services (such as water, healthcare, rule of law), being exposed to predominant cultural beliefs, the attitude of practices of cultural beliefs and morals, as well as policies of social and economic nature formed at the national level. Discrimination, gender, inequality, and social conflict are prime. Examples of adverse structural determinants of mental well-being. (W.H.O, 2012)

According to a paper published by **Martin Prince et. al** in **2007** titled **"No health without mental health"**, nearly 14% of the global burden of disease is attributed to neuropsychiatric disorders, primarily due to the chronically disabling nature of depression and other common mental disorders, alcohol-use and substance-use disorders, and psychoses. Such estimates have drawn attention to the importance of mental disorders for public health.

In the field of dance, speaking about and acting upon one's mental health has gained more attention from students and practitioners, alike. Recent headlines in news channels and social media posts continually remind us of how dance students and practitioners have faced countless, unsolicited remarks about their physical appearance, been subjected to body shaming, humiliated publicly, and even faced emotional, physical and other forms of harassment and abuse from people at positions of power.

As a result, dancers are facing low-confidence and low levels of self esteem, the higher and more intense end of the spectrum include symptoms of depression, anxiety, post-traumatic stress disorder, thus highlighting a pressing need to discuss mental health of students and practitioners of dance and movement.

In a review article published by Dwarika and Haraldsen (2023) titled **Mental health in dance: A scoping review**, three factors have been identified that are underpinned determiners of a dance student and practitioner, which are -

a) Stressors
b) Mental processes
c) Mental health outcomes

Stressors - According to Fletcher and Sarkar, an individual's access to mental health resources is primarily determined by the stressors in different parts of their life. Such stressors may be defined as environmental demands encountered by an individual. One study in dance conducted by Blevins et al (2020) identified physical stresses related to dance training, such as high, physical workload, requirements concerning technical skill, and choreographic demands, and psychosocial stresses related to their environment, such as financial obligations, personal obligations, relationships and major life events. However, dance specific stressors have not been identified till date.

Mental processes - According to Lazarus and Folkman (1984), mental health and tales that individuals are affected by various factors such as context, situation and stressors, but also in capsulate how they respond to and deal with these impacts and experiences. Two essential overarching resources that play an integral role in mental processes are *personal qualities* and *environment*. These two qualities can either increase or decrease an individual's mental health outcomes. moreover, they also represent several components identified to restoration and strengthening of mental health. Fletcher and Sarkar (2016) have described personal qualities as psychological factors that either protect or negatively influence individuals, which are different from psychological skills. An individual can train to acquire a set of psychological skills that can enhance or improve their personality traits, therefore, acting as protective factors against challenging events. Individuals also constantly interact with their environment and complex ways, which intern affect their mental health. The role of social and cultural circumstances and occurrences is paramount. Hence, the environment can either protect a person's mental health through development and nourishment, or hamper the mental state by jeopardising the balance of an individual, individual, mental health, components, thus posing challenges and mental health disorders.

Mental health outcomes - Mental health outcomes are defined by mental processes. This means that mental processes can either lead to positive or negative mental health outcomes. According to Keyes (2002) positive mental health outcomes indicate the presence of mental health and a decline in mental illness, whereas negative outcomes indicate an absence or languishing of mental health, in turn, a presence and gradual increase in mental illness. A positive mental health outcome can further lead to increased engagement in tasks and optimal performances whereas negative outcomes can lead to distress, loneliness, exhaustion, or tendencies to harm oneself as well as indulge in substance abuse. Hence, it is important to acknowledge the dynamic state of an individual's mental health, and understand that, while they can thrive in one area of life, they can struggle in another. It is important to note that a negative mental health outcome

is not a permanent sentence of doom. With the right resources of intervention, it can lead to growth, re-evaluation and reflection in an individual.

To summarise, the presence of mental health has gained significant attention and recognition over the past several years through communication and clinical research. Therefore, issues surrounding mental health are, and have become increasingly prevalent worldwide, thus emphasising the need carry out more research antecedents that define the consequences of well-being, as well as provide insights to various gaps and shortcomings in this field in order to understand the complexities and intricacies of mental health.

CHAPTER 2:
REVIEW OF LITERATURE

2. Review of Related Literature

Although the literature on the impact of dance and movement on individuals date back to the earliest days, (between 1940s and 1950s) when this mode of therapy gained recognition, not enough psychological research has been carried out to support the same. Though limited in nature, notable psychological research in this domain have indicated that dance and movement based activities have improved one's mental health, as well as reduced stress and stressors.

Over time, there has been a significant and exponential increase in research on dance and movement based interventions towards the end of 20th century and the beginning of the 21st century. (Meekums, 2010)

A dance / movement therapy research was carried out by **Berklein and Sossin** in **2006**, wherein they studied and analysed the **indices of stress** between nonverbal patterns in 26 parent–child dyads (a total of 52 participants, therefore N = 52) and parental stress. It used a movement based psychological profiling known as the "Kestenberg Movement Profile"; developed by Dr. Judith Kestenberg in 1999. This movement profile focuses on two lines of development: tension-flow attributes of development that describes movement dynamics, and the shape-flow shaping line of development that describes the structure of movements along with its relational development. The findings of this research show that stressed parents display "deanimated abruptness", whereas children of stressed parents display a dissonance between "safety / danger affects" and "comfort / discomfort affects" - implying that children would face problems in self-regulation, as well as regulating tension arising from interactions with their parents. Lastly, stressful relationship between parent and child leads to a decrease in attunement.

A comparative study conducted by **Akandere and Demir** in **2011** studied the **effects of dance / movement therapy on depression**, where a total of 120 healthy male and female conservatory students ranged from 20 and 24 years of age volunteered to participate in this study. They were divided randomly into groups of two: dance training group (DTG; n = 60) and control group (CG; n = 60). A dance training program was applied to the subjects three days a week over a span of 12 weeks. The subjects in the control group did not participate in the training; only in the pre and post test measurements. Results showed that the dance training affected depression levels of the subjects participating in the research as the training group. The depression level of males and females before training significantly decreased in those 12 weeks. As hypothesized, the depression levels of the subjects in the control group saw no meaningful change.

A randomised control trial (abbreviated as RCT) was carried out by **Iris Braüninger** (later published as a research study in **2012**) wherein dance / movement therapy based group intervention techniques were used in **stress management improvement** and **stress reduction** with a wait-listed control group (WG). For this RCT, 162 self selected clients were assigned to a dance / movement therapy intervention, where the participants underwent 10 therapy sessions in a span of 3 months, thus participants and facilitators met once a week. The structure of the intervention comprised of a 90 minutes dance / movement therapy group intervention. The results showed that dance / movement therapy group treatment is more effective to improve stress management and reduce psychological distress than non-treatment. A follow up intervention also took place six months after the study was carried out wherein participants reported feeling better, thus suggesting that the effects of this modality last over a sustained amount of time.

In **2017**, a comparative study was conducted by **Chirmi Acharya** and **Madhu Jain** focusing on the **psychological well-being** and self-esteem amongst Indian classical dancers and non dancers. For this study, 40 Indian classical dancers and non dancers were selected using a randomised sampling technique from various dance institutes across the country. The concluded findings showed that dancers showcased a higher level of psychological well-being, environmental mastery, self-acceptance, overall autonomy, purpose in life, personal growth and personal relations compared to non dancers. Moreover, Indian classical dancers also showcased an elevated level of self esteem compared to non dancers.

According to **Koch et. al's research** conducted in **2019** titled **"Effects of Dance Movement Therapy and Dance on health-related psychological outcomes"**, 41 controlled interventions were studied, analysed, and later synthesised to be presented in the form of a research paper. Out of these 41 intervention studies, 21 were from dance / movement therapy, whereas the remaining 20 studies were from dance (with sub-analyses of depression and anxiety), along with clinical outcomes, interpersonal skills, cognitive skills, motor skills and psychomotor skills. Randomised control trials (RCTs) were also included in the areas of clinical mental health and physical health disorders such as depression, anxiety, schizophrenia, autism, elderly patients, cardiovascular disease, and many more. The concluded findings suggest that dance / movement therapy decreases the offset of negative mental health conditions while simultaneously increasing and elevating one's quality of life. Follow-up data (i.e. - 22 weeks post dance / movement therapy intervention) further suggested that the effects of dance / movement therapy were either stabilised or increased.

A research paper titled **"Arts in Psychotherapy"** by **Vaishnavi Joshi** in **2022** focused on explored the implications of Indian dance forms on the **psychological well-being**, along with emotional trait intelligence and self esteem amongst Indian classical as well as folk dancers. The dance forms included in the study comprise of all eight Indian classical dance forms; as well as some folk dance forms that include Bhangra, Rajasthani folk dance, Gujarati folk dance, and Haryanvi folk dance. The participants comprised of 188 young adults (i.e. - male and female) ranging from ages 18 years to 25 years, who were divided into groups of four on the basis of the duration of training: young adults who have been practising dance for 0-3 years; 4-7 years; 7-10 years and more than 10 years. The findings of this research show that dance (particularly Indian dance forms) helped improve the overall psychological well being of dancers. Additionally, higher levels in the realm of self-esteem and emotional trait intelligence signified an elevated presence of positive psychological wellness as well.

Another research conducted in **2022** by **Vecchi et. al.** studied the **effects of recreational dance on well-being and productivity performance** through a self formulated online questionnaire which was filled by dancers (i.e. - the target group) and non-dancers (i.e. - the control group). The final sample used for the analysis includes 537 dancers - 238 respondents from the United Kingdom, 172 from Italy, and 127 from Brazil; whereas the number of non dancers are 956 - with 275 from the United Kingdom, 325 from Italy, and 356 from Brazil. The content of the questionnaire contained survey items used in prior research, which have been demonstrated to provide reliable scales. The final results were consistent with their hypotheses, i.e. - the mean scores for well-being and productivity are higher for recreational dancers than non dancers. A detailed analysis showed that recreational dancers also showcased higher levels of motivation in recreational dancers than non dancers, with those in the United Kingdom reporting the largest difference (1.51), followed by Italy (1.13) and then Brazil (.90).

2.1 Literature related to Stress

In **1988**, a study was conducted by **DeLongis et. al.** titled **"The impact of daily stress on health and mood: Psychological and social resources as mediators"** wherein they examined 75 married couples across 20 assessments in a span of 6 months. During these assessments, the researchers investigated the psychological and somatic effects of everyday and common hassles of life. The concluding findings showed a significant relationship between stress and health — how stress led to and affected existing health problems such as flu, headaches, backaches, sore throats, etc. The negative manifestations of stress further affected the moods of these individuals. An interesting observation to be noted was how social factors such as unsupportive relationships and low self esteem affected psychological and somatic problems.

A review article published by **Sabina Khanam** in **2017** titled **"Impact of Stress on Physiology of Endocrine System and on Immune System: A Review"** supports the negative impact of stress in the body, wherein she focused on the immune system and endocrine system. To begin with, prolonged stress can cause respiratory infections, lack of sleep, poor diet. However, the effects of stress become more severe with time. When stress occurs, the fight or flight system activates, thus leading to large amounts of adrenal hormones such as adrenalin and cortisol being secreted from the adrenal gland. This excess release of adrenal hormones elevate the levels of blood pressure and heart beat, thus immune system is weakened. In the case of people who menstruate, stress can negatively impact menstrual cycles as it leads to a decrease in the secretion of gonadal hormones in the body, further causing disturbances in the normal function of reproductive system.

In **2018**, a research was conducted by **Vrinceanu et. al.** titled "**Dance your stress away: comparing the effect of dance/movement training to aerobic exercise training on the cortisol awakening response in healthy older adults"** wherein they aimed to examine the effects of dance/movement training on the cortisol awakening response (CAR), a marker of chronic stress. In this research, forty participants with the mean age of 67.45 years and a population consisting of 75% women were randomly divided into three groups - a DMT group consisting of 12 participants, an AT (aerobic training) group consisting of 14 participants, and a wait-list group consisting of 14 participants. In the DMT group, the activities consisted of a set of exercises to promote gross motor skills, body, awareness, and socialisation. In the AT group, the activities and exercises consisted of high intensity activity on a recombinant cycle. Both DMT and

aerobic training groups were supervised by licensed instructors. The participants met the instructors thrice a week for three months. Before and after their respective programme, participants of all groups provided saliva samples and had their fitness level evaluated. The results indicated that the group with DMT activities showed lower salivary cortisol levels post training. The other two groups indicated no change from baseline in their CAR.

2.2 Literature related to Mental Health

A study conducted by **Nandini Chakraborty** in **2020** observed the impact of the Corona Virus on mental health. In her paper titled **"The COVID-19 pandemic and its impact on mental health"** , she mentioned how 1210 respondents took an online survey in China, out of which 53.8% rated the psychological impact as moderate or severe: 16.5% reported moderate to severe depressive symptoms; 28.8 % reported moderate to severe anxiety symptoms, and the remaining 8.1% reported moderate to severe stress levels. Further findings show how the global population witnessed a decline in their mental health due to the outbreak of Corona Virus, and based on past findings and existing literature surrounding the outbreak of a pandemic, it is not enough to fight the physical effects of the disease and stop physical morbidity and mortality. The mental health and psychological effects are equally important. (Chakraborty, N. 2020)

Another research in **2020** conducted by **Winden, Reign, Savelsbergh, Oudejans, and Stubbe** titled **"Characteristics and Extent of Mental Health Issues and Contemporary Dance Students"** investigated the extent and characteristics of mental health issues and contemporary dance students. For this research, 130 dance and dance-teacher students were monitored on a monthly basis using the performing artist and athlete health monitor (PAHM) for one academic year. Out of the 130 students, 81 participants comprised of dance students, whereas the remaining 49 were dance teacher students. The response rate of the monthly question was 79.7%. Overall 96.9% of the students reported at least one physical or mental health problem. Further, 29.2% of the students reported a mental health issue as their most severe mental health problem, of whom 39.4% indicated a substantial mental health issue which affected their training, volume and performance. The most reported types of mental health issues were general anxiety (20%), stressed due to external factors (18.3%), and constant tiredness (16.7%). In conclusion, contemporary dance students were at risk of mental health issues. The suggestions included paying special attention to stress, anxiety and constant tiredness amongst students.

Aliberti and Raiola's research article published in **2021** titled **"Effects of Line Dancing on Mental Health in Seniors after COVID-19 Pandemic"** investigated the effects of line dancing practice on the mental state of senior dancers. The sample population consisted of 14 Italian female dancers with an average age of 65 years old. The researchers used the "Geriatric Depression Scale" to assess whether there were any noticeable improvements after 3 months of Line Dancing classes. Using the T-test to test the difference between pre- and post-training protocol, the results showcased a statistical significance. Dancers showed lesser, more decreased signs of depression. Further results showed they felt a better satisfaction in their life, a greater interest in activities, less boredom, a good mood most of the time, greater happiness throughout the day, and an overall elevated perception towards life.

CHAPTER 3:
SIGNIFICANCE OF THE STUDY

3. Significance of Study

The significance behind choosing and working on this topic for my dissertation / project is to understand how the various aspects of these universal phenomena, i.e. - dance and movement, help alleviate stress and, in turn, improve the overall well-being, especially the mental health of individuals.

With the ever increasing advancements of technology and workload of working individuals, countless studies have shown how difficult it has become to keep up with the pace with which the world currently operates at, due to which it has also become extremely difficult and challenging to relax our minds and bodies through slow and intentional recreational activities that focus on self-care and overall improvement.

From the impact of various countries 'cultural norms on contemporary trends to how technological advances might help redefine traditional steps going forward - providing readers with unique insight into how dance continues to capture hearts whilst working as a tool to improve an individual's quality of life and living is essential for their overall well-being.

In conclusion, this dissertation aims to understand, analyse and investigate the relationship between "dance and movement based techniques" and "stress" along with "mental health". Moreover, with the help of this research, I aim to address the long-standing gap in the existing literature by providing a basic yet fundamental understanding of the psychological effects of this modality of arts-based psychotherapy.

As a student of dance, psychology, and dance/movement therapy, this dissertation also aims to help in contributing to the field of dance / movement therapy and, in turn, advance the current understanding of the topic. Ultimately, the findings of this research might have significant implications for the use of dance and movement as a tool to improve the quality of life amongst individuals, and could help to inform the development of interventions aimed at reducing stress, while simultaneously improving mental health.

CHAPTER 4:
RESEARCH METHODOLOGY

4. Research Methodology

4.1 Research question

The current research aims to understand the role and impact of dance and movement based modalities on the stress and mental health of individuals.

4.2 Variables of study

Independent: Dance and movement based modalities
Dependent: Stress and mental health

4.3 Operational definitions

Stress: The World Health Organisation (W.H.O.) has defined "stress" as a state of worry or mental tension caused by a difficult situation. Everyone experiences stress to some degree. The way we respond to stress, however, makes a big difference to our overall well-being.

In this study, stress indicates the pressures felt by students and professionals in the field of Indian classical dance and Dance movement therapy, thus resulting in psychological and physiological imbalances.

Mental health: W.H.O. (2014) defined mental health as "a state of well-being in which every individual realises his or her own potential, can cope with the normal stresses of life, can work productively and fruitfully, and is able to make a contribution to her or his community".

In the present study, Mental health was assessed through six categories with the help of the Mental Health Inventory by Dr. Jagdish and AK Srivastava —

a. Positive self evaluation (PSE)
b. Perception of reality (PR)
c. Integration of personality (IP)
d. Autonomy (AUT)
e. Group oriented attitude (GOA)
f. Environmental Mastery (EM)

Indian classical dance: Indian classical dance is an umbrella term for those Indian dance forms that follow rules and regulations mentioned in ancient scriptures such as Natyashastra, and Abhinaya Darpana, to name a few. There are eight Indian classical dance forms:

a. Kathak
b. Sattriya
c. Manipuri
d. Odissi
e. Bharatanatyam
f. Kuchipudi
g. Mohiniattam
h. Kathakali.

Dance Movement Therapy: According to the American Dance Therapy Association, Dance Movement Therapy is "the psychotherapeutic use of movement to promote emotional, social, cognitive and physical integration of the individual". (ADTA, 2013).

4.4 Objectives of Study

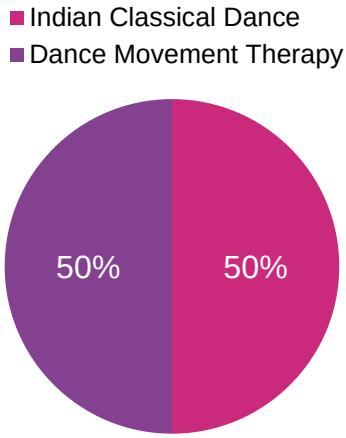
The objectives of the study are as follows:

- To examine the relationship between dance / movement based modalities and stress
- To examine the relationship between dance / movement based modalities and mental well-being
- To understand the co-relation between stress and mental well-being through dance / movement based modalities and techniques.

4.5 Hypotheses

The hypotheses of this research project that has been drawn on the basis of earlier studies are as follows:

- H1: There will be no significant relationship existing in "mental health" amongst students and professionals Indian classical dancers and dance movement therapy.
- H2: There will be no significant relationship existing in "stress" amongst students and professionals Indian classical dancers and dance movement therapy.
- H3: There will be no significant relationship between stress and mental health of students and professionals Indian classical dancers and dance movement therapy.



4.6 Population

The population of the study will comprise of adults, ages 18 to 45 years, who are currently practising or studying any Indian classical dance form and/or dance / movement therapy across India. Thus, the population will consist of students and professionals.

4.7 Sample and Sampling Techniques

The sample of the study will comprise of 70 adults, out of which 35 participants will comprise of dancers / adults pursuing Indian classical dance professionally or in their higher education, whereas the other 35 participants will comprise of dance/movement therapy professionals or adults pursuing dance/movement therapy. As the proposed study comprises of two sub-groups, a stratified random sampling method will be employed.

4.8 Data Analysis

The tools used for data analysis are as follows:

4.8.1. Mental Health Inventory by Dr. Jagdish and Dr. AK Srivastava

The Mental Health Inventory (MHI), developed by Dr. Jagdish and Dr. A.K. Srivastava in 1985, comprises of 56 items that are to be rated on four-point choice answer. The choices given are - always, often, rarely, and never.

This test can be used as a group or an individual test, for ages 15 and above, no time and age limit is enforced in the testing. The MHI measures mental health on the basis of six dimensions:

1. Positive self evaluation (PSE) - self-confidence, self-acceptance, self-identity, realisation of one's capabilities.
2. Perception of reality (PR) – related to absence of excessive fantasy, ability to face and accept realities of life.

3. Integration of personality (IP) - indicates balance of psychological forces in the individual, includes emotional maturity, ability to concentrate at work and interest in several activities.
4. Autonomy (AUT) - the actions of people are independent rather than dependent on other persons.
5. Group oriented attitude (GOA) - ability to work with others and ability to find recreation.
6. Environment competence overall / Environmental mastery (EM) - Efficiency in meeting situational demands.

Scoring and Interpretation

The test is scored with the help of manual. 4 alternative responses have been given to each statement i.e. always often, rarely and never. 4 scores to always, 3 scores too often, 2 scores to rarely and 1 score to never, marked responses are to be assigned for true keyed (positive) statements whereas 1, 2, 3 and 4 scores for 'always', 'often' rarely and never respectively in case of false keyed (negative) statements.

Showing item numbers included in various dimensions of mental health -

No.	Dimensions of MH	Positive Items	Negative Items	Total
1	PSE	27, 32, 38, 45, 51	1,7 13, 19, 23	10
2	PR	6, 8, 41, 52	14, 24, 35, 46	8
3	IP	18. 20	2, 9, 15, 25, 28, 33, 36, 40, 47, 53	12
4	AUT	10, 29, 54	3, 42, 48	6
5	GOA	4, 30, 39, 43, 49, 55	11, 16, 21, 26	10
6	EM	5, 17, 37, 50, 56	12, 22, 31, 34, 44	10

To calculate the sum of scores in each domain, a Summation of the Raw Score of Positive and Negative Items should be obtained. Similarly, to find the total raw score, a summation of all the raw scores in all 6 domains should be obtained.

Reliability and Validity

The **reliability** of the "Mental Health Inventory" was determined by Test-Retest method, where r = 0.70; and Split-Half method, where r = 0.73.

The reliability co-efficient of each dimension is mentioned below:

a. Positive self evaluation - 0.75
b. Perception of reality - 0.71
c. Integration of personality - 0.72
d. Autonomy - 0.72
e. Group oriented attitude - 0.74
f. Environment competence overall / Environmental mastery - 0.73

The **validity** of the "Mental Health Inventory" was determined by concurrent method where r= 0.54.

4.8.2. Perceived Stress Scale by Sheldon Cohen

The Perceived Stress Scale (PSS), developed by Sheldon Cohen in 1983, measures the degree to which situations in one's life are appraised as stressful. This scale consists of 10 items with a 5-point choice answer.

The choices are as follows: 0 - Never, 1 = Almost Never, 2 = Sometimes, 3 = Fairly Often, and 4 = Very Often.

The items are of a general nature and hence are relatively free of content specific to any subpopulation group. This scale was designed for use in community samples with at least a junior high school education. The items in the PSS enquire about feelings and thoughts within last month from the time they attempt the scale. In each case, respondents are asked how often they felt a certain way.

Scoring and Interpretation

PSS scores are obtained by reversing responses (e.g., 0 = 4, 1 = 3, 2 = 2, 3 = 1 & 4 = 0) to the four positively stated items (items 4, 5, 7, & 8) and then summing across all scale items. A short 4 item scale can be made from questions 2, 4, 5 and 10 of the PSS 10 item scale.
The interpretation is as follows -
Scores ranging from 0-13 are considered low stress.
Scores ranging from 14-26 are considered moderate stress.
Scores ranging from 27-40 are considered high perceived stress.

Reliability and Validity

The **reliability** of the "Perceived Stress Scale" was determined by Test-Retest method, where r = 0.78 .

The **validity** of the "Perceived Stress Scale" was determined by construct method where r = 0.57.

4.8.3 Nature and Procedure of Data Collection

The data collected will be of two types:

1. Quantitative data
2. Qualitative data

To collect quantitative data, a survey method will be applied which will be shared with the participants. The investigator will be available to clarify any doubts faced by the participants who would fill the scales.

To collect qualitative data, the investigator will create an open-ended questionnaire select participants for an interview. During the interview process, the investigator will try their best to build a rapport with the interviewees, provide a consent and confidentiality form for their signatures and clarify all doubts before, during and after the process.

4.9 Statistical Analysis

Various descriptive tools in nature will be implemented for the requirement of this study, which are as follows - Mean, Standard deviation, T-test and Pearson correlation coefficient.

CHAPTER 5:
ANALYSIS & INTERPRETATION

Data Analysis and Interpretation

a) Quantitative Data

After collecting data , the investigator analysed it as it was difficult to explain the raw data since raw data is merely an observation of responses from the population group. Keeping in view the objectives of the study and the hypothesis, the data was statistically processed using appropriate design and technique. Hence, after the data was collected, it was important to analyse it properly in order to draw a close accurate inference to obtain closely accurate results for further discussion.

The quantitative data was collected across 70 individuals, consisting of both students and professionals in two disciplines - Indian classical dance and Dance Movement Therapy - with the help of two questionnaires, namely:

1. Mental Health Inventory by Dr. Jagdish and Dr. AK Srivastava
2. Perceived Stress Scale by Sheldon Cohen

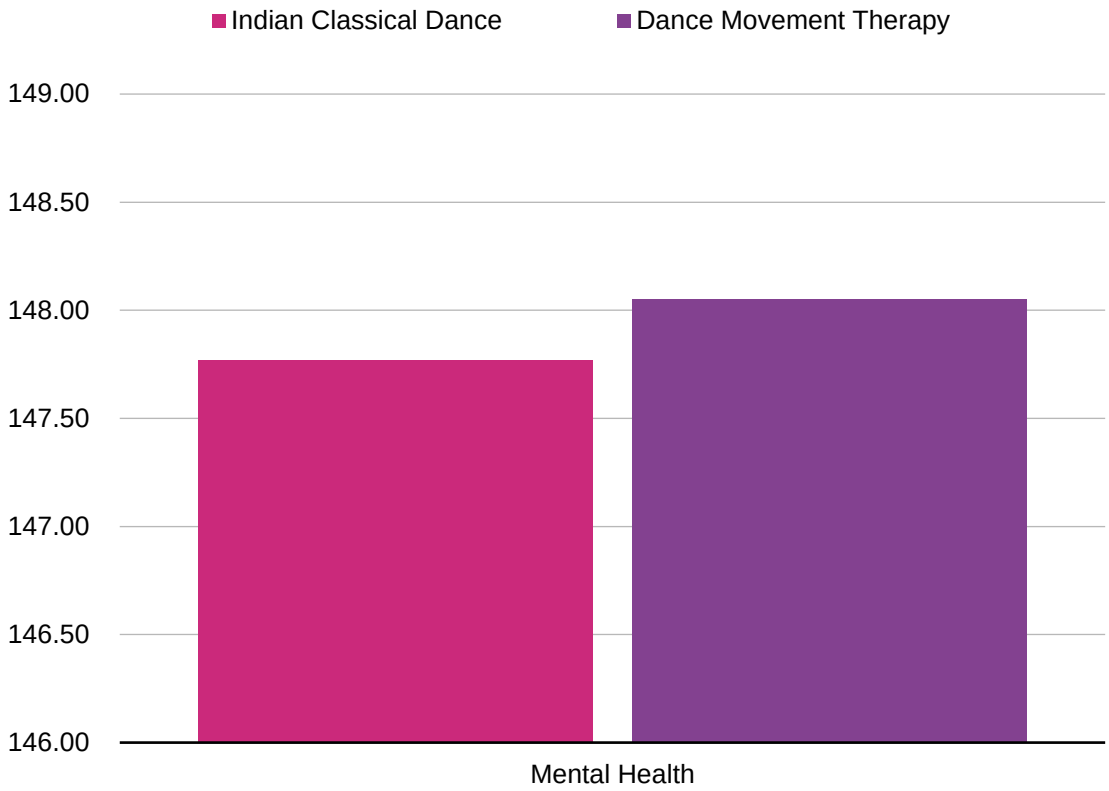
The population consisted of 35 students and professionals in the field of Indian Classical Dance and 35 students and professionals in the field of Dance Movement Therapy.

Population	**Frequency**	**Percentage**
Indian Classical Dance	35	50%
Dance Movement Therapy	35	50%
Total	70	100%

Impact of Dance and Movement on Mental Health

- **H1: There will be no significant relationship existing in “mental health” amongst students and professionals Indian classical dancers and dance movement therapy.**

	Total Score	**Mean**	**SD**	**T**	**Significance**
DMT	**5182**	148.05	11.66	0.112*	Significant
ICD	**5172**	147.77	9.48		
				*0.538 significance	



The results presented in this table indicate the variable "Mental Health" measured amongst two groups consisting of students and professionals of Dance movement therapy and Indian classical dance.

The descriptive statistics show that the mean value of Dance movement therapy participants and Indian classical dance participants are 148.05 and 147.77 respectively; whereas the values of standard deviation are 11.66 and 9.48 respectively.

The "T" value presented here is 0.112 with a 0.538 significance, indicating that the T value is higher than the critical value.

Therefore, this implies that there is a substantial difference between the two population groups namely participants from Dance movement therapy and Indian classical dance with respect to their mental health. This means that the hypothesis reading "**There will be no significant relationship existing in "mental health" amongst students and professionals Indian classical dancers and dance movement therapy"** is rejected and the alternate hypothesis is accepted.

This also indicates that the levels of Mental Health amongst students and practitioners of Dance movement therapy is higher when compared to the students and practitioners of Indian classical dance.

Therefore, according to the norm tables, it can be concluded that the mental health levels of students and practitioners of Dance movement therapy is better than the students and practitioners of Indian classical dance.

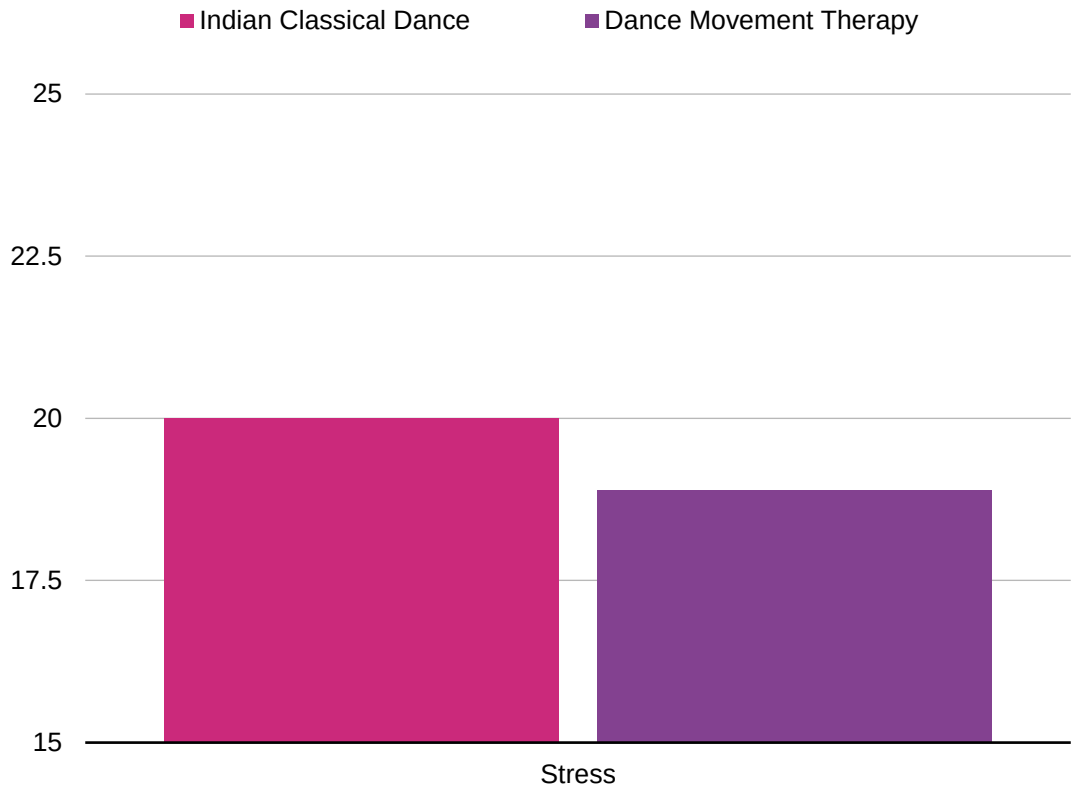
Some of the reasons aiding in the differences in the levels of Mental Health can be attributed to the following factors -

1. **Partial or maximum instability in financial income due to career choice:** More often than not, Indian classical dancers do not receive enough monetary compensations for their performances, classes, and other professional commitments. Another factor for fluctuating income is the partial acceptance of Indian classical dance as a full-fledged career choice. On the other hand, Dance movement therapy, as a relatively new and upcoming modality of arts-based psychotherapeutic intervention is more sought after in specific settings. Institutions such as corporate offices and even non-profit organisations organise festivals and events wherein more dance therapy professionals are hired to conduct sessions for the well-being of their employees and members, especially keeping in mind the magnanimous shift and focus towards Mental Health in recent times. However, the pay and remuneration in both scenarios seem to be compromised because of their unconventional nature.
2. **Usage of Authentic / Therapeutic Movement Practices:** In the context of Dance Movement Therapy, "Authentic Movement" is a term coined by Mary Starks Whitehouse, one of the leading pioneers in this field. According to her, "Authentic Movement" refers to the incorporation of movement to promote self-exploration and improved mental health. This innovative type of therapeutic movement practice can be used by qualified mental health professionals with individuals, couples, or in group therapy sessions. Compared to dance movement therapy, the movement repertoire used in Indian classical dance is guided by ancient encyclopaedic treatises such as the "Natyashastra" which provides in-depth rules and regulations of how bodily movements in different Indian classical dance forms must be executed in the context of stage performances. The pressure of executing movement with proper technique is a determinant of how skilled an Indian classical dancer is, which further affects their mental health.

Impact of Dance and Movement on Stress

- **H2: There will be no significant relationship existing in "stress" amongst students and professionals Indian classical dancers and dance movement therapy.**

	Total Score	**Mean**	**SD**	**T**	**Significance**
DMT	**662**	18.9	6.32	0.49*	Significant
ICD	**700**	20	7.31		
				*0.113 significance	



The results presented in this table indicate the variable "Stress" measured amongst two groups consisting of students and professionals of Dance movement therapy and Indian classical dance.

The descriptive statistics show that the mean value of Dance movement therapy participants and Indian classical dance participants are 18.9 and 20 respectively; whereas the values of standard deviation are 6.32 and 7.31 respectively.

The "T" value presented here is 0.49 with a 0.113 significance, indicating that the T value is higher than the critical value.

Therefore, this implies that there is a substantial difference between the two population groups namely participants from Dance movement therapy and Indian classical dance with respect to their stress levels. This means that the hypothesis reading **"There will be no significant relationship existing in "stress" amongst students and professionals Indian classical dancers and dance movement therapy"** is rejected and the alternate hypothesis is accepted.

This also indicates that the levels of stress amongst students and practitioners of Dance movement therapy is higher when compared to the students and practitioners of Indian classical dance.

Therefore, according to the scoring key, it can be concluded that the stress levels of students and practitioners of Dance movement therapy is better than the students and practitioners of Indian classical dance.
Some of the reasons aiding in the differences in the levels of stress can be attributed to the following factors -

1. **Unable to gain recognition and visibility in their field:** Compared to Dance Movement Therapy, Indian classical dance is an age-old practice which is traditional in nature. When we look at the history of Kathak dance, majority of the dancers who are recognised and revered are those belonging to families of Indian classical dancers who have been practising this art form since umpteen generations. In comparison to such dancers, when students and professionals from non-dance backgrounds (i.e. - no family history of Indian classical dancers) attempt to embark on a journey to make their mark in this field, there is more pressure on them to "prove their mettle" in order to be acknowledged. Such disparities in preferential treatment can amount to higher levels of demotivation and lack of encouragement to continue working in this field. On the other hand, Dance Movement Therapy is a new practice in the Indian context which is roughly over two decades old; thus resulting in the formation of a fairly close-knit community. Which is why, when compared to Indian classical dance, Dance movement therapy might carry more potential to become more recognised and accepted irrespective of the students and practitioners' socio-cultural context.
2. **Competition v/s collaboration:** As mentioned above (point 1), when Indian classical dancers with no lineage of Indian classical dance try to find a footing for themselves in the field and are pitted against Indian classical dancers with a comparatively strong lineage of dancers, it generally harbour a sense of competition. On one hand, where new, independent Indian classical dancers try to create a mark, Indian classical dancers from generational heritage and history work to not just preserve their identity, but also the identity of their ancestors. On the other hand, Dance movement therapy, being a newer discipline, is growing in terms of its professional potential due to the existence of a close-knit community. Moreover, with the formation of associations such as CMTAI and IADMT that provide professionals to network with one another, more dance therapy facilitators and practitioners are able to create collaborative efforts to conduct sessions.

Co-relation between Stress and Mental Health

- **H3: There will be no significant relationship between stress and mental health of students and professionals Indian classical dancers and dance movement therapy.**

	Mean	**SD**	**N**	**Value of co-relation 'r'**	**Level of significance**
Stress	19.45	7.0	70	- 0.456*	Significant
Mental Health	147.91	10.5	70		
				*0.01 level of significance	

A Pearson product-moment correlation coefficient was computed to assess the relationship between movement practitioners comprising of two population samples — Indian classical dance and Dance movement therapy, and the results are displayed in the above mentioned table.

The mean scores of Stress and Mental Health scores are 19.45 and 147.91 respectively, whereas the standard deviation is 7.0 for stress and 10.5 for mental health.

From the above table, it can also be deduced that the correlation coefficient (r) between Stress and Mental Health equals -0.45, indicating a negative relationship, and a p value < 0.01 indicates that the correlation is statistically significant, hence, the alternate hypothesis is accepted.

Overall, there is a strong and negative correlation between and the 0.01 level of significance is sufficient evidence to conclude that there is a negative linear relationship between the two — indicating that high stress levels indicate poor mental health, whereas low stress levels indicate good mental health.

Data Analysis and Interpretation

b) Qualitative Data

For collection of qualitative data, the investigator created an open-ended questionnaire for selected participants for an interview. During the interview process, the investigator built a rapport with the interviewees, provided a consent and confidentiality form for their signatures and clarified all doubts before, during and after the process.

Four participants were selected for the interview where two participants were practitioners of Indian classical dance and two participants were practitioners of Dance Movement Therapy.

The format of the interview was one-on one and semi-structured in nature, with six basic questions in the questionnaire, followed by two to three adjoining questions.

The participants were debriefed about the topic of dissertation beforehand and were assured that their names will remain confidential, however their demographic details such as age, employment status, and field of work would be required for the context of this project. Moreover, the interviewer assured every participant that their confidentiality will be maintained under all circumstances and if there were any questions they were uncomfortable answering, there would be no compulsion to provide a response for the same.

The questionnaire, responses and conclusion of the interviews with the interviewees are mentioned in the following pages —

Questionnaire

1. How often do you engage in your movement practice?
2. What is the duration of your movement practice?
3. What is your inclination towards your movement practice?
4. What is the underlying intention behind your movement practice?
5. Has your movement practice affected your stress levels and overall mental health?
6. How has your movement practice affected your stress levels and mental health?
7. Do you think there are external factors affecting your movement practice as well?
8. What are some external factors affecting your movement practice?
9. Besides your personal movement practice, do you have other ways of managing your stress and mental health?
10. What are the other ways in which you manage your stress and mental health levels?

Responses: Summary

Item	Response
Frequency of engagement in movement practice	engagement ranges from four to five times
Duration of movement practice	movement practices ranges to half an hour to two hours per day
Inclination towards movement practice	kinaesthetic knowledge and communication through movement
Underlying intention during movement practice	bodies and cultivating energy
Effect of movement practice on stress and mental health	Yes
Elaboration of effect of movement practice on stress and mental health	positive changes to mental health and alleviated stress
Presence of external factors affecting movement practice	Yes
Impact of external factors affecting movement practice	physical health and mental health plays a significant role
Presence of other methods to manage stress and mental health	Yes
Elaboration of other methods to manage stress and mental health	Emotion-regulating practices

Responses: Discussion

1. How often do you engage in your movement practice?

On an average, the respondents engage in their movement practice between four to five times a week. While some of them religiously engage in their practice every single day, other people's movement practice depend upon their personal and professional commitments such as meetings and travel plans, as well as their physical health.

2. What is the duration of your movement practice?

On an average, the respondents practice between half an hour to two hours. While some respondents take out one hour every single day for their practice, other respondents say that the duration for their personal movement practice depend on personal and professional factors such as health, meetings, travelling, family commitments, and other engagements. Hence, they go through days of no practice and during their free time, they practice more than usual.

3. What is your inclination towards your movement practice?

For most individuals, the inclination towards their movement practice is exploring a personal kinaesthetic

knowledge and communication through movement and dancing. Through their personal practice, they aim to connect with themselves and their bodies at a deeper level, which surpasses verbal communication. One of the respondents, who is a dance therapy practitioner, mentioned how they pay attention to the "little impulses" in their body and move according to these impulses.

4. What is the underlying intention behind your movement practice?

A common theme which emerged amongst all the answers in this question is connecting with the energy of their bodies and cultivating their energy levels into their movement practice. While the dance movement therapy practitioners like exploring with different energy levels on different days, in the case of Indian classical dancers, there is a strong need to maintain the physical form of their dancing technique and the human body — a.k.a. their stamina, strength, and agility.

5. Has your movement practice affected your stress levels and overall mental health?

All the respondents agree that their movement practice has affected their stress levels and overall mental health. However, the impact of dance and movement is not the same for everyone.

6. How has your movement practice affected your stress levels and mental health?

Most respondents have stated that their movement practice has brought positive changes to their mental health and alleviated stress to a certain degree. They were able to tap into their inner creativity and take their practice to newer levels gradually. However, some Indian classical dancers have stated that their movement practice, at times, has adversely affected their mental health and increased stress levels. One of the respondents even touched upon how stressful it is for them to practice consistently so that they do not lose touch with their dance training, as well as constantly deal with the pressure of becoming better with every performance to receive more work and income. Another respondent spoke of how their physical appearance played a role in practicing movement as they have been undergoing body image issues since a long time, and how the freedom arising from moving the body has helped them come to terms with their body and move from self-loathing towards self-acceptance.

7. Do you think there are external factors affecting your movement practice as well?

All the respondents agree to external factors affecting their movement practice.

8. What are some external factors affecting your movement practice?

A common external factor affecting the participants' movement practice is their health. For most participants, their physical health plays a significant role in determining the level of concentration and involvement during their personal movement practice. One of the participants, who recently gave birth, spoke about how pregnancy affected her physical health, in turn, affecting their movement practice as they now have to invest more time and stamina to match the energy levels of their peers and contemporaries. On the other hand, for some participants, their mental health is a significant determiner of the same. One of the participants mentioned how the stigma attached to movement based practices, be it Indian classical dance or Dance Movement Therapy, has affected her motivation to work as both disciplines do not provide a steady income, thus compromising on a sustainable and a secure future. Moreover, dealing with the social pressure from family and friends to prove that their area of work being as valid as a mainstream profession such as a doctor or an engineer, on an everyday basis, is also exhausting for some participants.

9. Besides your personal movement practice, do you have other ways of managing your stress and mental health?

All the participants agree that they have other ways of managing their stress and mental health.

10. What are the other ways in which you manage your stress and mental health levels?

Most participants engage in emotion-regulating practices such as yoga, meditation, breath-work and journalling as these practices help them understand their emotions better by bringing it to the level of consciousness. Some participants even reach out to their loved ones such as friends and family and talk about their problems. However, a few participants have been undergoing talk-therapy with their counsellors since several years and have found therapy a safe space for them to freely discuss their emotions without judgment and interruption.

Interpretation

Two main common themes that came emerged amongst the responses from all the respondents were moments of joy and happiness arising from choosing dance and movement based modalities as a career path despite its unconventional nature, as well as the pressure arising from choosing an unconventional path as a career choice.

Other prevalent themes that emerged across several responses include deep personal involvement during movement practice allowing them to tap into their inner creativity and exploring kinaesthetic knowledge in the process of practicing movement.

Besides these common and overlapping themes which were prevalent amongst all the responses, there were some other themes which were personal and pertinent to each participant - such as the role of stamina, strength, the struggle with body image issues, bouncing back post pregnancy, etc.

While talk-therapy was also one of the common themes in all the interviews, other therapeutic modalities such as yoga, journalling, meditation and breathing were also mentioned.

Therefore, to summarise the interpretations of the all interviews, there is some correlation between dance and movement based modalities and stress and mental health. The stresses amongst Indian classical dancers and practitioners of Dance movement therapy can be attributed to societal norms and thought patterns - such as lack of income and nature and scope of profession, which in turn have harboured doubts and insecurities amongst students and professionals alike.

However, their passion and respect for their craft pushes them to fight against all odds and overcome personal and professional obstacles - be it their limiting beliefs, body image issues, self-confidence and self-esteem issues, and many more.

CHAPTER 6:
Conclusion

In recent years, there has been a growing interest in exploring alternative and complementary approaches to improving mental health and reducing stress. One such approach that has gained attention is the practice

of dance and movement. This study aims to delve deeper into the impact of dance and movement based modalities on stress and mental health.

The study involved 70 participants who willingly provided their responses for the analysis. These participants hailed from two distinct groups: Indian classical dancers and practitioners of Dance movement therapy. To gauge their stress levels and mental health, the researchers administered two standardised tests - the Perceived Stress Scale and the Mental Health Inventory.

Additionally, qualitative data was gathered through semi-structured interviews with four randomly selected individuals. These interviews aimed to gain deeper insights into the world of dance and movement, exploring the personal significance of their practice, their inclinations and intent, the impact of dance and movement on their stress and mental health, and any external factors influencing their practice and how they manage their stress and mental health.

The study's findings revealed intriguing insights into the relationship between dance, movement, and mental health. Notably, students and practitioners of Dance movement therapy exhibited lower stress levels and higher mental health scores compared to their counterparts engaged in Indian classical dance. These results were derived from the Perceived Stress Scale and Mental Health Inventory. These findings suggest that engagement in Dance movement therapy may be associated with improved mental health and stress reduction.

While the quantitative data yielded positive results for Dance movement therapy practitioners, the qualitative interviews shed light on the common challenges faced by both groups. One overarching challenge was the pursuit of a relatively unconventional path in the realm of dance and movement while simultaneously aspiring for financial stability. Many individuals in both categories struggled with reconciling their passion for dance with the demands of a traditional career path.
Despite these challenges, it was evident that the participants continued to gravitate towards dance and movement. Their dedication was rooted in a profound connection with their inner selves, allowing their creativity and curiosity to take the lead. This creative outlet served as a coping mechanism for addressing personal issues such as self-confidence, self-esteem, body image concerns, and more.

The study's overarching message is a powerful one: regardless of the chosen field, be it conventional or unconventional, passion and dedication can help individuals overcome hurdles and obstacles in their pursuit of excellence. These findings underscore the resilience and determination of those who find solace, personal growth, and mental well-being through dance and movement.

As research in this area continues to evolve, it is hoped that dance and movement will receive greater recognition as a powerful tool for improving mental health and managing stress, while also honouring the resilience and determination of those who choose this path.

CHAPTER 7:
SUGGESTIONS & DELIMITATIONS

Suggestions and Delimitations

Delimitations

1. The study was delimited to 70 participants only.
2. The study was delimited to participants of age group 18-45 years only.
3. The study was centric - i.e.- it was limited to participants of India only.
4. The study was further delimited due to time constraints.

Suggestions

This topic carries magnanimous scope for further research, especially longitudinal studies that would help backtrack the long-term effects of engaging in dance and movement on mental health. This could help researchers be aware of sustained benefits and potential risks over time.

While some suggestions might be out of reach, it would help if government and private funding agencies would invest in research exploring the connections between dance, movement, and mental health. This funding can facilitate more extensive and rigorous studies in this field. Doing so can also help in the inclusion of these disciplines in various mental health initiatives as it would not just generate employment to professionals but also provide benefit of these practices to the general public.

A course of action that is integral to the Indian population is the accessibility of dance and movement based modalities across all populations; from urban to rural, young to old, across all social strata and genders; while providing fee concessions and sliding scales to people belonging from marginalised backgrounds and low-income families.

Last but not least, there needs to be an increase in financial aid for artists across all practices and disciplines. Government agencies and private agencies must create ways to support artists and practitioners in unconventional fields, such as dance and movement whilst ensuring communication with practitioners to better understand their needs and demands. Initiatives like artist residencies, grants, and income stabilisation programs can provide financial security.

To summarise the above stated paragraphs, the "Impact of Dance and Movement on Stress and Mental Health" study carries significant implications for both the mental health and dance communities. It suggests that Dance movement therapy, in particular, holds promise as a complementary approach for enhancing mental well-being and managing stress. Further research in this area could explore the specific mechanisms by which dance and movement influence mental health and investigate the potential therapeutic applications.

Moreover, the study underscores the need for greater support and recognition of those who choose unconventional career paths related to dance and movement. Society should appreciate the intrinsic value of pursuing one's passion and the potential for personal growth and healing that it offers.

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ANNEXURES

Annexure 1: Mental Health Inventory by Dr. Jagdish and Dr. AK Srivastava

Appendix-A1

MENTAL HEALTH INVENTORY (M.H.I.)

Dr. Jagdish* and Dr. A. K. Srivastava**
*Department of Psychology, R.B.S. College, Agra
**Department of Psychology, Banaras Hindu University, Varanasi

Please fill up the following informations:

Name	:	.....
Class/Course	:	.....
Age	:	..... **Sex** : .....
SES	:	.....
Date	:	.....

Instructions:

This scale is meant for a psychological investigation. It consists of a number of statements relating to your feelings about yourself in everyday life. You have got four alternatives to respond each of the statement, frequency of your feelings and views. Please do not leave any statement unanswered and out of four alternative responses that is **"Always, Often, Rarely, Never"** - tick mark (✓) only on one alternative responses, according to your feelings.

For Example:-

I feel lack of confidence.

'Always' 'Often' 'Rarely' 'Never'

Here the individual agree with the statement i.e. ***"I feel lack of confidence"*** and therefore marked **(✓)** on **"Always".**

There is no right or wrong response. Try to give your response according to what you feel about yourself, in reference to that statement. Your answer will be kept confidential.

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Appendix-A1

S. No.	Statements	Always	Often	Rarely	Never
1.	I feel lack of confidence.	( )	( )	( )	( )
2.	I get excited very easily.	( )	( )	( )	( )
3.	I am not able to take quick decision on any subject.	( )	( )	( )	( )
4.	I feel that situations are continuously going against me.	( )	( )	( )	( )
5.	I have affection and attachment with my neighbours.	( )	( )	( )	( )
6.	I mould myself according to circumstances.	( )	( )	( )	( )
7.	I feel that I am loosing self-respect.	( )	( )	( )	( )
8.	I have broader perspective for my problems.	( )	( )	( )	( )
9.	I use to worry even about trivial matter for a long time.	( )	( )	( )	( )
10.	I am not able to take decision about my next step.	( )	( )	( )	( )
11.	I hesitate in meeting with others.	( )	( )	( )	( )
12.	I do my duty well even in adverse circumstances.	( )	( )	( )	( )
13.	I feel that I am not able to fully utilize my abilities in performing my different duties.	( )	( )	( )	( )
14.	In adverse circumstances, I act without keeping in view of the real facts.	( )	( )	( )	( )
15.	I feel irritation.	( )	( )	( )	( )
16.	I feel to be insecure.	( )	( )	( )	( )
17.	I am much worried about my responsibilities.	( )	( )	( )	( )
18.	I feel depressed / dejected.	( )	( )	( )	( )
19.	I play important role in social ceremonies.	( )	( )	( )	( )
20.	I utilize my reasoning even in difficult times.	( )	( )	( )	( )

Appendix-A1

S. No.	Statements	Always	Often	Rarely	Never
21.	I feel that relations with others are not satisfactory.	( )	( )	( )	( )
22.	My responsibilities are like burden to me.	( )	( )	( )	( )
23.	I suffer from inferiority complex.	( )	( )	( )	( )
24.	I am used to be lost in world of imagination.	( )	( )	( )	( )
25.	I am anxious about my future.	( )	( )	( )	( )
26.	My friends / relatives remain ready to help me in the difficult times.	( )	( )	( )	( )
27.	I make definite plans about my future.	( )	( )	( )	( )
28.	I am enraged even by the slightest unfavourable talks.	( )	( )	( )	( )
29.	I take decision easily even in difficult circumstances.	( )	( )	( )	( )
30.	I am not able to behave in such a way as my friends expect from me.	( )	( )	( )	( )
31.	I am satisfied with most of the aspects of my life.	( )	( )	( )	( )
32.	My friends and colleagues have respect for me.	( )	( )	( )	( )
33.	My confidence varies highly in quantity.	( )	( )	( )	( )
34.	I am always ready to fight the problems.	( )	( )	( )	( )
35.	I make impressions about people or issue even in absence of facts and grounds.	( )	( )	( )	( )
36.	I am not able to concentrate fully in my works.	( )	( )	( )	( )
37.	I feel inclined towards opposite sex.	( )	( )	( )	( )
38.	I solve my problems myself.	( )	( )	( )	( )
39.	I fully cooperate in the important functions of my community.	( )	( )	( )	( )
40.	I am perplexed with my contradictory thoughts.	( )	( )	( )	( )

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Appendix-A1

S. No.	Statements	Always	Often	Rarely	Never
41.	I take decisions on the basis of facts even though they are contrary to my wish.	( )	( )	( )	( )
42.	I am not able to continue any task for long.	( )	( )	( )	( )
43.	I feel myself secured amidst my friends / group.	( )	( )	( )	( )
44.	I do not become hopeless even when I fail.	( )	( )	( )	( )
45.	I consider myself useful for society.	( )	( )	( )	( )
46.	I aspire for something without having in view of my shortcoming.	( )	( )	( )	( )
47.	I do not get influenced even by reasonable arguments.	( )	( )	( )	( )
48.	I am not able to take such decision as I want to take.	( )	( )	( )	( )
49.	I am afraid of imaginary calamities.	( )	( )	( )	( )
50.	I feel that this world is a place good enough for passing life.	( )	( )	( )	( )
51.	I feel full of enthusiasm to think that I will achieve my objects.	( )	( )	( )	( )
52.	I do not get disappointed with the common worries of daily life.	( )	( )	( )	( )
53.	My mood changes momentarily.	( )	( )	( )	( )
54.	I myself decide what and how I should do.	( )	( )	( )	( )
55.	I feel that my intimacy with my group community is increasing gradually.	( )	( )	( )	( )
56.	I feel pleasure in taking responsibilities.	( )	( )	( )	( )

▪X▫▫X▪

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Annexure 2: Perceived Stress Scale by Sheldon Cohen

PERCEIVED STRESS SCALE

The questions in this scale ask you about your feelings and thoughts during the last month. **In each case, you will be asked to indicate by circling *how often* you felt or thought a certain way.**

Name _____ Date _____

Age _____ Gender (*Circle*): **M F** Other _____

	0 = Never	**1 = Almost Never**	**2 = Sometimes**	**3 = Fairly Often**	**4 = Very Often**
1. In the last month, how often have you been upset because of something that happened unexpectedly?	0	1	2	3	4
2. In the last month, how often have you felt that you were unable to control the important things in your life?	0	1	2	3	4
3. In the last month, how often have you felt nervous and "stressed"?	0	1	2	3	4
4. In the last month, how often have you felt confident about your ability to handle your personal problems?	0	1	2	3	4
5. In the last month, how often have you felt that things were going your way?	0	1	2	3	4
6. In the last month, how often have you found that you could not cope with all the things that you had to do?	0	1	2	3	4
7. In the last month, how often have you been able to control irritations in your life?	0	1	2	3	4
8. In the last month, how often have you felt that you were on top of things?	0	1	2	3	4
9. In the last month, how often have you been angered because of things that were outside of your control?	0	1	2	3	4
10. In the last month, how often have you felt difficulties were piling up so high that you could not overcome them?	0	1	2	3	4

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Annexure 3: Consent Form for Interview

CONSENT FORM

The responses collected through this interview will be used for the collection and analysis of data for the use of my dissertation project titled - "**Impact of Dance and Movement on Stress and Mental Health**", which is a part of my Masters' Program (MPCE26) at Indira Gandhi National Open University.

Your name will be kept confidential under all circumstances.

Name:

Signature:

Date: