

RESEARCH PROJECT

A STUDY ON AWARENESS OF PSYCHOSOMATIC HEALTH AND ACADEMIC ACHIEVEMENT OF ADOLESCENT STUDENTS IN HIGHER SECONDARY SCHOOLS

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CERTIFICATE

This is to certify that, the Research Project entitled, **“A STUDY ON AWARENESS OF PSYCHOSOMATIC HEALTH AND ACADEMIC ACHIEVEMENT OF ADOLESCENT STUDENTS IN HIGHER SECONDARY SCHOOLS”** has been submitted
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DECLARATION

I hereby declare that the Research project entitled, “**A STUDY ON AWARENESS OF PSYCHOSOMATIC HEALTH AND ACADEMIC ACHIEVEMENT OF ADOLESCENT STUDENTS IN HIGHER SECONDARY SCHOOLS**” is a record of original and independent work done by me. I am also declaring that this work has not been submitted by me for the award of any title or recognition before.

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A STUDY ON AWARENESS OF PSYCHOSOMATIC HEALTH AND ACADEMIC ACHIEVEMENT OF ADOLESCENT STUDENTS IN HIGHER SECONDARY SCHOOLS

1.1. INTRODUCTION

Adolescence is the phase of life between childhood and adulthood, from ages 10 to 19. It is a unique stage of human development and an important time for laying the foundations of good health. Adolescents experience rapid physical, cognitive and psychosocial growth. This affects how they feel, think, make decisions, and interact with the world around them. Despite being thought of as a healthy stage of life, there is significant death, illness and injury in the adolescent years. Much of this is preventable or treatable. During this phase, adolescents establish patterns of behaviour – for instance, related to diet, physical activity, substance use, and sexual activity – that can protect their health and the health of others around them, or put their health at risk now and in the future. They also need opportunities to meaningfully participate in the design and delivery of interventions to improve and maintain their health. Expanding such opportunities is key to responding to adolescents' specific needs and rights.

Adolescence begins with puberty, which is characterized by biological and physiological changes. This phase is associated with physical and sexual maturation. From the biological point of view, adolescence comprises the totality of somatic and mental changes whose most obvious expression is in bodily development and sexual maturation. From the psychological point of view, adolescence includes all of the individual processes that take place as the adolescent undergoes, contends with, and learns to cope with the somatic changes and society's responses to them. From the sociological point of view, adolescence can be defined as an intermediate stage in which sexual maturity has already been reached in the biological sense (puberty), but the individual has not yet come into possession of the general rights and responsibilities that enable, and indeed compel, responsible participation in the fundamental processes of society.

In temporal terms, adolescence is the phase of life roughly from age 12–13 to age 20–24. From the legal point of view, adolescence involves the progressive attainment of the legal status of an adult in different areas at different times. In Germany, persons become legally responsible for offenses they commit at age 14; permission to marry may be requested at age 16; legal majority is attained at age 18; and the applicability of juvenile delinquency law ends at age 21. The temporal boundaries for all of the processes just mentioned are imprecise in both directions (both upward and downward). The very beginning of adolescence can be defined relatively precisely as the time of menarche or first ejaculation, or else in relation to certain bodily changes, but the end of adolescence is highly variable and is much more subject to societal influences. In view of this fact, there is a current trend to define the end of adolescence by social criteria rather than as a specific age.

1.2. PHYSICAL CHANGES DURING ADOLESCENT STAGE

Physical changes of puberty mark the onset of adolescence. These changes include a growth spurt in height, growth of pubic and underarm hair, and skin changes (e.g., pimples). Males experience growth in facial hair and a deepening of their voice. Females experience breast development and begin menstruating. These pubertal changes are driven by hormones, particularly an increase in testosterone for males and estrogen for females.

During this stage, children are quite similar in height and weight. However, gender differences become apparent during adolescence. From approximately age 10 to 14, the average female is taller but not heavier than the average male. For females the growth spurt begins between 8 and 13 years old (average 10-11), with adult height reached between 10 and 16 years old. After that, the average male becomes both taller and heavier, although individual differences are certainly noted. Males tend to begin their growth spurt slightly later, usually between 10 and 16 years old (average 12-13), and typically reach their adult height between 13 and 17 years old.

As adolescents physically mature, weight differences are more noteworthy than height differences. At eighteen years of age, those that are heaviest weigh almost twice as

much as the lightest, but the tallest teens are only about 10% taller than the shortest. Both nature (i.e., genes) and nurture (e.g., nutrition, medications, and medical conditions) can influence both height and weight. Both height and weight can certainly be sensitive issues for some teenagers. Yet, neither socially preferred height nor thinness is the destiny for many individuals. Being overweight, in particular, has become a common, serious problem in modern society due to the prevalence of diets high in fat and lifestyles low in activity. Puberty is a period of rapid growth and sexual maturation. These changes begin sometime between 8 and 14. Puberty occurs over two distinct phases, and the first phase, adrenarche, begins at 6 to 8 years of age and involves increased production of adrenal androgens that contribute to a number of pubertal changes—such as skeletal growth.

1.2.1. HORMONAL CHANGES

The second phase of puberty, gonadarche, begins several years later and involves increased production of hormones governing physical and sexual maturation. Puberty involves distinctive physiological changes in an individual's height, weight, body composition, and circulatory and respiratory systems, and during this time, both the adrenal glands and sex glands mature. These changes are largely influenced by hormonal activity. Many hormones contribute to the beginning of puberty, but most notably a major rush of estrogen for females and testosterone for males. Hormones play an organizational role (priming the body to behave in a certain way once puberty begins) and an activational role (triggering certain behavioral and physical changes). During puberty, the adolescent's hormonal balance shifts strongly towards an adult state; the process is triggered by the pituitary gland, which secretes a surge of hormonal agents into the blood stream and initiates a chain reaction.

1.2.2. SEXUAL DEVELOPMENT

Primary sexual characteristics are changes in the reproductive organs. For males, this includes growth of the testes, penis, scrotum, and spermarche or first ejaculation of semen. This occurs between 11 and 15 years of age. Males produce their sperm on a cycle, and unlike the female's ovulation cycle, the male sperm production cycle is constantly

producing millions of sperm daily. The main sex organs for those assigned male at birth are the penis and the testicles, the latter of which produce semen and sperm. For those assigned female at birth, primary characteristics include growth of the uterus and menarche or the first menstrual period. The female gametes, which are stored in the ovaries, are present at birth but are immature. Each ovary contains about 400,000 gametes, but only 500 will become mature eggs. Beginning at puberty, one ovum ripens and is released about every 28 days during the menstrual cycle. Stress and a higher percentage of body fat can bring menstruation at younger ages.

Secondary sexual characteristics are visible physical changes not directly linked to reproduction, but signal sexual maturity. For those assigned male at birth, this includes broader shoulders and a lower voice as the larynx grows. Hair becomes coarser and darker, and hair growth occurs in the pubic area, under the arms, and on the face. For those assigned female at birth, breast development occurs around age 10, although full development takes several years. Hips broaden and pubic and underarm hair develops and also becomes darker and coarser.

1.3. EFFECTS OF PUBERTAL AGE

The age of puberty is getting younger for children throughout most of the world. According to Euling et al., data are sufficient to suggest a trend toward an earlier breast development onset and menarche in those with female internal sex organs. A century ago the average age of someone with female internal sex organs to experience their first period (in the United States and Europe) was 16, while today it is around 13. Because there is no clear marker of puberty for those with male internal sex organs, it is harder to determine if males assigned at birth are maturing earlier too. In addition to better nutrition, less positive reasons associated with early puberty for those with internal female sex organs include increased stress, obesity, and endocrine disrupting chemicals.

Cultural differences are noted with Asian-American females, on average, developing last, while African American females tend to enter puberty the earliest. Hispanic females start puberty the second earliest, while European-American females tend

to rank third in their age of starting puberty. Although African American females are typically the first to develop, they are less likely to experience negative consequences of early puberty when compared to European-American females. Research has demonstrated mental health problems can be linked to children who begin puberty earlier than their peers. For females, early puberty is associated with depression, substance use, eating disorders, disruptive behavior disorders, and early sexual behavior. Some early maturing females demonstrate more anxiety and less confidence in their relationships with family and friends and they compare themselves more negatively to their peers.

Additionally, mental health problems are more likely to occur when a child is among the first in their peer group to develop. Because the preadolescent time is one of not wanting to appear different, early developing children stand out among their peer group and gravitate toward those who are older. For females, this results in them interacting with older peers who engage in risky behaviors such as substance use and early sexual behavior. Males also see changes in their emotional functioning at puberty.

1.4. BRAIN AND COGNITIVE CHANGES

The human brain is not fully developed by the time a person reaches puberty. Between the ages of 10 and 25, the brain undergoes significant changes that have important implications for behavior. The brain reaches 90% of its adult size by the time a person is six or seven years of age. Thus, the brain does not grow in size much during adolescence. However, the creases in the brain continue to become more complex until the late teens. The biggest changes in the folds of the brain during this time occur in the parts of the cortex that process cognitive and emotional information. During adolescence, myelination and synaptic pruning in the prefrontal cortex increase, improving the efficiency of information processing, and neural connections between the prefrontal cortex and other regions of the brain are strengthened.

However, this growth takes time and the growth is uneven. Additionally, changes in both the levels of the neurotransmitters dopamine and serotonin in the limbic system tend to make adolescents more emotional and more responsive to rewards and stress. In the next

section, we will learn about changes in the brain and why teenagers sometimes engage in increased risk-taking behaviors and have varied emotions.

1.4.1. THE ADOLESCENT BRAIN: 7 KEY POINTS TO UNDERSTAND

As you learn about brain development during adolescence, consider these key points:

1. The brain reaches its biggest size in early adolescence.
2. The brain continues to mature even after it is done growing; it does not finish developing and maturing until the mid- to late 20s. The front part of the brain, called the prefrontal cortex, is one of the last brain regions to mature. This area is responsible for skills like planning, prioritizing, and controlling impulses. Because these skills are still developing, teens are more likely to engage in risky behaviors without considering the potential results of their decisions.
3. The teen brain is very plastic and ready to learn and adapt.
4. Many mental disorders may begin to appear during adolescence due to the vast changes (e.g., brain, physical, emotional, and social) that tend to occur during this stage. Mental disorders such schizophrenia, anxiety, depression, bipolar disorder, and eating disorders tend to be diagnosed during this developmental period.
5. Teen brains may be more vulnerable to stress because many teens respond to stress differently than adults, thus leading to stress-related mental health issues such as anxiety and depression. Mindfulness, which is a psychological process of actively paying attention to the present moment, may help teens cope with and reduce stress. More information on managing stress is available in the National Institute of Mental Health's fact sheet,
6. Teens need more sleep than children and adults. Research shows that melatonin (the "sleep hormone") levels in the blood are naturally higher later at night and drop later in the morning in teens than in most children and adults. This difference may explain why many teens stay up late and struggle with getting up in the morning. Teens should get about 9 to 10 hours of sleep a night, but most teens do not get enough sleep. A lack of sleep at any age can make it difficult to pay attention, may increase impulsivity, and may increase the risk for irritability or depression.

1.5. EMOTIONAL CHANGES DURING ADOLESCENCE

All changes in life bring out emotional reactions as all stage of life. While adults are able to cope but adolescents need positive support to cope. As you have read, the onset of puberty brings physical changes among the adolescents. These changes are often accompanied by emotional reactions. The adolescent is exposed to new social situations, patterns of behaviour and societal expectations which bring a sense of insecurity. It has been found that there is 4 1 increase in the incidence of depression. The adolescents show the tendency of impulsive urges to take immediate action which often leads to risk taking behaviour.

Emotional changes and Problems during adolescence, the individual faces a wide range and variety of emotions. These include both positive emotions like love, happiness, joy, as well as negative emotions. like sadness, depression, unhappiness, anxiety. In addition, feelings of anger, rebellion and protest also emerge. Interestingly, emotions of loyalty, patriotism and sacrifice for the nation also develop during adolescence. Each of the above emotions is felt very intensely. Adolescents tend to express everything in an exaggerated form e.g., “I love cakes”, or “I hate that person”. Mood swings also occur quite frequently. Sometimes they are happy, sometimes sad. Sometimes they have a high degree of patriotic zeal, but a few minutes later they become disillusioned or angry. This makes their behaviour somewhat unpredictable. You have already learnt earlier that due to rapid physical changes taking place in an adolescent, a conscious and increased interest about one’s own body develops. The body image can bring a sense of fun, pride, shyness or even unhappiness and low self-esteem.

Emotional problems will often affect school work. Pressure to do well and to pass exams may come from parents or teachers, but adolescents usually want to do well and will push themselves. Examination stress is enormous in our country. The hormonal changes in adolescence lead to heightened emotions. They become more emotional and sensitive. Casual comments by their teachers, friends or family can make them cry or go into fits of anger. They are also impulsive and do not stop to think about the consequences of their actions. Anxiety may produce phobias and panic attacks. During their adolescence, teenagers may think so little of themselves that life does not seem worth living. They may

even attempt suicide. In spite of these powerful feelings, depression may not be obvious to other people.

An adolescent has four tasks to accomplish to become a well-adjusted adult. These tasks are categorized as: 1) independence, 2) body image, 3) peer relations, and 4) identity. Adolescence is divided into three periods; early (ages 12-14), middle (ages 15-17) and late (ages 18-21). Some teens will develop faster in one task than others. Some go through the stages smoothly while others do so with lots of turmoil. Of course, no one goes through adolescence exactly as the model may suggest.

1.6. THE TASKS OF ADOLESCENCE

1.6.1. INDEPENDENCE

The move for independence creates the largest amount of distress for parents. Early adolescents begin to pull away from their parents and show less interest in family activities. For example, the teen may refuse to go with the family to the movies or may demonstrate his or her own will by refusing to do chores on the parent's schedule. Early adolescents are often moody, alternating between being pleasant and nasty toward their families. Usually, the teen is mainly antagonistic towards the most "controlling" parent. Early adolescents crave privacy and desire to control their personal information as they carve out a life separate from that of their parents.

Middle adolescents are often hostile towards parents and authority figures. Some openly rebel while others assert their independence secretively when not under adult supervision. Adults, including physicians, find that many decisions teens make are disturbing and the adults feel frustrated at their lack of control over the teen. Because of their rebellious nature and risk behaviors, middle adolescents are the group that society "loves to hate."

By late adolescence, most families are comfortable with the youth's individuality and decision-making skills. The teen, gaining confidence with the change in stature, increasingly turns to the parents for advice and guidance in decision-making, though this doesn't mean they always do what the parent wants. The parent-adolescent interaction is more on an adult-adult level.

The physician should take into account this move toward independence and help parents appropriately give the teen responsibility for medical care. For instance, an early adolescent may need to be reminded to take his daily medication while a middle adolescent should not. By late adolescence, the patient should be encouraged to make his own appointments, monitor medication needs and get prescriptions filled. Failing to recognize this move towards independence makes the physician prone to appearing as an "agent of the parent" and may make it more difficult to gain the confidence of the teen.

1.6.2. BODY IMAGE

Adolescents become aware of their physical development and the fact that it portends adulthood. Most early adolescents are not sure what to think of the changes in their body and accompanying hygienic responsibilities. Body odor, axillary hair, acne and menstrual cramps are not exactly thrilling. Being "normal" is a huge concern to early adolescents and leads to constant comparisons to others. Common questions include "is my penis long enough?", "are my breasts large enough?", and "is it normal for one testicle to hang lower than the other?" Pubertal gynecomastia or physiologic vaginal discharge can be terrifying to a teen.

Middle adolescents are more at ease with the changes and want to make the most of their "new" body. Clothing, jewelry and makeup become big with this group. Taking care of issues such as acne or unwanted hair (e.g., eyebrows) becomes paramount. Weightlifting and dieting become important as well. With the gain in confidence comes increased interest in the opposite sex. This is often the onset of dating and the development of skills and behaviors related to sexual relationships.

By late adolescence, teens are comfortable with the changes in their body. Pelvic exams or hernia checks are not as stressful. Many adolescents are now ready to deal with issues such as birth control. Sexual relationships become less exploring and exploitative and more loving and sharing.

1.6.3. PEER RELATIONS

Peers become extremely important during adolescence. As they pull away from their family, early adolescents are not strong enough to stand on their own and they turn to

their peers for guidance and support. By mid-adolescence, the peer group exerts a huge influence over the teen. At this time, peer groups demand that members conform as this reduces stress related to decision-making. If the group wears black clothing and lipstick, then the all the members must do the same. To do otherwise would risk exclusion from the group. Unfortunately, this also includes risk behaviors such as sexual activity or substance use, and participation in gangs.

Middle adolescents may share intense personal relationships with the group. As teens become more comfortable with their own decision making and independence, peer groups hold less sway. By late adolescence, peer groups do not demand the same level of conformity. It is all right to attend a party and not drink when others are drinking. Individuality is more acceptable. Often times, late adolescents will grieve over the fact that their relationships with friends are not as close and have become less intense.

A useful strategy for providers is to ask about the risk behaviors of the teen's friends, since teens are often more comfortable sharing information about friends than about themselves. This enables the physician to explore the adolescent's feelings and knowledge of risk behaviors.

1.6.4. IDENTITY

Identity development includes the emergence of abstract reasoning along with personal values and morals. Early adolescents tend to be concrete and see things in black and white. A girl, taught that she will get pregnant if she has sex, assumes she does not have to worry about birth control because she had unprotected sex once and did not get pregnant. The limited ability to think abstractly makes it hard for a teen to see another's point of view and also makes compromise difficult. Lack of abstract thinking also encourages feelings of invulnerability. Teens believe that nothing bad will happen to them no matter what. They trust that they can have sex, use drugs, smoke, or drive recklessly without consequence.

The values and morals of the early adolescent are those of the parents. As they attempt to pull away from the family and move closer to peers, teens' values mirror those of their friends. Usually by the end of adolescence, the teens' morals and values come back in line with those of their family.

1.7. THE MIND/BODY CONNECTION

If this scenario sounds familiar, your teen may have a psychosomatic illness. Psychosomatic illnesses are physical symptoms caused, or exacerbated, by an emotional or mental issue rather than a physical pathology. Ever heard of the mind/body connection? It's valid. When we're in emotional distress, our body shows it, no matter how much we try to repress the pain we feel. In fact, psychosomatic symptoms can often develop when we try to push down deep, uncomfortable feelings and/or ignore serious emotional problems.

This is true not only for teens, but for adults. In fact, it's true for everyone. In Dr. John Sarno's revolutionary book, *Healing Back Pain* (which first popularized the psychosomatic and mind/body phenomenon) he described how thousands of adults with back pain, and other types of chronic pain, were actually suffering from unaddressed emotional tension rather than an actual physical injury. He theorized that our minds create pain when we are repressing "unacceptable" emotions like rage, anxiety, and fear. Our physical pain, writes Sarno, is simply a way for our mind to distract us from the internal angst we're experiencing. Dr. Sarno proved his theory by analyzing hundreds of x-rays and MRIs from patients complaining of chronic pain—but results showing no evidence of physical injury.

Emotional stress seems to be the number-one culprit of psychosomatic illnesses in adolescents, too. Researchers at Harvard Children's Hospital in Boston found that up to 50% of children will "complain about medically unexplained symptoms". Such psychosomatic illnesses, the authors found, are often associated with depression and anxiety (Ibeziako P & Bujoreanu S).

1.8. PSYCHOSOCIAL DEVELOPMENT DURING ADOLESCENT

The psychological growth during this period results in a variety of types of behaviour. A wide variety of behaviour changes should be considered within the normal realm for adolescents. It may sometimes be difficult to distinguish between normal and abnormal behaviour, and a normal adolescent from a disturbed one.

Psycho-social changes during Adolescence It is a critical phase and this changes happens in span of three important subphases as discussed below:

a) Early adolescence corresponds to ages 10 to 14 years, when most of them are in middle school. Most are progressing through puberty, intensely aware of physical changes, often leading to many body image issues. They have rapid wide mood swings, become easily upset and emotional, and alternate between extreme cooperation and extreme resistance to adult guidance. They form close friendships with same-sex peers.

b) Middle adolescence, typically ages 15 to 17 years, finds youth continuing education in high school or seeking employment. Puberty usually is complete, and adult size is approaching. Middle adolescents struggle the most with the development of self-identity, and autonomy. Risk-taking behaviour involving driving, substance use, and/or sexual activity may have harmful consequences. Experimentation seems to be a normal part of mid-adolescent development. Sexually, most middle adolescents are now establishing their sexual identity with attraction to the opposite sex, and sometimes, to the same sex. It is a period of immense stress with board exams and career choices. They have a lot of energy which should be channelized in the right direction by giving positive strokes for their psychological and emotional well being.

c) Late adolescence refers to the years in college, from age 17 to 19 years. Most late adolescents are physically adult, accepted as adults in their environments, and are more mature. They become 'major' at 18 years and can drive a car and vote. Girls can legally get married. In some states they 3 9 can also drink alcohol. They are self-supporting or pursuing educational or vocational training. Their self-identity is established. Late adolescents have a well-established sexual identity, and the ability to have intimate relationships that satisfy the emotional and sexual needs of both partners. Yet some may have not yet reached the level of psychosocial maturity that would facilitate a healthy family life for themselves, or their partners.

1.9. PSYCHO-SOCIAL DEVELOPMENT

a) Independence: Adolescents need to become less dependent on parents. The dependence begins to shift from parents to peers and from existing to new belief systems in order to achieve independence. This shift is strong and may manifest in the form of

rebellion against parents and elders or guardians. As they become more independent, young people want to try out new things and experiment, but often recognize that they have little experience to fall back on when things get difficult. This may produce rapid changes in self-confidence and behaviour – feeling very adult one minute, very young and inexperienced the next. In India, girls are usually given less independence than boys leading to a gender discrimination.

b) Identity: Adolescents usually look out for a renewed self-image and identity. They search for answers to the questions like: “Who am I? What can I be?” This process involves doubts and experimentation. Identity crisis in adolescents makes their behaviour difficult to understand. Media becomes a very powerful source of influence in this stage, especially movies and television. These provide adolescents with role models like film heroes, great athletes, etc., whom they try to emulate. Such models help the adolescents realize their fantasies and dreams. Body image becomes a very important concern for the adolescents. Not only body image, its gender identity, professional identity child and adult identity which also brings out many crises and psychological reaction.

c) Intimacy and Independency: They are quite often driven towards search for intimate relationships, with a feeling of love and also a desire to be loved. They make close relationships outside the family, with peers. Relationships within the family also change. The adolescents often get into conflicts with their parents and elders since they want to break away from their control. As the adolescent strive to become independent, he detaches himself from his parents but is yet financially dependent on them. This mixed state of dependency confuses and irritates them. Attraction towards members of the opposite sex is another prominent characteristic of the adolescent. This is natural and occurs mainly because of the sexual maturity taking place among the adolescents. Sex related emotional experiences like ‘crushes’ and ‘infatuation’ also begin to surface during this period. Many girls in India are married in adolescence, and may become mothers. Some adolescents however, face emotional, physical or sexual abuse at this tender age.

d) Integrity: Adolescents develop a foundation for sorting out values. Parents provide a base for this. However, there is a tremendous number of other inputs at this phase - peers, media, school, and society. The adolescents also begin to acquire beliefs, opinions,

attitudes and stereotypes about society based upon their own understanding. Adolescents also face an information explosion through TV, magazines, radio and other media. Traditional values learnt at home confront modern values leading to confusion over value system. e) Intellect and Idealism: you have already learnt that the adolescent's intellectual capacity develops and changes from concrete thinking to abstract thinking. Adolescents become capable of conceptual thinking and understanding logic and deductive reasoning. Some adolescents tend to see things from an idealistic point of view. This involves trying out new experiences, some of which may be risky or even dangerous. Young people can crave excitement in a way that most adults find difficult to understand - and exciting activities may be dangerous. When they do experiment – with drink or drugs or smoking – it is usually with friends.

1.10. PSYCHOSOCIAL CHANGES IN ADOLESCENCE AND RELATED ISSUES

- Body image concerns – leading to low self-esteem.
- Need for acceptance in peer group - friendships with same sex and opposite sex. Experimentation and risk-taking behaviour-smoking, drinking, drug abuse.
- Attraction towards opposite sex – dating, crushes, heartbreaks, infatuation, etc.
- Conflicts with parents and family/elders.
- Establishing identity and wanting independence.
- Clarifying personal value system.
- Setting goals and career planning.
- Antisocial behaviour.
- Media influences.
- Internet – chatting, blogging,
- Face book, etc.
- Gender discrimination.
- Diet fads.
- Physical, emotional and sexual abuse.

1.11. PSYCHOSOMATIC DISORDERS IN SCHOOL STUDENTS

In psycho-physiological disorders, physical symptoms are observable and often fall into biological processes that are understood by the clinician. In addition, the disease course is clearly influenced by psychological function. For example, the patient with asthma experiences increased bronchospasm when under stress, leading to coughing, wheezing, and shortness of breath. Although, managing and optimally preventing these exacerbations is not necessarily easy or rapidly accomplished, the connection between the psychological and the physical, once shared with and understood by the patient and family, is not typically rejected or denied. The “medical legitimacy” of the primary physiological disorder (i.e., asthma) represents a common ground of acceptance between clinician and patient/family and also provides the clinician with a familiar and well-understood template for medical treatment. Beyond the strictly medical treatment, however, the clinician must attempt to facilitate the adolescent and parent(s) successfully identifying sources of stress and anxiety that contribute to inadequate control of the primary disease and its symptoms. This exploration may very well be enigmatic and may require open-ended questions, thoughtful probing, and multiple visits. Sometimes, referral to a health psychologist or medical family therapist is productive. In any case, the nature of the doctor–patient interaction in psycho-physiological disorders is not typically one characterized by conflict or frustration.

1.11.1. PSYCHOSOMATIC SYMPTOMS COULD ALSO BE IN RESULT

- Family conflict or problems
- School problems (like schoolwork or bullying)
- Peer pressure
- Chronic disease or disability in parents
- Moving to a new place
- Parents’ mental health issues and/or poor coping abilities.

1.11.2. WHEN DO YOU KNOW IF IT'S A MEDICAL ISSUE OR A PSYCHOSOMATIC ISSUE?

While the only way to really determine whether your teen's issues are medical or psychosomatic is to visit your pediatrician, past research from the University of Michigan shows that many adolescents with psychosomatic disorders have symptoms that are:

1. Vague
2. Of varying intensity
3. Inconsistent

Additionally, these adolescents:

1. Complain about multiple symptoms at the same time
2. Seem to have been in good health before the issue came up
3. Usually delay or procrastinate seeking medical care, and/or
4. Seem to show a lack of concern about the symptoms.

1.11.3. TREATMENT FOR PSYCHOSOMATIC ILLNESS IN ADOLESCENTS

First, if you haven't already taken your adolescent to their primary-care physician or pediatrician, do so: that's the first step. The doctor should conduct a full check-up and exam and see if there's a real medical concern. If they don't find anything, you might want to consider a second opinion. Your next step should be to take your teen to a mental health professional for a clinical assessment to determine if there's an alternative cause for their symptoms.

1.11.4. MENTAL HEALTH TREATMENT FOR PSYCHOSOMATIC SYMPTOMS

If the mental health professional finds that your teen, in fact, is suffering from emotional stress, your next step is mental health treatment. The type of treatment depends on your teen's personal circumstances. If your teen is suffering from clinical depression, anxiety, trauma (PTSD), borderline personality disorder, substance abuse, addiction, obsessive-compulsive disorder (OCD), prodromal psychosis, or any other type of

mental health condition, they'll need some form of talk therapy, such as Dialectical Behavior Therapy or Cognitive Behavior Therapy, and possibly medication if necessary. You might also want to consider a mental health treatment center for teens, such as an intensive outpatient program (IOP), partial hospitalization program (PHP), or residential treatment center (RTC).

Even if the source of emotional stress is less acute, or not a diagnosable mental health condition, CBT and DBT are still essential to help your teen process and resolve what's going on. For example, your teen could be struggling with friends, bullying, cyberbullying, school, academic issues, codependency, or other issues. If you, as a parent, are struggling with mental health issues, consider seeking treatment for yourself as well.

1.12. SCHOOL PROBLEMS VS PSYCHOSOMATIC DISORDER FOR THE ADOLESCENT

School problems can also be due to emotional and intellectual problems, but as it can also be related to rebellion against authority.

Refusal to go to school can be due to a number of problems –

- Some children may be perfectionists.
- They may become depressed and unsettled if they do not do as well as they expect to.
- They may have a disturbed family life due to various factors, such as loss of a parent through death or divorce, parental relationship difficulties and so on.
- They may experience difficulties being separated from their parents.
- Their school problems may be an established pattern.
- Some children may have established a pattern of missing school early in life.
- They may often have physical symptoms such as headaches or stomach aches.

- Some teenagers may go to school, then play truant.
- This is usually because they are unhappy at home and frustrated at school. They may want to spend their days with others who feel the same way.

1.12.1. COPING WITH STRESS

There are different kinds of stress. Positive stress, also known as eustress, keeps life invigorating and interesting. It's the feeling that makes you want to get up in the morning and keeps you motivated. If you've ever enjoyed the thrill of a roller coaster ride or felt a sense of excitement and fulfillment when completing a project, you've experienced "good" stress. Trust as with positive stress, you can feel negative stress in your mind and body. When you can identify your main sources of stress, you can learn coping mechanisms. One of the first and most important is to avoid holding in your feelings. Another is to avoid unhealthy strategies, such as overusing alcohol.

1.12.2. HEALTHY COPING METHODS

- Be honest with others and yourself.
- Confide in a friend.
- Do something kind for someone else. (Be sure to do nice things for yourself, too.)
- Eat a balanced diet, get regular exercise, and create a calming sleep ritual and space.
- Explore fun outlets for stress, such as a dance class.
- Join a support group.
- Learn relaxation techniques.
- Let go of grudges, patterns of thinking, or relationships that are unhealthy or negative for you.
- Make time for leisure activities you enjoy.
- Take a break if you're in a stressful situation.

1.13. HOW TO HANDLE A STRESS-RELATED PSYCHOSOMATIC ILLNESS

1.13.1. A WORD FROM VERY WELL

In dealing with psychosomatic illness and the physical effects of stress, learn to let go of what isn't serving you. First, accept that you are human, and allow yourself some grace. Then, do the difficult but necessary emotional work, such as allowing yourself to feel emotions that are hard to confront. Also let go of expectations and old guilt—the "shoulds" that have been guiding your behavior. You might benefit from giving up control in some areas of your life or easing off your tendency to strive for perfection.

1.13.2. HOW IS A PSYCHOSOMATIC ILLNESS TREATED?

Psychotherapy, including cognitive behavioural therapy (CBT) and mindfulness-based approaches, has been shown to be effective in the treatment of somatic disorders. And you will need to see a mental health professional for treatment. It's important to note that successful treatment of a somatic disorder with psychotherapy alone is rare—and can be tough because the symptoms are so real and persistent. In addition, many people with these illnesses also need medication in order for their symptoms to fully resolve.

1.13.3. HOW TO PREVENT OR COPE WITH PSYCHO-SOMATIC ILLNESS

There are many types of psychosomatic disorders. While challenging to cope with and treat, psychosomatic illness can be prevented or managed to a certain extent. Here are some ways to prevent or cope with psychosomatic illness.

1.14. PSYCHO-SOMATIC ILLNESS

- Being kind and doing something nice for someone
- Limiting smoking and alcohol intake
- Cutting back on caffeine and sugar
- Engaging in recreational activities
- Knowing what you can and cannot control
- Joining a support group
- Taking a break from overwhelming tasks

- Letting go of negative thinking patterns and grudges

1.15. SELF-CARE

It is important for maintaining good health and reducing symptoms of psychosomatic illnesses. Important aspects of self-care include:

- Eating a nutritious diet
- Practice positive self-talk
- Staying hydrated
- Indulge in a skincare routine
- Exercising regularly
- Getting enough sleep at night and during the day (a nap is okay)
- Meditating regularly
- Talking to friends and family members about what's going on in your life that may be causing stress (not hiding things from them)
- Journaling about how you're feeling emotionally/mentally so that you don't bottle it up inside yourself, which could make things worse for you later on down the line (this might also mean writing down positive affirmations)
- Doing things that make you happy, like watching movies or listening to music.

1.16. ACADEMIC ACHIEVEMENT

Academic achievement during adolescence is predicted by interpersonal (e.g., parental engagement in adolescents' education), intrapersonal (e.g., intrinsic motivation), and institutional (e.g., school quality) factors. Academic achievement is important in its own right as a marker of positive adjustment during adolescence but also because academic achievement sets the stage for future educational and occupational opportunities. The most serious consequence of school failure, particularly dropping out of school, is the high risk of unemployment or underemployment in adulthood that follows. High achievement can set the stage for college or future vocational training and opportunities.

In a general sense, academic achievement is the current level of a student's learning. More specifically for the purpose of accountability, academic achievement refers to the percentage of students at a school whose learning currently meets or exceeds their grade-level standards.

Academic achievement during adolescence is predicted by interpersonal relationships, namely parental engagement in adolescents' education. Most parents are highly involved in their ward's education when they are in the lower grades. But as they grow older especially during the adolescence stage when a power struggle ensues in the home front between the parents and the child, the child is given the freedom to make his/her own study schedule.

The problem of low academic achievement of students in the examinations is one of the most challenging problems that faces students as well as teachers. This problem has many causes and it has educational, social, cultural and psychological dimensions. However, the students' low academic achievement on the exam can be defined as: Low or weakness of the student's mark under the normal average in a study subject level as a result of a variety of reasons, including those related to the student himself, or those related to family, social and academic environment.

Consequently, this may lead to frequent repetition of failure, despite their abilities that qualify them to get the best marks. Individual differences play an important role in academic achievement of students. There have been many attempts to address the problem of low academic achievement and some factors have been identified in explaining academic achievement. Among the numerous variables researched, demographic status, intelligence, behavioral characteristics and psychological factors, namely, attitudes, self esteem, self efficacy and self concept, have been used to explain academic achievement. Besides differences in ability, which are not easy to control, students have specific learning styles that may influence their academic achievement. It proposed that learning styles are at least in part socialized, suggesting that they can, to some extent, be modified.

Thus, being aware of learning styles and their roles in academic achievement is of a great importance for educational psychologists, teachers and researchers. This research focuses on addressing the real causes of this weakness and attempt to understand and analyze these causes to find suitable solutions to reduce the phenomenon of weakness of students' achievement on exams.

1.16.1. REASONS RELATED TO THE LEARNER

The weakness of enthusiasm, lack of experience and hasty in getting the results are considered causes that often lead to academic failure, along with lack of abilities, fear of failure and lack of self-confidence. Therefore, academic failure occurs when someone convinces himself/herself that he/she is unable to succeed because of the weakness of his/her abilities and lack of experience. The goals should also be clear, specific and realistic to the learner. Failure to do so will result in missing these goals.

1.16.2. PARENTAL AND EDUCATIONAL REASONS

The excess pressure on the student in order to get higher marks in the exams may create a feeling of fear if he is unable to get high marks as required by parents, and this frequently leading to the academic failure. Moreover, the unstable families' situations make students live in a state of tension, confusion and lack of concentrating during the exam which will reflect negatively the on academic performance.

1.16.3. EXAM'S ANXIETY

It is a state of feeling or an emotional condition that student faces during the exam, and arise from the fear of failing in the exam or the fear of not getting satisfactory result for himself and for others. However, this emotional state may affect mental processes such as paying attention, concentrating, thinking and remembering, as a result of the fact that any examination or test may decide the fate of its taker and it will affect a particular aspect of his life, such as success in the study, admission to a particular job and others, causing him fear and not achieving the requested level.

1.16.4. LACK OF MOTIVATION FOR SUCCESS

Although most of people may fail at some point or at some stages in their lives, they have to consider failure is one chain for success and to learn from failure and know how to deal with it. Still, if anyone was able to know why he /she failed; definitely this would lead to success. Thus, anyone who suffers from failure he will also enjoy the sweetness of success, and learn from his mistakes and saying "Good bye to failure." To sum up, these factors attributed to teachers, students, parents and the school environment were primarily responsible for the low academic performance of the students. It must be emphasized that these factors generally do not operate in isolation. Teacher absenteeism and lateness for example would result in incompleteness of the syllabus and would also affect student's motivation, enthusiasm, zeal and commitment to learn.

1.17. RATIONALE OF THE STUDY

Psychosomatic disorders were previously thought to be a separate group of disorders in which stress and psychological distress led to disease. Examples were peptic ulcer, arthritis, and dermatitis. It is now recognized that all diseases may have social, psychological, and behavioral aspects as well as physical organic features. The World Health Organization defines psychosomatic medicine as "the study of biological, psychological and social variables in health and disease."

This is best illustrated by the example of heart disease. Heart disease is caused by many factors. These include inherent biological factors, including age, sex, and genetic enhancement, that increase the chances of a heart attack; physiological factors, such as raised blood pressure, smoking, alcohol consumption, and increased blood cholesterol level; and psychological and social factors, which include depression, anxiety, and certain forms of stress, which are associated with an increased chance of developing a heart attack or increased chance of dying thereafter. Stress may lead to anxiety or depressive disorders, which can lead to a fast heart rate and increased chance of irregular heart beats, which may be fatal soon after a heart attack. Lack of social support – in the form a close person with whom all difficulties or problems can be shared – also contributes to increased chance of further heart attacks. Thus, the modern view of psychosomatic mechanisms includes a role for stress, depression, and lack of social support alongside biological factors in the

causation or outcome of disease. The relative importance of environmental stress varies in different conditions.

This research helps teens understand the root cause of their feelings, thoughts, and behaviors, and gives adolescents the tools to make beneficial changes to help them feel and function better. And also helps teens work through issues and empowers them to use what they learn to find solutions to the issues they faced. Through research we can help improve teen's self-confidence, overall mood, and self-esteem. And teens learn and strengthen vital skills such as emotion regulation, effective communication, empathy, assertiveness, and self-awareness.

Psychosomatic health problems during adolescents may result in both short and long term consequences. Short term consequences include school problems, injuries, suicide attempts, early pregnancies, alcohol and drug abuse. Long term consequences are increased risk for mental health problems to persist into adulthood with negative consequences such as lower education, problems with toil market establishment and family formation. After COVID, the psychosomatic health problems are mostly seen in school going adolescents. So that the researcher, take this 'Creating Awareness on Psychosomatic Health among Adolescent Girls in Upper Primary School through Blended Learning' topic as the Research Project.

1.18. STATEMENT OF THE PROBLEM

The present study aims to enhance the biological science achievement the study is entitled as "A Study on Awareness of Psychosomatic Health and Academic Achievement of Adolescent Students Higher Secondary School Students"

1.19. OPERATIONAL DEFINITION OF KEY TERM

1.19.1. AWARENESS

Awareness in philosophy and psychology is a concept about knowing, perceiving and being cognizant of events. Another definition describes it as a state wherein a subject is aware of some information when that information is directly available to bring to bear in the direction of a wide range of behavioral actions. The concept is often synonymous to consciousness and is also understood as being consciousness itself. The states of awareness

are also associated with the states of experience so that the structure represented in awareness is mirrored in the structure of experience. In this research, awareness is meant for consciousness about their physical and mental development.

1.19.2. PSYCHOSOMATIC HEALTH

Psychological condition involving the occurrence of physical symptoms, usually lacking a medical explanation. People with this condition may have excessive thoughts, feelings or concerns about the symptoms which affects their ability to function well. In this study, identify the issues among the adolescent students.

1.19.3. ACADEMIC ACHIEVEMENT

Academic achievement describes academic outcomes that indicate the extent to which a student has achieved their learning goals. Academic achievement is often measured through examinations or continuous assessments. In this study academic achievement refers, the students who are all undertaking this study, their half yearly exam marks in all subjects.

1.19.4. ADOLESCENT STUDENTS

Adolescence is the phase of life between childhood and adulthood, from ages 10 to 19. It is a unique stage of human development and an important time for laying the foundations of good health. In this study refers, the students are in age group from 13 to 15. This is a peak period of the adolescent periods. This age group of adolescents mostly in IX standard. IX standard adolescent students from High and Higher Secondary schools in Aruppukkottai block. So the researcher takes the IX standard students as the sample.

1.20. OBJECTIVES OF THE STUDY

1. To find out the level of awareness on psychosomatic health of the adolescent students in higher secondary schools.
2. To find out the level of awareness on psychosomatic health of the adolescent students in higher secondary school in the dimensions namely physical and mental.
3. To find out the significant difference, if any, in the awareness on psychosomatic health of the adolescent students in higher secondary schools and in the dimensions namely physical and mental health with respect to gender, locality and type of school.
4. To find out the significant difference, if any, in the awareness on psychosomatic health of the adolescent students among higher secondary schools and in the dimensions namely physical and mental health with respect to nature of school.
5. To find out the significant association, if any, in the awareness on psychosomatic health of the adolescent students in higher secondary schools in the dimensions namely physical and mental health with respect to Parents' educational qualification and Occupation.
6. To find out the level of academic achievement of the adolescent students in higher secondary schools.
7. To find out the significant difference, if any, in the academic achievement of the adolescent students in higher secondary schools with respect to gender, locality and type of school.
8. To find out the significant difference, if any, in the academic achievement of the adolescent students among higher secondary schools with respect to nature of school.
9. To find out the significant association, if any, in the academic achievement of the adolescent students in higher secondary schools with respect to Parents' educational qualification and Occupation.
10. To find out the significant correlation between the awareness on psychosomatic health and academic achievement of the adolescent students in the higher secondary schools.

1.21. HYPOTHESES TO BE TESTED

1. The level of awareness on psychosomatic health of adolescent students in higher secondary schools are moderate.
2. The level of awareness on psychosomatic health of the adolescent students in higher secondary school in the dimensions namely physical and mental health are moderate.
3. There is no significant difference between the awareness on psychosomatic health of the adolescent students in higher secondary schools and in the dimensions of physical and mental health with respect to gender
4. There is no significant difference between the awareness on psychosomatic health of the adolescent students in higher secondary schools and in the dimensions of physical and mental health with respect to locality
5. There is no significant difference between the awareness on psychosomatic health of the adolescent students in higher secondary schools and in the dimensions of physical and mental health with respect to type of school.
6. There is no significant difference in the awareness on psychosomatic health of the adolescent students among higher secondary schools and in the dimensions namely of physical and mental health with respect to nature of school.
7. There is no significant association between the awareness on psychosomatic health of the adolescent students in higher secondary schools in the dimensions namely physical and mental health with respect to Fathers' educational qualification.
8. There is no significant association between the awareness on psychosomatic health of the adolescent students in higher secondary schools in the dimensions namely physical and mental health with respect to Mothers' educational qualification.
9. There is no significant association between the awareness on psychosomatic health of the adolescent students in higher secondary schools in the dimensions namely physical and mental health with respect to Fathers' Occupation
10. There is no significant association between the awareness on psychosomatic health of the adolescent students in higher secondary schools in the dimensions namely physical and mental health with respect to Mothers' Occupation
11. The level of academic achievement in various subjects of the adolescent students in higher secondary schools are moderate.

12. There is no significant difference between the academic achievement in various subjects of the adolescent students in higher secondary schools with respect to gender.
13. There is no significant difference between the academic achievement in various subjects of the adolescent students in higher secondary schools with respect to locality.
14. There is no significant difference between the academic achievement in various subjects of the adolescent students in higher secondary schools with respect to type of school.
15. There is no significant difference the academic achievement in various subjects of the adolescent students among higher secondary schools with respect to nature of school.
16. There is no significant association between the academic achievement in various subjects of the adolescent students in higher secondary schools with respect to Fathers' Educational Qualification.
17. There is no significant association between the academic achievement in various subjects of the adolescent students in higher secondary schools with respect to Mothers' Educational Qualification.
18. There is no significant association between the academic achievement in various subjects of the adolescent students in higher secondary schools with respect Fathers' Occupation.
19. There is no significant association between the academic achievement in various subjects of the adolescent students in higher secondary schools with respect Mothers' Occupation.
20. There is no significant positive correlation between the awareness on psychosomatic health and academic achievement of the adolescent students in the higher secondary schools.

1.22. METHODOLOGY

1.22.1. METHOD

The investigator adopted the Normative survey adopted in this study.

1.22.2. SAMPLE

300 adolescent students from high and higher secondary school at Aruppukkottai block in Virudhunagar district.

1.22.3. TOOLS USED

The tools used in the study are

1. Psychosomatic Scale Adolescent School Student – Self made tool
2. Achievement test score from their academic score for Students

1.22.4. STATISTICAL TECHNIQUES USED

The various statistical technique used for the study are Arithmetic Mean, Standard Deviation, Critical Ratio, ANOVA, Chi-Square Test and Correlation coefficient.

1.23. LIMITATIONS OF THE STUDY

1. The study was confined to selected 15 schools in Aruppukkottai block in Virudhunagar district.
2. The study was limited to students those who are studying IX standard students.
3. The Investigator had selected Higher Secondary School students alone taken as sample.
4. The Investigator had selected samples from Government and Government Aided Schools only.
5. The Investigator had conducted this study as a Survey method.

1.24. ORGANIZATION OF THE DISSERTATION

CHAPTER I

The first chapter gives the background of the study to understand the concepts discussed in the work. It also includes rationale for the study, objectives, hypotheses, methodology in brief, limitations of the study.

CHAPTER II

The related studies are reviewed and recorded in this chapter, studies done in India, studies done in Abroad, Review of related literature and gaps identified etc., are discussed.

CHAPTER III

The third chapter gives the details about the methodology followed in this study. Under methodology heading sample selection, tool preparation and administration, and statistical techniques application has been discussed in this chapter.

CHAPTER IV

The fourth chapter interprets the data collected by the investigator and discussed the conclusions derived from the data.

CHAPTER V

The fifth chapter summarized the whole dissertation. And also, recommendations, educational implications and suggestion for the further study are given in this chapter on par with the finding. The books referred are listed and given under Bibliography after the fifth chapter. This follows the Appendix that includes the tool used for the study.

1.21. CONCLUSION

This dissertation is presented in five chapters. This chapter gives the background of the study. The study of the related literature is discussed in the second chapter. The third chapter gives details about the methodology followed, sample selected, tools used, statistical technique applied and delimitations fixed. The analyses of the data and interpretations of the result are discussed in the fourth chapter. The last chapter as well as the fifth chapter summaries the whole matter. The recommendations as the educational implications and the suggestion for further research are also given in the fifth chapter. The books and websites referred are listed and given under “Bibliography”. The copies of the tools used in the study are given in the appendix.

REVIEW OF RELATED LITERATURE

2.1. INTRODUCTION

According to Best (1995) “A brief summary of previous research and the writings of recognized experts, provide evidence that the researcher is familiar with that is already known and what is still unknown and untested”.

According to Bitchener “the over all purpose of review of literature is to provide a justification of the proposed research project, indicating how it will be different to that which has been published and provide guidance for an appropriate design and methodology”.

Also, to review what has been researched, to provide background for proposed research, to identify a gap, a problem, a need in the research literature and to provide a rationale and direction for doing the proposed study Science and technology has brought about many changes and innovations in the field of education. Lots of researches are taking place in foreign countries as well as in India.

The purpose of the present investigation is Awareness on Psychosomatic health and Academic Achievement of adolescent students. Before commencing any new study, the investigator should become familiar with the studies previously done on the same of allied areas for that review of related literature is one of the important chapter in the writeups of the study.

2.2. PURPOSE OF THE SURVEY

The following are some of the purposes of the survey of related literature.

- Survey of related literature gives the researcher, necessary insight into the problem.
- It becomes an important part of the introductory chapter of the thesis.
- Related literature serves as stimulate to thinking and creativity.
- It suggests appropriate methods to tackle the problem under study.

- It helps to locate data that can be used in comparative interpretation of results.
- It help avoiding unnecessary duplication of the research.

2.3. THE FOLLOWING ARE THE REASONS HOW LITERATURE REVIEW ADDS VALUE AND LEGITIMACY TO THE STUDY

- Literature review enables the interpretation of old literature in the light of new developments in the field; this helps in establishing the consistency in knowledge and relevancy of older materials.
- The progress of knowledge in the field is mapped and how the dialectics of contradictions between various thoughts within the field helped establish facts is identified during the course of reviewing the literature. This helps in calculating the impact of new information in the field.
- The literature is primarily scrutinized to identify gaps in the knowledge of the field. This gap is further explored during the research to establish new facts or theories that add value to the field.
- The concept of conducting a scientific and systematic study necessitates scrutiny of existing knowledge, thus, facilitating the need for literature review
- The literature review also helps in identifying the current study's place in the schema of the field.

2.4. IMPORTANCE OF THE REVIEW OF LITERATURE IN RESEARCH STUDY

1. An understanding of what has already been accomplished helps the researcher to select a new problem.
2. Knowledge of related research enables the investigator to define the frontier or scope of his research field.
3. An understanding of the theoretical base of the research problem enables the researcher to place his question in the right perspective.
4. Through studying related research, a researcher learns about

procedure and instruments useful and those less promising.

5. A thorough search through research avoids unintentional replications of previous studies.
6. The study of related literature places the researcher in a better position, to interpret the significance of his results.
7. It provides side as, theories, explanations, hypothesis or methods of research that is valuable in formulating and studying the problem.
8. It prevents the point less repetition of research.

Research takes importance of the knowledge which has accumulated in the past and result of constant human endeavour. It can be undertaken in isolation of the work that has already been done on the problems which are directly or indirectly related to a study proposed by research. The literature in any field forms the foundation upon which all future works will be built. From this, it is evident that a careful view of the research journals abstracts, dissertation and other source of information on the problems to be investigated is on one of the important steps in the planning of the research study.

Therefore, a careful review of the related literature available on the proposed study is carried out and it presented in this chapter. The dissertation and extracts from journal and periodicals related to the present investigation are summarized in the following pages. These will highlight the sample, tools and findings arrived at in the researches conducted in Indian and global context. The studies are presented in the chronologically ascending order under the captions “Studies done in India” and “Studies done in Abroad”.

- i) Studies done in India
- ii) Studies done in Abroad

2. 5. STUDIES DONE IN INDIA

Altaf Hussain Ganie and Yousuf Mohammad (Feb 2024) conducted a study on, “Emotional Maturity and Academic Achievement among Adolescents of Kashmir”.

The research study was carried to explore the Emotional Maturity and Academic Achievement among adolescents of Kashmir. Descriptive survey method was used in the current study and the respondents were selected through stratified random sampling technique. To meet the required goal 400 secondary school students were selected as adolescents (200 males and 200 females) among them 200 each from government and private schools of Kashmir division. Kulgam and Baramullah district represented the south and north Kashmir respectively for data collection. The tools used for data collection were Emotional Maturity scale by Sabapathy (2017) and Academic Achievement means the aggregate marks obtained by the sample group of students from there previous year examination. To analyze and interpret the data percentage, mean, S.D, t-test and pearsons product movement correlation method were used as statistical techniques.

The result findings revealed that 10.25%, 55.25% and 34.50% of low, moderate and high emotional maturity were found among adolescents of Kashmir respectively. A significant difference was found between male and female adolescents of Kashmir on emotional maturity. A significant difference was found between government and private school students on academic achievement. A significant positive correlation was found between emotional maturity and academic achievement among secondary school students of Kashmir.

Amitahamad Tamboli (June 2023) conducted a study on, “A Study Of Correlation Between Health-Related Physical Fitness and Academic Achievement among College Students”. Physical fitness plays a crucial role in our daily lives, particularly when it comes to academic achievement. Research suggests that increasing physical activity and improving fitness levels can have a positive impact on academic performance. Introducing physical activity during the school day, such as through recess and physical education classes, can also enhance learning by improving attention and memory. College students, who face various stressors like heavy workloads and career planning, can greatly benefit from maintaining good physical fitness and overall health.

These factors have a significant influence on academic achievement, especially within the college environment. In addition, a specific study has been conducted to examine the correlation between health-related physical fitness and academic achievement among college students in Pune, Maharashtra, India.

This research aims to contribute to the advancement of society by further understanding the relationship between physical fitness and academic achievement specifically in the context of college students in that region. The study utilized a survey research design and focused on male students aged 19 to 24 enrolled in undergraduate professional and non-professional courses in science, social science, technical, and management faculties. Various physical fitness tests were employed, including assessments of flexibility, cardiorespiratory endurance, BMI, muscular endurance, and muscular strength, to explore their potential association with academic achievement, specifically in terms of performance in studies. Introduction Physical fitness plays a crucial role in our everyday lives, particularly when it comes to academic success. Studies indicate that increased physical activity and improved fitness levels can result in enhanced academic performance. The inclusion of physical activity during the school day, such as through recess and physical education classes, can also improve cognitive functions like attention and memory, thereby facilitating learning. College students, who encounter various stressors like heavy workloads and career planning, can greatly benefit from maintaining optimal physical fitness and overall well-being. These factors have a substantial influence on academic achievement, particularly within the college environment. Furthermore, a specific study focuses on investigating the correlation between physical fitness awareness and health-related physical fitness among college students in Pune, Maharashtra, India. The primary goal of this research is to contribute to the progress of society by gaining deeper insights into the association between physical fitness and academic achievement specifically among college students in that particular region.

Anjna Agarwal (2003), conducted a study on, "IMPACT OF ACADEMIC STRESS UPON ACADEMIC ACHIEVEMENT AND MENTAL HEALTH OF THE ADOLESCENTS". Present study was undertaken to examine the Impact of Academic Stress upon Academic Achievement and Mental Health of the Adolescents. For that

purpose, 400 students, age ranged from 13th to 18th of class X and XII, were selected randomly from different schools of Agra city (Uttar Pradesh, India), out of which 200 were Males and 200 were Females. The selected adolescents were administered the questionnaires individually. Academic Stress Scale developed by Sinha et al. (2003) was used for the assessment of academic stress among students. For measuring six areas of mental health, Mental Health Battery, developed by Singh and Gupta in 2000 was used. For measuring academic achievement, percentage of marks obtained by students in last grade was taken. Results indicated that Academic stress had significant negative correlation with Academic Achievement and Mental Health of the adolescents while Academic Achievement had significant positive correlation with mental Health. No significant difference were found between Academic Stress and Mental Health of 10th and 12th grade adolescents while significant difference was found between Academic Achievement of 10th and 12th grade adolescents. No significant difference was found between Academic Stress of Male and Female Adolescents while significant difference was found between Academic Achievement and Mental Health of Male and Female Adolescents.

Deepak Kumar Behera and Rajendra Gartia(Nov2022) conducted a study on, “EFFECT OF SOCIAL MEDIA ON THE PSYCHOSOMATIC HEALTH AND ACADEMIC ACHIEVEMENT OF ADOLESCENT STUDENT- A STUDY ON SAMBALPUR”. This study aims to statistically analyze social networking sites' fundamental ideas as well as their applicability, impact, and effects on students' psychosomatic health and academic achievement. Social networking sites are the most widely used mode of communication nowadays. It is utilized by people from all walks of life. Facebook, Twitter, Instagram, WhatsApp, YouTube, LinkedIn, Google+, Flickr, Snapchat, and Telegram are just a few of the many online networking platforms available. The research also looked at how students' usage of social networking sites affects their psychosomatic health as well as their academic achievement. University students from western Odisha are the major source of information for this study. Primary data on demographic information, psychosomatic health, and academic achievements are collected through google forms questionnaires in both online and offline methods, that were utilized for the study. The simple random sampling technique was used to select 2 universities namely Gangadhar Meher University (GMU) and Sambalpur University Institute of

Information Technology (SUIIT) out of 7 universities in western Odisha. Out of which 277 respondents have responded to the query. From the sample of size 277, gender-wise distribution [Female- 141 (50.9%) and Male- 136 (49.1%)] have been responded to and selected for our study. A five-point Likert Type Rating Scale Questionnaire, titled: Social Media and Psychosomatic Health of Students (SMAPHOS) and Social Media and Academic Achievement of Students (SMAAAOS) Questionnaire to get the Psychosomatic health data and Academic achievement data of the students of Western Odisha universities respectively. The descriptive statistics of frequency counts and percentages were used to analyze the demographic data while inferential statistics of Chi-square(x2) were used in testing the research hypotheses.

The data so collected are analyzed through IBM SPSS Statistics 26 under MS Excel environment and the results are obtained. Statistical tools like graphs, diagrams, Logistic Regression, Factorial Analysis, Chi-Square tests, t-tests, and Mann-Whitney U tests were used for data analysis to assess the various effects of social networking sites on psychosomatic health and academic performance of the university students of western Odisha. The result reveals that females are more susceptible to psychosomatic health diseases than their male counterparts. From the statistical investigation, we have found that the mean rank of females (148.33) is higher than the mean rank for males (129.32). Thus, it may be inferred that there exists a significant difference in the distribution of Psychosomatic Health between males and females. The analysis depicts that the mostly suffered psychosomatic health problem by the respondents 277 out of 264 respondents 38.6% suffer from Headaches followed by Anxiety (31.4%), Acidity (23.9%), and so on depicted. From the analysis, we get that psychosomatic health problem significantly depend on the total hours spent using social networking sites (SNS). The results reveal that the students who spend more time on SNSs are likely to demonstrate poor Academic achievement. Students can be able to boost their Academic achievement by collecting data and gathering important information. Keywords: Social Networking Sites, Psychosomatic health, Academic achievement, Logistic Regression, Factor Analysis, Chi-square test.

Gokhan Bas (June 2020) conducted a study on, “Relation between Student Mental Health and Academic Achievement Revisited: A Meta-Analysis” The research

adopted meta-analysis model to investigate the relationship between these two phenomena. In the meta-analysis, 13 independent studies were included, and their data were combined to display effect sizes. According to the result of the research, it was indicated that there was a positive relationship between mental health and academic achievement. Also, it was revealed that there was no significant relationship within sub-group variation in the relationship between mental health and academic achievement in terms of year of publication.

Dr. Mohammad Parvez and Dr. Mohd Shakir (2014) conducted a study on, “Academic Achievement of Adolescents in Relation to Academic Anxiety, Gender, and Choice of Academic Stream”. The present research work was carried out to study the relationship and effect of academic anxiety on the academic achievement of adolescents. A sample of 361 adolescents was taken through purposive sampling technique. A reliable and valid academic anxiety scale standardized by Singh & Gupta (2009) was used for data collection. Mean SD, Correlation and t-test were used for the analysis of the data. Research findings revealed an inverse relationship (negative correlation) between the academic achievement and the academic anxiety of adolescents. Significant differences were found between the academic achievement of high and low academic anxiety groups of adolescents, between high and low academic anxiety groups of males, between high and low academic anxiety groups of females, between high academic anxiety groups of male and female adolescents, between low academic anxiety groups of male and female adolescents, between the academic achievement of high and low academic anxiety groups of social science adolescents.

Whereas, no significant difference was found in the academic achievement of high and low academic anxiety groups of science adolescents, between the academic achievement of high academic anxiety groups of science and social science adolescents and between the academic achievement of low academic anxiety groups of science and social science adolescents. Keywords: Anxiety, academic anxiety, academic achievement, and choice of academic stream.

Palas Das, Ranabir Pal and Shrayan Pal conducted a study on, “Awareness on psychosomatic health among adolescent girls of three schools in north Kolkata”.

Psychosomatic health of adolescent girls at crossroads of childhood and mature adulthood, may lead to various health problems in future. To determine the improvement in the knowledge and attitude on health among adolescent girl students of Kolkata after the health education intervention. This ‘Health Education Intervention Study’ was conducted in October and November 2006, in three senior secondary schools of North Kolkata. The Simple Random Sampling Technique was applied to select three schools from the spot map of North Kolkata for this study, and 282 girl students in the adolescent age group of 13 to 19 years were selected from the completed updated list of students from the enrollment registers in these schools. The mean age of the participants was 15.7 years (± 1.8 years).

This health education intervention showed a significant improvement in their knowledge on adolescent health, in the aspects of sex differences in pubertal spurts, probable causes of health problems during adolescence, physical changes in adolescent boys and girls, and psychological problems of adolescence. A significant improvement in positive attitude was observed, with regard to their opinion on substance abuse in the adolescent period and importance of sex education for adolescents. This study revealed some unknown parts of psychosomatic health among adolescent girls, in this part of India.

Ritu Mahal and Asha Chawla Thakral were conducted a study on, “Relationship between Psychological Well-being and Academic Achievement of Adolescents during COVID-19”. This study looked at how adolescents' psychological health related to their academic performance during COVID19. The sample for the study included 500 adolescents in the age range of 16 to 18 who were enrolled in classes +1 and +1 in "Government Senior Secondary" schools in rural and urban parts of the Punjabi districts of Ludhiana and Moga. Psychological Well- Being Scale by Sisodia and Chaudhary (2012) was used for assessing the psychological well- being of adolescents. “The results revealed that. more percentage of girls had better psychological well-being than boys. Significant positive correlation was found between overall psychological well-being with academic achievement of girls. The results brought forward that positive mental health is key to good academic success.

Seema Seema, Lalita and Sunita kumari Mann (April 2023) conducted a study on, “Study of Academic Achievement in Relation to Family Environment and

Psychological Well-being". The adolescent is the fundamental capital of any nation, and it should be protected and preserved for the betterment of society and the country. This study aims to investigate the relationship between academic achievement, family environment, and PWB. There were 300 adolescents between the ages of 15-18 in the study. The indicators of academic achievement used by the researchers were academic achievement scores based on the cumulative percentage of grades from the two previous classes. The family environment scale (FES) developed by Bhatia and Chadha (1993) and the psychological well-being scale developed by Ryff (1989) were used to assess the impact of family environment and PWB on the academic achievement of adolescents. Results indicated that male and female adolescents differ in terms of academic achievement, familial environment, and physiological well-being. Academic achievement, family environment, and PWB have all found a strong correlation. Regression analysis results revealed that family environment and PWB together explained 29.4% of the variance in academic achievement. The term adolescence is derived from the Latin word "adolescere," which means "to grow up." The adolescent period begins at age 12 and continues until age 19. It is a time of tremendous change. It is a transitional stage of a person's physical and psychological development that occurs between puberty and legal adulthood. Several crucial developmental events occur during this period. In addition to physical and sexual maturation, these experiences include social and economic independence, identity formation, the acquisition of skills, the ability to think abstractly, etc. Understanding adolescence in society is mostly dependent on data from several disciplines, such as psychology, biology, history, sociology, education, and anthropology. Adolescence is considered a phase of transition from childhood to maturity, and its cultural function is to prepare adolescents for adult tasks. During phase 19, an adolescent experiences various transitions, including school, training, employment, and unemployment, as well as the move from one living situation to another.

Yuriko Takata and Yumiko Sakata (March 2004) conducted a study on, "Development of a psychosomatic complaints scale for adolescents". There have been only a few questionnaires that can be used to comprehend the psychosomatic complaints of adolescents. Therefore, the objective of the present investigation was to develop a scale for high school students in order to comprehend psychosomatic complaints deriving from

psychologic problems. The collection of scale items was performed referring to the health actual situation survey carried out on Japanese school children in the past, and 30 items with a high incidence of psychosomatic complaints were selected out of them and were set as scale items. A survey to assess reliability and validity of the 30 items of the psychosomatic complaint scale was then conducted on the subjects of 759 high school students in total over 3 years. At assessment of validity of the scale, one-factor structure was confirmed by factor analysis and both the eigenvalue and factor loading were found to be at acceptable levels. Further, at assessment of the reliability of the scale, both Cronbach's alpha coefficient indicating internal consistency and the correlation coefficient indicating reproducibility were found to be high. It was concluded that the psychosomatic complaint scale developed in the present investigation was excellent in validity and reliability and was highly practical, having a reduced number of items.

2. 6. STUDIES DONE IN ABROAD

Ann Mary Joseph, Anusuya Kamath, Veena BK, Jenis Mary (Feb 2023) were conducted a study on, “RELATIONSHIP BETWEEN PSYCHOLOGICAL WELL-BEING AND ACADEMIC PERFORMANCE AMONG ADOLESCENTS IN DAKSHINA KANNADA”. Psychological well-being is the positive function of mind and body. One of the aspects that come to our mind when we think about psychological well-being is all about our mental and physical condition. Academic performance is comprehending test which is used to measure student understanding of a particular subject. Adolescence is a process of development from a child into adult. Psychological wellbeing is also an important aspect that affects academic performance. The objective of the study is to understand the cognitive well-being of the respondents. To diagnose their emotional stages by measuring the level of self esteem and self acceptance of the respondents. To assess their learning abilities by determining academic achievements of the respondents. The researchers used questionnaire method and Descriptive design with convenience sampling to collect the data from 50 students of Dakshina Kannada District, Karnataka state.

Study focuses on the significant relationship between psychological wellbeing and academic performance. If the person is having less self-esteem, self-acceptance and

positive relationships this immensely affect the person's academic performance. An adolescent with whom psychological wellbeing is absent, will face difficulties to concentrate in class, to show interest towards the studies, to comprehend the syllabus. Thus, it is necessary to improve their academic performance through psychological well-being.

Barth Vedoy, Sigmund Alfred Anderssen, Hege Eikeland Tjomsland, Knut Ragnvald Skulberg, Miranda Thurston (2020) conducted a study on, “Physical activity, mental health and academic achievement: A cross-sectional study of Norwegian adolescents”. The purpose of this study was to describe associations between physical activity (PA), mental health and academic achievement in a Norwegian adolescent cohort. In total, 1001 adolescents were invited to participate, of whom 599 (54.4% female, mean age \pm SD 13.3 \pm 0.3y) entered the study. PA was measured objectively using accelerometers, variables on mental health were assessed through an online questionnaire and academic achievement was assessed using grade point average (GPA) collected through school records. The associations between PA, mental health and academic achievement were modelled using multiple linear regression. PA was positively associated with mental wellbeing ($p \leq .05$), self-perception of athletic competence ($p \leq .001$) and self-perception of social acceptance ($p \leq .001$). It was not associated with global self-esteem or mental health complaints. No significant association between PA and GPA was found. However, results showed a significant association between PA and grade in physical education among girls ($p \leq .001$). PA was associated with mental wellbeing and domain specific self-esteem although the causal significance of the association requires further investigation. The current study does not support associations between PA and mental health problems or PA and academic achievement. Further studies are necessary to investigate the longitudinal relationship between PA, variables of mental health and academic achievement amongst adolescents.

Bettina Franciska Piko and Noemi Tari-Keresztes(May 2006) conducted a study on, “Psychosomatic symptom formation as a health status indicator in early adolescence: Behavioral epidemiological analysis”. In adolescence, due to the ongoing biological-hormonal and psychosocial changes, the formation of psychosomatic symptoms becomes more frequent. The psychosomatic symptom formation has an influence on

adolescents' self-perceived health as well as on their later health and illness related attitudes and behaviors. The main goal of the present study has been to detect the occurrence of psychosomatic symptoms among early adolescents, and to see the impact of psychosocial and psychological variables on the symptom formation. In the frame of the South Plain Youth Study, the survey was going on among middle school aged students (N = 548, classes 5-8, mean age of 12.2 years). Data were collected by means of self-completed questionnaires which contained items on sociodemographic (age, gender, parental schooling, socioeconomic status of the family), mapping psychosomatic symptoms, and certain psychosocial and psychological variables affecting psychosomatic symptom formation (such as academic achievement, health-compromising behaviors, the lack of aggression control and social comparison). Statistical analyses included chi2 test, student's t-test, ANOVA, and multiple linear regression analyses. Fatigue proved to be the most frequent psychosomatic symptoms in both sexes which was followed by headache and lower back pain. These latter symptoms were more common among girls ($p < 0.001$). Good academic achievement was a protective factor ($p < 0.05$), while the lack of aggression control increased the psychosomatic symptom formation (boys: $\beta = 0.37$, $p < 0.001$, girls: $\beta = 0.21$, $p < 0.01$). Smoking ($\beta = 0.24$, $p < 0.01$) and social comparison ($\beta = 0.16$, $p < 0.05$) were predictors only among girls. The results draw the attention to the importance of psychosomatic symptom formation in clinical practice. Beyond the difficulties in differential diagnosis, all efforts should be made to start a causal therapy of the latent psychosocial problems so as to prevent the onset of more serious ill health states.

Bianca Friederike Gräbel (Aug 2017) conducted a study on. “The relationship between wellbeing and academic achievement A systematic review”. Various studies have underlined the beneficial effect of wellbeing on mental health as well as on resilience against stress and psychopathology. Also in the educational sector several studies have indicated that interventions, based on the principles of positive psychology, enhance wellbeing and resilience of students. Less is known about the relationship between wellbeing and academic achievement. To make positive interventions at school more effective and purposive, advanced knowledge of the relationship between wellbeing and academic achievement and their influencing factors is needed. Method: The systematic literature review was conducted in December, 2016. The databases Scopus and Web of

Science were searched for relevant literature by combining the search terms wellbeing, school and academic achievement and several synonyms of these terms. This resulted in a pool of 300 studies. The application of several criteria of exclusion resulted in a final selection of 5 studies. Results: The selected studies suggest that there is a positive relationship between emotional and psychological wellbeing and academic achievement.

The relationship of social wellbeing and academic achievement has not been examined in the included studies. In general students with higher levels of psychological and emotional wellbeing also show higher levels of academic achievement. Engagement, self-esteem, organizational justice, interpersonal relationship with teachers, student's perception of school and motives for attending school may moderate or mediate the relationship between wellbeing and academic achievement. Discussion/Conclusion: This systematic review is a first attempt to get an overview of existing studies regarding the relationship between academic achievement and wellbeing and provides useful information that can serve as a starting point for further, more specific research in this area. Positive emotions, the fulfillment of basic needs, intrinsic motivation, personal strengths and engagement are supposed to influence in the relationship of wellbeing and academic achievement

Curt Hagquist (2009) conducted a study on, “All right health problems among adolescents in Sweden are the time trends gender related?” Since the economic recession in Sweden in the 1990s alarming reports about deteriorating mental and psychosomatic health among young people have repeatedly been published but reliable survey data are rare. The purpose of the study is to describe the trends in psychosomatic health problems among adolescents, focusing on gender differences. Methods: The analysis is based on repeated cross-sectional data collected 1988–2005 among about 15 000 adolescents (15- to 16-years old) within a county in Sweden. The data were collected in schools using a questionnaire that was completed anonymously. A composite measure of psychosomatic health problems based on eight items was used. Results: Psychosomatic health complaints among boys increased mainly during the in-recession time period, while the health problems among girls increased only slightly during the crisis, but increased dramatically in the post-recession time period. Only among boys did the variance in

psychosomatic health increase successively across years of investigation, implying that the psychosomatic health among boys on average did not change over time. Conclusions: In showing different trend patterns across genders, the present study nuances and qualifies previous reports on deteriorating mental and psychosomatic health among adolescents. Whether the gender-related trend patterns are due to differences in the relative influence of economic and social stress factors or if they reflect other factors such as changes in the educational systems should be addressed in future studies.

Daniel Bergh and Joanna Giota (July 2020) conducted a study on, “Student achievement goals and psychosomatic health complaints among Swedish adolescents: the role of sex” Aim School related determinants (e.g. student motivation and goals) may be important for student achievement as well as their mental health. Therefore, the aim of this study was to analyse the links between two goal orientations (mastery and performance) and psychosomatic health problems by investigating the general patterns as well as the patterns for specific classifications of students, in particular by investigating the potential statistical interaction effects by gender. Subject and methods Swedish nationally representative data among 4573 school year 9 students (15–16 years old) responding to the Evaluation Through Follow-up (ETF) questionnaire, in 2014, were used. Linear regression analysis as well as multinomial logistic regression were applied in order to address the research questions. Results Both the mastery orientation and the performance orientation are independently associated with adolescent psychosomatic health problems. The links between these goal orientations and psychosomatic health show different patterns. The mastery goal orientation may be considered a protective factor as there is a negative link to psychosomatic problems; the performance orientation may be considered a risk factor due to the positive association with psychosomatic health problems.

The effect of performance orientation on psychosomatic health complaints was significantly stronger for girls (OR = 4.28) compared to boys (OR = 2.04). In particular, low mastery/high performance students may be at risk for experiencing poor psychosomatic health. Conclusion Adolescent psychosomatic health may be improved by the encouragement of student goals related to adaptive and successful goal profiles such as mastery orientation.

Daniel Bergh, Curt Hagquist, Bengt Starrin (Sep 2010) conducted a study on, “Social relations in school and psychosomatic health among Swedish adolescents—the role of academic orientation”. The purpose of this study was to analyse the connection between two types of social relations in school (to peers and to teachers) and psychosomatic health complaints among adolescents in school Year 9 in the Swedish compulsory school. In particular, the focus is on the importance of students’ academic orientation as a possible modifier of the association between social relations and psychosomatic health complaints. The data were collected during the 1995–2005 time period from approximately 10 000 Swedish adolescents in the age of 15–16 years by using a questionnaire that was handed out in the class room. There are strong associations between adolescents’ social relations in school (both to peers and to teachers) and psychosomatic health complaints. Worse relationships are connected to worse psychosomatic health. The health effects of teacher contacts were significantly modified by academic orientation; they were stronger for theoretically (i.e. those with better health) than for non-theoretically oriented students.

Interpreted from a social class perspective, the results may reflect that the theoretically oriented students to a higher degree strive to conform to the culture present in school making this group of students more sensitive for teacher relations manifested as recognitions, rewards or penalties. In order to promote social equity in health, efforts to improve social relations in school should not solely focus on the teacher–student relationships but also on the relationships between peers.

Emiko Hiroshi (Jan 2024) conducted a study on, “The Relationship between Physical Activity and Academic Achievement among Elementary School Children in Japan”. The aim of the study was to investigate the relationship between physical activity and academic achievement among elementary school children in Japan Methodology: This study adopted a desk methodology. A desk study research design is commonly known as secondary data collection. This is basically collecting data from existing resources preferably because of its low-cost advantage as compared to a field research. Our current study looked into already published studies and reports as the data was easily accessed through online journals and libraries. Findings: This study examined the relationship between physical activity and academic achievement among elementary school children in

Japan. The participants were 1,024 fifth-grade students from 29 public schools in Tokyo. Physical activity was assessed by a questionnaire and a pedometer, and academic achievement was measured by standardized tests of Japanese language, mathematics, and science. The results showed that physical activity was positively associated with academic achievement, after controlling for gender, socioeconomic status, and school-level factors. Unique Contribution to Theory, Practice and Policy: Cognitive enhancement theory, self-determination theory & bioecological systems theory may be used to anchor future studies on the relationship between physical activity and academic achievement among elementary school children. Schools should prioritize high-quality physical education programs that include both structured and unstructured physical activities. Educational policymakers should consider including physical activity guidelines within the broader educational policy framework.

Felicia Kurniawan, Regina Satya Wiraharja. BryanyTiti Santi and YunisaAstiarani (Aug 2023) conducted a study on, “Correlation between health status and academic achievement among elementary school students in North Jakarta”.

High-performing students are essential investments in building the nation's future. In Indonesia, however, the correlation between students' health and academic achievement is rarely examined. This study aimed to evaluate primary school students' health status and its relation to their academic achievement. A survey was conducted on 1335 students from four primary schools in North Jakarta. Health assessments included nutritional status, hair, skin condition, dental, vision, and ear conditions. Parents filled sociodemographic questionnaire. Mid-exam scores in core subjects determined academic achievement. Data were analyzed using binomial logistic regression to determine the relation of health status with students' academic achievement. In the younger group, students who were stunted (adjusted odds ratio [AOR] 2.23, 95% CI: 1.11-4.50), had dental caries (AOR 2.16, 95% CI: 1.15-4.04), hair problems (AOR 2.04, 95% CI: 1.15-3.59), and skin problems (AOR 1.49, 95% CI: 1.01-2.20) were more likely to have a low-performing index. In the older group, students with hair problems tend to have a low-performing index (AOR 3.05, 95% CI: 1.88-5.89). Meanwhile, the students who wore eye glasses were more likely to achieve a high-performing index in the older group (AOR 0.60, 95% CI: 0.50-0.78). This study shows a significant correlation between students' health status and academic achievement,

where students with health problems were more likely to have lower grades compared to their counterparts. Regular health screening and examination are vital to maintaining students' health; therefore, their academic achievement can be increased.

Gerd Karin Natvig, Grethe Albrektsen, Norman Anderssen and Ulla Qvarnstrom(Nov 1999)were conducted a study on, **“School-related Stress and Psychosomatic Symptoms Among School Adolescents”**. Associations between psychosomatic symptoms and school-induced stress, and personal and social resources were analyzed among 862 Norwegian adolescents ages 13-15 years participating in the WHO project, "Health Promoting Schools. "Stress-related factors were represented by the average of scores of 3-12 items. Both in combined and separate analyses of each psychosomatic symptom, increasing school distress, the most direct measure of stress experience, was associated with increased risk. A similar relationship was found with school alienation, though not significant for all symptoms. Social support from the teacher decreased the risk among girls, whereas social support from other pupils reduced the risk among both genders, but in particular among boys. No consistent associations were seen between psychosomatic complaints and general or school-related self-efficacy or decision control. In some analyses, however, these factors seemed to modify the association with school distress or school alienation.

J W Greene and L S Walker (2010) conducted a study on, “Psychosomatic problems and stress in adolescence”. Psychosomatic problems are common in adolescents, and stress frequently plays a role in their development and maintenance. Armed with an understanding of the stressors experienced by adolescents, the individual's vulnerabilities and competencies and their level of social support, the physician can systematically assess each of these factors. Once the assessment is complete, a management plan can be formulated to address the particular psychosomatic problem. Symptom relief, stress reduction, and promotion of competence are important interventions that can be initiated by the primary care physician. When referrals are made for counseling and other stress management techniques, the primary care physician should maintain contact with the patient and family and remain an integral part of the management team. Incorporating brief

discussions about the potential role of stress in health and illness into anticipatory guidance sessions may also help prevent the development of psychosomatic problems in adolescents.

Jane D. McLeod, Ryotaro Uemura and Shawna Rohrman(Nov 2012) conducted a study on “Adolescent Mental Health, Behavior Problems, and Academic Achievement”. Prior research on the association of mental health and behavior problems with academic achievement is limited because it does not consider multiple problems simultaneously, take co-occurring problems into account, and control for academic aptitude. We addressed these limitations using data from the National Longitudinal Study of Adolescent Health ($N = 6,315$). We estimated the associations of depression, attention problems, delinquency, and substance use with two indicators of academic achievement (high school GPA and highest degree received) with controls for academic aptitude. Attention problems, delinquency, and substance use were significantly associated with diminished achievement, but depression was not. Combinations of problems involving substance use were especially consequential. Our results demonstrate that the social consequences of mental health problems are not the inevitable result of diminished functional ability but, rather, reflect negative social responses. These results also encourage a broader perspective on mental health by demonstrating that behavior problems heighten the negative consequences of more traditional forms of distress.

Jessica R Shoaff, Jill Hahn, Antonia M Calafat and Susan A Korrick (June 2023) conducted a study on, “Adolescent endocrine disrupting chemical exposure and academic achievement” Epidemiologic studies support associations of exposure to endocrine disrupting chemicals (EDCs), such as some phthalates, phenols, and parabens with a wide range of cognitive and behavioral traits. While many of these traits are associated with academic achievement, the relationship of EDC exposure specifically with academic achievement in adolescence has not yet been studied. Objective: We assessed the association of urinary biomarker concentrations of EDCs with academic achievement in adolescents as well as the potential for psychosocial factors to modify associations. Methods: We quantified urinary concentrations of select EDCs in 205 adolescent participants from the New Bedford Cohort (NBC), a prospective birth cohort of children born to mothers residing near the New Bedford Harbor Superfund site in Massachusetts,

and estimated associations between EDCs and adolescent academic achievement assessed with the Wide Range Achievement Test (WRAT). Measures of socioeconomic status and the home environment were used to estimate psychosocial stress. Results: Urinary concentrations of antiandrogenic phthalates were inversely associated with Math Computation scores.

For example, each doubling of the concentration of antiandrogenic phthalate metabolites in urine was associated with a 1.94-point decrease (95% CI: 3.84, -0.05) in Math Computation scores, indicating poorer performance. For the most part, associations were stronger in adolescents with more, as compared to less, social disadvantage, but most of these differences did not achieve statistical significance. Conclusion: Our findings support the potential for adolescents' exposure to antiandrogenic phthalates to correlate with poorer academic achievement in math, particularly among participants with greater psychosocial stress.

Joakim Wahlström, Viveca Ostberg, Johan Ahlen and Sara Brodin Låftman(Oct 2023) conducted a study on, “**Psychosomatic complaints at age 15-16 and later educational achievement in upper secondary school**”. Psychosomatic complaints are common among adolescents, and the reporting has increased in recent decades. Yet, knowledge on the potential consequences of such complaints is scarce. Given the importance of educational success for health throughout life, investigating the relationship between psychosomatic complaints and academic outcomes is important. This study's aim was to investigate the prospective links between psychosomatic complaints at age 15-16 and, firstly, the likelihood of not completing upper secondary school, and secondly, grade point average (GPA) among those who graduated from upper secondary school. Data was obtained from Futura01, a national cohort study of Swedish adolescents attending grade 9 in 2017 (n = 5,198). Psychosomatic complaints were measured by self-reports on the frequency of headache, stomach ache, and difficulties to fall asleep, which were summed to an index. Information on graduation and GPA from upper secondary school was based on registry data from 2020-21. Binary and linear regression analyses were performed stratified by sex. Covariates included parental education and country of birth, medication for depression and anxiety, and conduct problems.

Higher levels of psychosomatic complaints were prospectively associated with an elevated risk of not completing upper secondary school (males: OR = 1.08, 95% CI 1.03-1.14; females: OR = 1.10, 95% CI 1.04-1.16). Among those who graduated from upper secondary school, higher levels of psychosomatic complaints were prospectively associated with lower GPA for males ($b=-0.04$, 95% CI -0.07, -0.00), but not for females ($b=-0.01$, 95% CI -0.04, 0.02). Psychosomatic complaints in adolescence may have long-lasting consequences for individuals' living conditions and health by affecting later educational performance and success. Interventions targeting youth with self-reported mental health issues could positively impact later academic achievements.

Karoline Habermann, Ann-Kathrin Napp, Franziska Reiss and Anne Kaman (Feb 2024) conducted a study on, “Psychosomatic health complaints among children and adolescents during the COVID-19 pandemic – Results of the longitudinal German COPSYP study”, The period throughout the coronavirus disease 2019 (COVID-19) pandemic presented major challenges for children's and adolescents' wellbeing and psychosocial adjustment and had a great impact on their mental health. Psychosomatic health complaints are highly common in childhood and adolescence and present an important indicator of mental health and wellbeing. The nationwide, longitudinal COPSYP-study (COvid-19 and Psychological Health) has monitored changes in mental health among children and adolescents in Germany since the beginning of the COVID-19 pandemic in five survey waves (2020–2022). In total, $n = 1673$ children and adolescents aged 11 years and older and their parents participated in at least one survey wave. Self-reported psychosomatic health complaints were assessed in each survey wave, using a modified version of an internationally validated eight-item symptom checklist (HBSC-SCL). A mixed model panel regression analysis was conducted to examine longitudinal changes in psychosomatic health complaints and to identify psychosocial and pandemic-related risk factors as well as resources. Risk estimations were used to explore the effect of a reported previous infection with COVID-19 on psychosomatic health complaints. Psychosomatic health complaints among children and adolescents increased over the course of the COVID-19 pandemic. Girls and children of mentally ill or highly burdened parents were at particular risk. A higher subjective perceived burden of the pandemic as well as COVID-19 related worries were significantly associated with a higher level of psychosomatic health

complaints. Overall, Long-COVID was diagnosed by a clinical expert in 2.9% of children with previously reported COVID-19.

An infection with COVID-19 was no significant risk factor for psychosomatic health complaints in general but increased the risk of sleeping difficulties and loss of concentration in autumn 2022. Personal resources, a positive family climate, and more perceived social support were significantly associated with less psychosomatic health complaints. Three years after the start of the COVID-19 pandemic, children and adolescents are suffering from multiple psychosomatic health complaints. Medium and long-term consequences of the pandemic and associated measures are therefore suspected. Targeted health promotion and intervention strategies are needed to protect and maintain children's and adolescents' health.

M. Kowalski, Susan P. Limber, conducted a study on, “Psychological, Physical, and Academic Correlates of Cyberbullying and Traditional Bullying”. To examine the relationship between children's and adolescents' experiences with cyberbullying and traditional bullying and psychological health, physical health, and academic performance. Nine hundred thirty-one students in grades 6 through 12 completed an anonymous survey examining their experiences with cyberbullying and traditional bullying. Also included were measures of anxiety, depression, self-esteem, physical well-being, school attendance, and academic performance. Participants were categorized as belonging to one of four groups: cyber victims, cyberbullies, cyber bully/victims, and those not involved in cyberbullying. A similar categorization was done with traditional bullying. Those in the bully/victim groups (and particularly the cyber bully/victim group) had the most negative scores on most measures of psychological health, physical, health, and academic performance. There appears to be a substantial, although not perfect, overlap between involvement in traditional bullying and cyberbullying. Additionally, the physical, psychological, and academic correlates of the two types of bullying resembled one another.

Nongluck Kienngam, Benchalak Maneeton, Pichaya Pojanapotha, JutipatManomaivibul, SuttipongKawilapat, and SuntonrapotDamrongpanit (Dec 2020) conducted a study on, “Psychological Factors Influencing Achievement of Senior High School Students”. Numerous factors are proposed to affect high school

students' academic achievement; however, these factors may not reveal all possible causal relationships. This study conducted path analysis to examine the direct and indirect effects of interpersonal relationships, life satisfaction, self-esteem, anxiety, and depression on the academic achievement of senior high school students. Two hundred and eighty-five students from five schools in Chiang Mai, Thailand, aged 14–19 years, were included for data analysis. The fit indices of all models were in agreement with the empirical data. Anxiety levels had a significantly positive direct effect on achievement, whereas depression had a negative direct effect on achievement. Additionally, self-esteem, life satisfaction, and interpersonal relationships had negative indirect effects on depression and anxiety.

A program that stimulates the optimal and appropriate level of anxiety may be useful. An appropriate level of anxiety appeared positively related to academic achievement, but a high level of anxiety relatively influenced the incidence of depression. Thus, encouraging self-esteem, interpersonal relationships, and life satisfaction can promote academic ability and decrease the risk of depression. Further well-designed and large sample-size studies should be conducted to confirm these findings. The interplay of all studied factors may account for the variation in academic achievement, depression, and anxiety of 11.60%, 42.80%, and 17.60%, respectively.

2.7. REVIEW OF THE REVIEWED LITERATURE

The investigator reviewed 27 related studies and presented them of which 10 were from India and 17 from foreign studies. There are the views of the studies undertaken by different scholars, from Indian and Foreign countries. Each study was viewed under different aspects, such as Investigators' name, year of investigation, abstract of the study.

2.8. THE GAPS IDENTIFIED

From the review of related literature, the investigator further infers the following:

- The researcher mostly concentrated on psychosomatic disorder.
- They gave a less priority to the academic achievement.
- The methodology used is largely based upon survey method with questionnaire.

- The data have been analyzed using the appropriate statistical tools.
- Most of the studies were done by higher education level.
- The studies have been carried out mostly on the effectiveness based very few studies only focused on academic achievement.

On the basis of review presented above, the researcher has observed that the scope of studies was quite diverse. From the review of the related literature, most of the studies mentioned above concluded in favour of innovative methods in comparison with traditional methods of teaching.

The pressing need of the hour therefore, this has been the immediate inspiration behind the researcher taking up the present investigation. The investigator has been very keenly interested as to whether imparting awareness on psychosomatic health and academic achievement of adolescent students in higher secondary schools.

2.9. THE PRESENT STUDY

In order to bridge the gap mentioned above, the present study is undertaken awareness on psychosomatic health and academic achievement in various students of adolescent students in higher secondary schools.

2.10. CONCLUSION

The review of related literature helped much to have a proper perspective of the problem chosen for the study. The survey of related literature and studies contributed to understanding of the problem area and helped the investigator to develop an insight into the methodology to be used for achieving the objectives of the study. Further, it has helped the investigator to formulate methodology and a well-planned procedure for the investigation. The next chapter deals with plan and procedure for the investigation

METHODOLOGY

3.1. INTRODUCTION

Research methodology is a way of explaining how a researcher intends to carry out their research. It's a logical, systematic plan to resolve a research problem. A methodology details a researcher's approach to the research to ensure reliable, valid results that address their aims and objectives.

Research methodology is a structured and scientific approach used to collect, analyze, and interpret quantitative or qualitative data to answer research questions or test hypotheses. A research methodology is like a plan for carrying out research and helps keep researchers on track by limiting the scope of the research. The research methodology section in a scientific paper describes the different methodological choices made, such as the data collection and analysis methods, and why these choices were selected. The reasons should explain why the methods chosen are the most appropriate to answer the research question. A good research methodology also helps ensure the reliability and validity of the research findings. There are three types of research methodology—quantitative, qualitative, and mixed-method, which can be chosen based on the research objectives.

A research methodology is systematic and purposeful, planned to yield data on a particular research problem (McMillan & Schumacher, 2010). Research methods have been developed for acquiring knowledge reliably and validly. Therefore, the aim of research methodology is to help us to understand, in the broadest possible terms, not the products of scientific inquiry but the process itself (Kaplan, 1973; Cohen & Manion, 1994).

This chapter aims to introduce and explain the rationale for the research method chosen for the study. This chapter deals with the sample, tools, statistical technique employed and the procedures followed in the different stages of this study.

3.2. RESEARCH IN EDUCATION

Research is devoted to find the conditions under which a certain phenomenon occurs and those under which it does not occur. The term 'research' consists of two words 'Re' and 'Search'. 'Re' means again and again and 'Search' means to find out something new. The research is a process of which a person observes the phenomena again and again collects the data and draws some conclusions on the basis of data.

John. W. Best, “Research is considered to be the more formal, systematic, intensive process of carrying on the scientific methods of analysis. It involves a more systematic structure of investigation, usually resulting in some sort of formal record of procedures and a report of results or conclusions.

3.2.1. CHARACTERISTICS OF RESEARCH

John. W. Best has summarized the main characteristics of researches under:

1. Research is directed towards the solution of a problem.
2. Research emphasizes the development of generalizations, principles, or theories that will be helpful in predicting future occurrences.
3. Research is based upon observable experiences or empirical evidence.
4. Research demands accurate observation and description.
5. Research involves gathering new data from primary or first-hand sources or using existing data for a new purpose.
6. Although Research activity may at times be somewhat random and unsystematic, it is more often characterized by carefully designed procedures, always applying rigorous analysis.
7. Research requires expertise. The Researcher knows what is already known about the problem and how others have investigated it.
8. Research strives to be digestive and logical, applying every possible test to validate the procedures employed, the data collected, and the conclusions reached.
9. Research is carefully recorded and reported.
10. Research sometimes requires courage.

3.3. METHODOLOGY

The success of any research depends largely on the suitability of the method and the tools and the techniques adopted. It lays out the way that formal research is to be carried and outlines the detailed description of the research variables and the procedures. It enables the investigator to look at the problem in a meaningful and orderly way.

Methodology identifies the entire research plan. It is very important in a research process. For successful conduct of any research, suitable methodology with operational steps and well-constructed tools are necessary. Several research methods and procedure are known for the systematic way of

completing a research work. The choice of the research method depends upon the nature of the problem selected and the data necessary for the solution. Methodology helps the researcher to evaluate the validity and reliability of the findings. Therefore, methodology becomes necessary for any type of investigation.

3.3.1. METHOD ADOPTED FOR THE PRESENT STUDY

The investigator adopted Normative Survey method had been adopted for this study. John W. Best (1989) said, “The survey method gathers data from a relatively large number of cases at a particular time.” Normative survey method has been used in the present study, because, the survey method gathers data from a relatively large number of cases at a particular time. The word ‘survey’ indicates the gathering of the data regarding current conditions.

The word ‘normative’ is used because surveys are frequently made for the purpose of ascertaining which is the normal or typical condition or practice. The following were the functions of the normative survey method. It is essentially cross-sectional. It gathers data from a relatively large number of cases. It deals with clearly defined problems and has definite objectives. It requires an imaginative planning, a careful analysis and interpretation of the data and a logical and skillful reporting of the findings. It is more realistic than the experiment in that it investigates phenomena in their natural setting. The survey conducted in Aruppukkottai Block in Virudhunagar District.

3.3.2. RESEARCH DESIGN

The research design refers to the overall strategy that you choose to integrate the different components of the study in a coherent and logical way, thereby, ensuring you will effectively address the research problem; it constitutes the blueprint for the collection, measurement, and analysis of data. The models of the research design developed by David Krathwohl, provides the sequence of steps or links that form a claim of reasons. The model consists of nine steps;

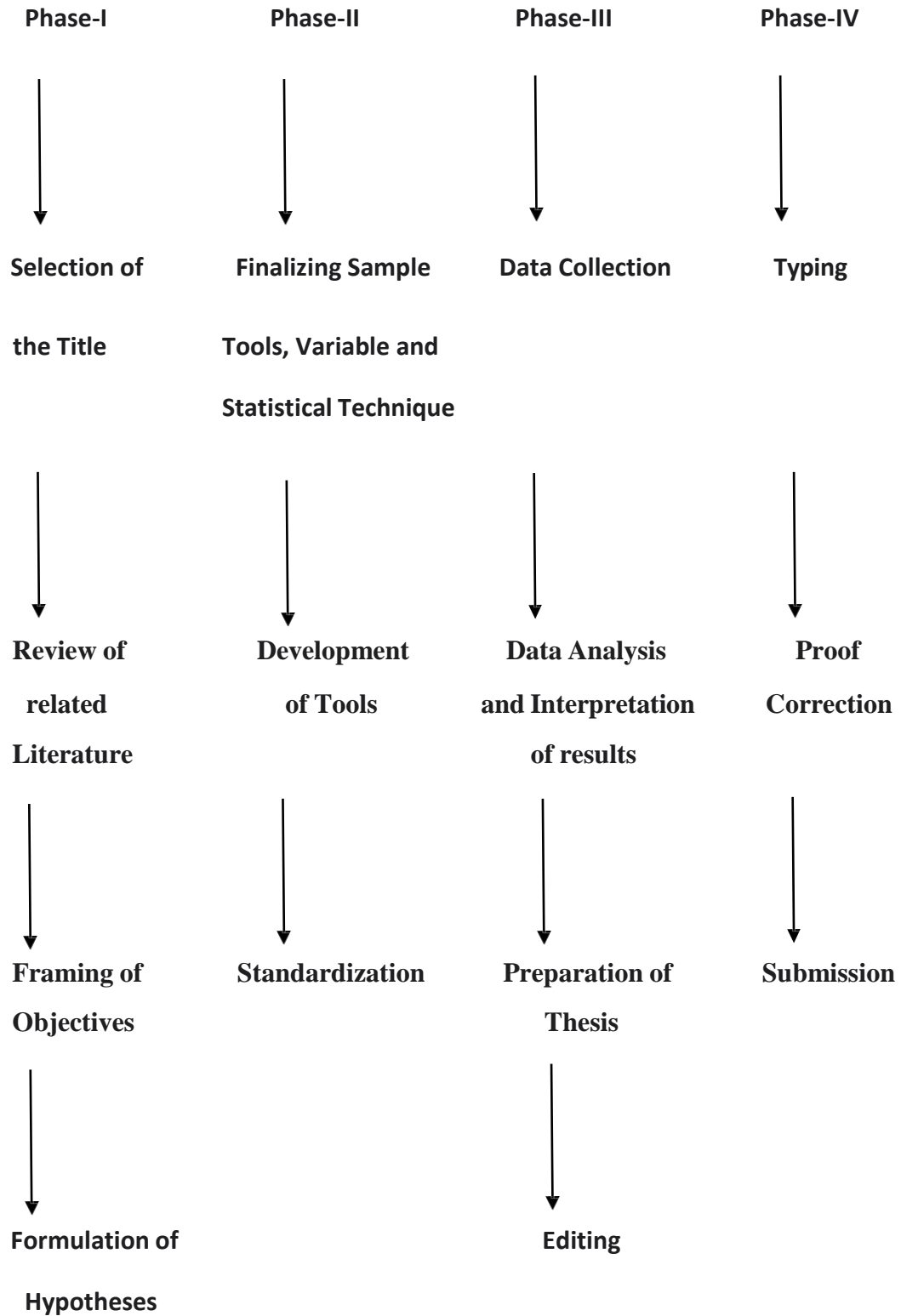
1. Conclusion from previous studies
2. Explanations, rationale, theory or point of view
3. Questions, hypotheses, prediction models
4. Design of the study
5. Gathering data
6. Analysis of data

7. Summarization
8. Conclusions
9. Reporting of study

3.3.2.a. RESEARCH DESIGN ADOPTED IN THIS STUDY

The investigator in this present study adopts the survey techniques of research. Considering the stages involved in survey and the steps suggested by David Krathwohl, the design for the present study has been finalized. After confirming the title, the tools were selected and developed. The data were collected from as sample 300 students. The collected data were statically, analyzed and conclusions were drawn. The research has been carried out in four phases as follows:

3.1. Flow chart of Research Design



3.3.3. POPULATION

Population includes all the elements from the data set and measurable characteristics of the population such as mean and standard deviation are known as a parameter.

There are different types of population. They are:

- Finite Population
- Infinite Population
- Existent Population
- Hypothetical Population

All the students, those are studying in Aruppukkottai Block of Class IX in Higher Secondary Schools (Government and Aided schools) of Virudhunagar district is considered as the population.

3.3.4. SAMPLE

Sample includes one or more observations that are drawn from the population and the measurable characteristic of a sample is a statistic. Sampling is the process of selecting the sample from the population. For example, some people living in India is the sample of the population.

Basically, there are two types of sampling. They are:

- Probability sampling
- Non-probability sampling

3.3.4.a. PROBABILITY SAMPLING

Improbability sampling, the population units cannot be selected at the discretion of the researcher. This can be dealt with following certain procedures which will ensure that every unit of the population consists of one fixed probability being included in the sample. Such a method is also called random sampling. Some of the techniques used for probability

sampling are:

Simple random sampling

Cluster sampling

Stratified Sampling

Disproportionate sampling

Proportionate sampling

Optimum allocation stratified sampling

Multi-stage sampling

3.3.4.b. NON-PROBABILITY SAMPLING

In non-probability sampling, the population units can be selected at the discretion of the researcher. Those samples will use the human judgements for selecting units and has no theoretical basis for estimating the characteristics of the population. Some of the techniques used for non- probability sampling are;

Quota sampling

Judgement sampling

Purposivesampling

3.3.4.c. . SAMPLING TECHNIQUE ADOPTED FOR THIS STUDY

Simple random sampling technique had been adopted for sample selection of this study. In Aruppukkottai Block IX standard Higher Secondary students in Virudhunagar district, consists as the sample. From the block, the investigator randomly selected Government and Government Aided Higher secondary schools as the sample. Totally, the investigator selected 15 higher secondary schools in Aruppukkottai block. In each school 20 IX standard students were selected as the sample.

3.3.4.d. SAMPLE DISTRIBUTION

Table:3.1List of Schools where the Investigator Collected the Sample

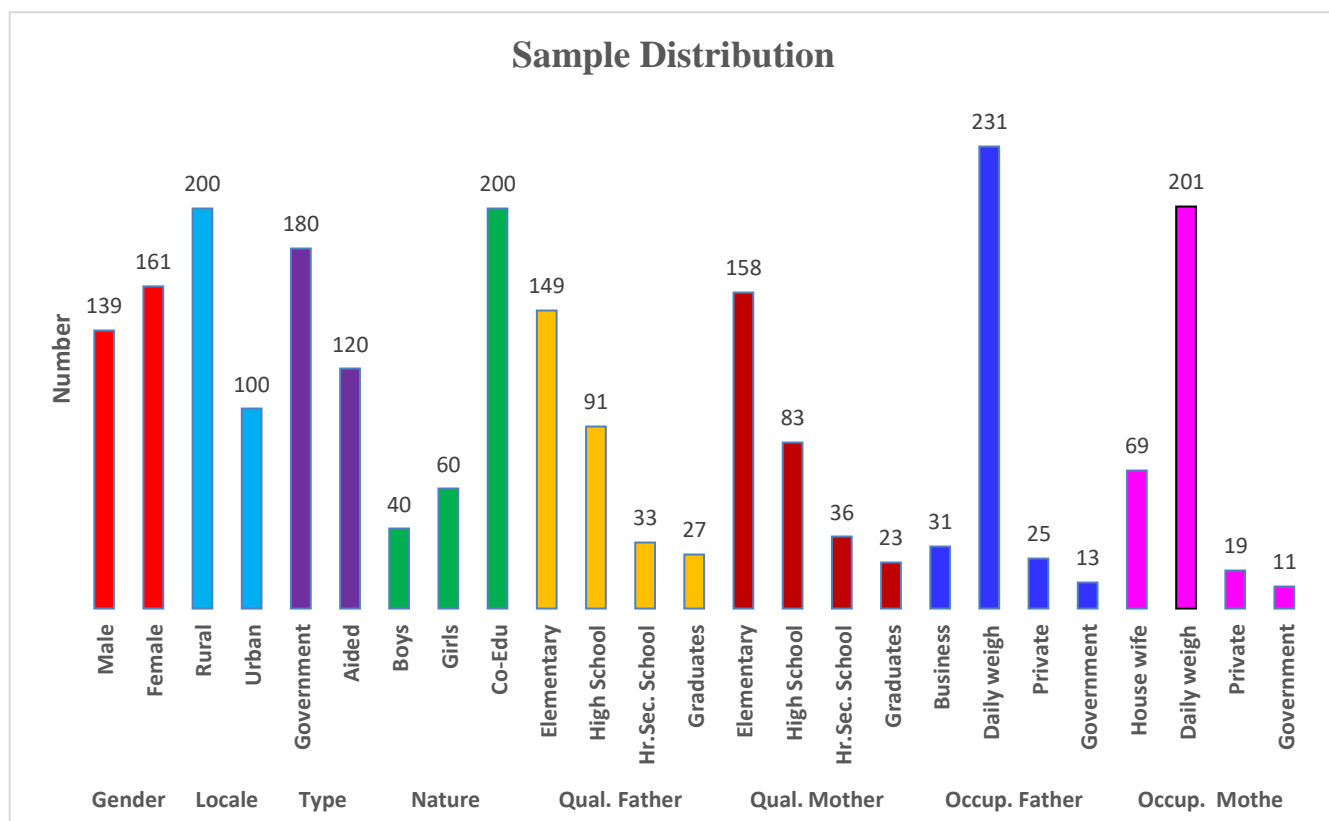
S.No	Name of the School Aruppukkottai Block	No. of Student
1.	Govt. Boys Hr. Sec. School, Pandalkudi	20
2	Govt. Girls Hr. Sec. School, Pandalkudi	20
3	Govt. Hr. Sec. School, Palavanaththam	20
4	Govt. Hr. Sec. School, Chettikurichi	20
5	Govt. Hr. Sec. School, Veerarpatti	20
6	Al-Amen Hr. Sec. School, Aruppukkottai	20
7	SBK., Girls Hr. Sec. School, Aruppukkottai	20
8	SBK., Boys Hr. Sec. School, Aruppukkottai	20
9	Devangar Boys Hr. Sec. School, Aruppukkottai	20
10	Devangar Girls Hr. Sec. School, Aruppukkottai	20
11	STRN., Govt. Hr. Sec. School, Aruppukkottai	20
12	Govt. Hr. Sec. School, Malaipatti	20
13	Govt. Hr. Sec. School, Vellaiyapuram	20
14	Govt. Hr. Sec. School, Kurunthamadam	20
15	Govt. Hr. Sec. School, Chempatti	20
	Total	300

3.3.4.e. SAMPLE DISTRIBUTION

Table:3.2. Distribution of Sample in the term of background Variables for the IX class students

S.No.	Variables	Category	Number
1.	Gender	Male	139
		Female	161
2.	Locality of the school	Rural	200
		Urban	100
3.	Type of the school	Government	180
		Aided	120
4.	Nature of the school	Boys	40
		Girls	60
		No	200
5.	Qualification of Father	Elementary	149
		High School	91
		Hr.Sec. School	33
		Graduates	27
6.	Qualification of Mother	Elementary	158
		High School	83
		Hr.Sec. School	36
		Graduates	23
7.	Father's Occupation	Business	31
		Daily weigh	231
		Private	25
		Government	13
8.	Mother's Occupation	House wife	69
		Daily weigh	201
		Private	19
		Government	11

GRAPH:3.1. DISTRIBUTION OF SAMPLE IN THE TERM OF BACKGROUND VARIABLES FOR STUDENTS



3.4. VARIABLES OF THE STUDY

Psychosomatic Health and Academic Achievement are the Major variables of this study. For the students' Psychosomatic Health and Academic Achievement for the various subjects like Tamil, English Mathematics, Science and Social Science are taken as the major variable in this study.

3.4.a. DEMOGRAPHIC VARIABLES

Demographic variables for the Teachers:

Gender	:Male / Female
Locality of the school	:Rural/ Urban
Nature of the school	:Boys/Girls/Co-Education
Type of the school	: Government / Aided
Father's Qualification	: Elementary /High / Hr. Sec. School / Graduate level
Mother's Qualification	: Elementary / High / Hr. Sec. School / Graduate level
Father's Occupation	: Business / Coolie / Private / Govt.
Mother's Occupation	: House wife/Coolie/Private/ Govt.

3.5. TOOL USED FOR THE STUDY

The tools of research are the instrument that provide for the collection of data upon which hypothesis may be tested. John Best observes, "Like the tools in a carpenter's box each research tool is appropriate in a given situation to accomplish a particular purpose." There are a large number of tools and techniques available for data collection in research. The selection of suitable tool is of vital important for successful completion of research. For the present study the investigator used the following tools. The investigator used the self-made tool for this study. The investigator prepared the tools and standardized the tool.

1. Psychosomatic Awareness Scale as the tool for the present study.
2. Academic achievement measured through students' Half yearly examination marks should be collected for all the subjects.

3.6. STUDENT'S ACHIEVEMENT TEST

The investigator collected the student's half yearly examination marks for all the subjects from Tamil, English, Maths, Science and Social Science subjects. These marks helped to analyse the student's physical and mental health and also it helped to relate the psychosomatic health and academic achievement.

3.7. AWARENESS SCALE ON PSYCHOSOMATIC HEALTH

The student's awareness scale on psychosomatic health contained 33 items intended for the pilot study was administered to a total number of 2 higher secondary schools of 30 students studying IX standard in Aruppukkottai Block in Virudhunagar district, Tamilnadu. The following schools were selected for the pilot study:

1. Government Boys Higher Secondary School, Aruppukkottai
2. Al-Amen Higher Secondary School, Aruppukkottai

3.8. ITEM ANALYSIS

Item analysis is a statistical technique which is used for selecting and rejecting the items of the test on the basis of their difficulty index and discriminating power.

3.8.1. Objectives of Item analysis

1. To select appropriate items for the final draft.
2. To obtain the information about the difficulty index of all the items.
3. To provide discriminating power to differentiate between capable and less capable examinees for the items.
4. To provide modification to be made in some of the items
5. To prepare the final draft properly (easy to difficult items)

3.8.2. Steps of Item Analysis

1. Arrange the scores in descending order.
2. Separate the two sub groups of the test paper.
3. Take 27% of the scores out of the highest scores and 27% of the scores falling at bottom.
4. Count the number of right answers in highest group and count the number of right answers in the lowest group.

3.8.3. Difficulty Index(DI)

Difficulty index is the index which describes the percentage of students who attempted a particular test item correctly. Higher the difficulty index, easier the item is considered.

3.8.4. General Guidelines for Difficulty index:

1. Low difficulty index value means that the item is highly difficult one.
2. Highly difficulty index value means that the item is easy one.

DI	Item Evaluation
0.2-0.3	Most Difficult
0.3-0.5	Difficult
0.4-0.6	Moderate
0.6-0.7	Easy
0.7-0.8	Most Easy

3.8.5. Discriminating Power DP)

Item discrimination shows whether the test items differ between people of varying degrees of knowledge and abilities. It may be defined as the percentage of the “High” group passing the item minus the percentage of the “Low” group passing the same item. The discriminating power of a test item refers to the degree to which success or failure of an item indicates possession of the ability being measured. In other words, the ability of the

test items measures the better and poorer examinees of items. The index of discriminating power (DP) indicates the degree to which an item discriminates between high and low achievers on a single administration of the test.

3.8.5.a. Types of Discriminating Power:

1. Zero discrimination / no discrimination
2. Positive discrimination
3. Negative discrimination

3.8.5.b. Zero Discrimination:

The item of the test is answered correctly or the answers are known by all the examinees. An item is not answered correctly by any of the examinees.

3.8.5.c. Positive Discrimination:

An item is correctly answered by the superiors and is not answered correctly by inferiors.

3.8.5.d. Negative Discrimination:

An item is correctly answered by inferiors and is not answered correctly by superiors.

3.8.5.e. General Guidelines for Discriminating Power:

According to Ebel,

DP	Item Evaluation
≥ 0.4	Very Good items
0.3-0.39	Reasonably Good but subject to improvement
0.2-0.29	Marginal items, need improvement
≤ 0.19	Poor items rejected/revised

3.9. Relationship between Difficulty Index and Discriminating Power:

1. Both Difficulty index and Discriminating power are complimentary not contradictory

to each other.

2. Both should consider in selecting good items.
3. If an item has negative Discriminating Power or zero discrimination is to be rejected whatever the difficulty index.

3.9.1. Criteria for selection and rejection of items:

1. Positive Discriminating Power only selected.
2. Negative and Zero Discriminating Power items are rejected.
3. High and Low Difficulty index items are rejected.

3.9.1.a. Procedure followed for Item Analysis:

The investigator began item analysis after the test item had been evaluated. The evaluated test papers were arranged from high achievers to low achievers. The top 27% and the lowest 27% scored papers were taken for item analysis from the group upon which test was administered. For each individual item the number of examinees and their response were counted separately for higher and lower groups respectively.

The response sheet was arranged in descending order of total marks obtained by the students. The first 27 and last 27 response sheets were selected for item analysis. The difficulty index and discriminating power were calculated using the formula given below.

$$D.I = \frac{U+L}{2N}$$
$$D.P = \frac{U-L}{N}$$

where,

U=Number of students who gave correct response to the items in the upper group.

L=Number of students who gave correct response to the items in the lower group.

N=Number of students in each group.

3.9.1.b. SELECTION OF ITEMS FOR THE FINAL TEST

The items having both difficulty index between 0.3 to 0.7 and discriminating power

above 0.4 was selected for the final test. Other items were rejected from the final test. The final test contained only 25 items after eliminating the items that failed to satisfy here required criteria. The final test was administered on a respective sample of 30 students; the reliability of the achievement was tested. A copy of the students' achievement test is given in an appendix.

Table3.3. Result of item analysis

Item No	D.I	D.P	Remarks
1	0.700	0.500	selected
2	0.523	0.955	selected
3	0.700	0.500	selected
4	0.341	0.309	rejected
5	0.659	0.682	selected
6	0.659	0.682	selected
7	0.273	0.091	rejected
8	0.700	0.500	selected
9	0.136	0.000	rejected
10	0.697	0.545	selected
11	0.636	0.727	selected
12	0.341	0.409	selected
13	0.432	0.682	selected
14	0.695	0.591	selected
15	0.455	0.455	selected
16	0.318	0.545	selected
17	0.250	0.318	rejected
18	0.523	0.409	selected
19	0.364	0.305	rejected
20	0.432	0.682	selected
21	0.159	-0.23	rejected

22	0.695	0.409	selected
Item No	D.I	D.P	Remarks
23	0.477	0.773	selected
24	0.523	0.409	selected
25	0.432	0.682	selected
26	0.636	0.727	selected
27	0.455	0.909	selected
28	0.432	0.591	selected
29	0.341	0.382	rejected
30	0.523	0.409	selected
31	0.083	-0.033	rejected
32	0.432	0.591	selected
33	0.697	0.545	selected

Scoring procedure

The final test question paper consists of 25 items. The investigator had given the items in four choices. The respondents need to tick the relevant appropriate choice. The responses were evaluated by the investigator.

Scores Levels

21 and above : High level of Achievement

11 to 20 : Average level of Achievement

10 and below : Low level of Achievement

3.10. VALIDATION OF THE AWARENESS SCALE ON PSYCHOSOMATIC HEALTH

Validity refers to the degree to which a test measures the same for which it is made. Anastasi (1968) said, "The validity of a test concerns what the test measures and how well

it does so". The test is valid if the scores it assigns to examinees are free from constant and systematic errors and hence the inference based on these scores was justified. The content validity of the scale refers to the extent to which the scale contains a representative sample of items, which define the content domain of interest.

Copies of this scale were given to Dr. S. Rasul Mohideen, Professor, VOC., College of Education, Tuticorin, Dr. Bakda vatchalam, Assistant Professor, Gandhi Ghram University, Dindugal, Dr. S. Usha Parvathi, Assistant Professor, VOC., College of Education, Tuticorin and the language correction made by Mr. X. Vinoth, BT Assistant in English, Panchayat Union Middle School, Vowalthothi experts. The experts were requested to judge the relevance of each item in the scale and to critically examine them to ascertain the adequacy and clarity of the items. Based on the opinion of the content experts, suitable modifications were made.

3.11. RELIABILITY OF THE AWARENESS SCALE ON PSYCHOSOMATIC HEALTH

"The reliability of a test or any measuring instrument depends upon the consistency with which it gauges the ability to which it is applied" (H.E. Garret, 1986). Reliability is the degree to which a test consistently measures whatever it is measuring. There are a number of approaches to assess the reliability of a test. The choice of approach depends on the type of information one is seeking. The test scores can be interpreted when it possesses substantial internal consistency. A test is said to be internally consistent if all its items measure the same thing. To estimate the internal consistency of the test the split half method has been used.

3.11.1. Split-Half Method

It is the method of establishing internal consistency. Here the items are divided into two parts, odd and even. The coefficient of correlation is calculated for two halves of scores. The coefficient of correlation signifies the reliability of the half test. The coefficient of correlation for the whole test is then calculated by the Cronbach's Alpha Formula, which is

$$\alpha = \frac{N \cdot \bar{c}}{\bar{v} + (N-1) \cdot \bar{c}}$$

Where:

N-the number of items.

\bar{c} -average covariance between item-pairs.

\bar{v} - average variance.

By using the above formula reliability was found to be 0.851. Thus the scale has high reliability.

3.12. CONTENT VALIDITY

Copies of this questionnaire were given to Dr. S. Rasul Mohideen, Professor, VOC., College of Education, Tuticorin, Dr. Bakdavatchalam, Assistant Professor, Gandhi Ghram University, Dindugal, Dr. S. Usha Parvathi, Assistant Professor, VOC., College of Education, Tuticorin and the language correction made by Mr. X. Vinoth, BT Assistant in English, Panchayat Union Middle School, Vowalthothi experts. The experts were requested to judge the relevance of each item in the questionnaire and to critically examine them to ascertain the adequacy and clarity of the items. Based on the opinion of the content experts, suitable modifications were made.

3.13. TOOL ADMINISTRATION

After standardised the tool, the tool had administered personally by the investigator students to their respective schools. The instruction were carefully read out and explained to the students. They were instructed to respond for marking a tick mark in the appropriate answers.

3.13.1. STATISTICAL TECHNIQUE ADOPTED

The various statistical technique used for the study are Arithmetic Mean, Standard Deviation, Critical Ratio , ANOVA, Chi-Square Test and Correlation coefficient.

1. Arithmetic Mean

$$\bar{X} = A + \frac{\sum fd}{N} \times C$$

where,

- A – assumed mean
- f – frequency
- d – deviation from assumed mean
- N –total sample
- C –class interval

2. Standard Deviation

$$\sigma = CX \sqrt{\frac{\sum fd^2}{N} + \left(\frac{(\sum fd)^2}{N^2} \right)}$$

where,

- σ – Standard Deviation
- f – frequency C–
Class Interval
- d–deviation of score from assumed mean
- N– total sample

3. Critical Ratio

$$t = \frac{M_1 - M_2}{\sqrt{\frac{\sigma_1^2}{N_1} + \frac{\sigma_2^2}{N_2}}}$$

where,

M_1	– Arithmetic Mean of first sample
M_2	– Arithmetic Mean of second sample
σ_1	– Standard Deviation of first sample
σ_2	– Standard Deviation of second sample
N_1	– Total sample in the first group
N_2	– Total sample in the second group

4. ANOVA

$$\sigma^2 = \frac{\sum (x - \bar{x})^2}{n-1}$$

Where,

σ^2 =Variance

X=Values given in a set of data

\bar{x} =Mean of the data

n=Total number of the values

5. Chi-Square Test

$$\chi^2 = \sum \frac{(O-E)^2}{E}$$

Where,

O=Observed frequency

E=Expected frequency

Σ = Summation

6. Correlation coefficient

$$r = \frac{n(\sum xy) - (\sum x)(\sum y)}{\sqrt{[n\sum x^2 - (\sum x)^2][n\sum y^2 - (\sum y)^2]}}$$

where,

n –Quantity of Information

Σx – Total of the First Variable Value

Σy	–Total of the Second Variable Value
Σxy	–Sum of the Product of first & Second Value
Σx^2	– Sum of the Squares of the First Value
Σy^2	–Sum of the Squares of the Second Value

3.14. CONCLUSION

The overall aim of this study was to investigate the achievement and barriers of students and teachers in teaching and learning process during pandemic. This chapter has attained the methodology of the study, the procedure followed, the nature of the sample and the tool used. It describes the hypothesis to be tested and method of analysis planned. For the method of investigation, data analysis was found to be quite appropriate and effective. The next chapter deals with tables and analysis of data.

ANALYSIS AND INTERPRETATION OF DATA

4.1. INTRODUCTION

According to John W. Best (2009), “Statistics is a body of mathematical technique or process, for gathering, organizing and interpreting numerical data. Since research yields such quantitative data, statistics is a basic tool of measurement evaluation and research. It is used to describe the numerical data that are gathered. Statistical data describe group behaviours or group characteristics abstracted from a number of individual observations which are combined to make generalizations possible.”

The chapter deals with analysis and interpretation of data. It is one of the skilled tasks in the research process. The data collected through the tool, however reliable and valid it may be needed to be systematized, organized, analyzed, intelligently interpreted and rationally concluded. Thus the statically analyzed data should be placed in the form of tables in order in facilitate comparisons.

4.2. ANALYSIS OF DATA

Analysis of data is the heart of the research report. The data must be carefully edited. Otherwise, it will not serve any worthwhile purpose, however adequate, valid and reliable it may be. It has to be systematically classified and tabulated, scientifically analysed, intelligently interpreted and rationally concluded.

4.3 ANALYSIS AND INTERPRETATION

Hypothesis:1

The level of awareness on psychosomatic health of adolescent students in higher secondary schools are moderate.

Table :4.3.1

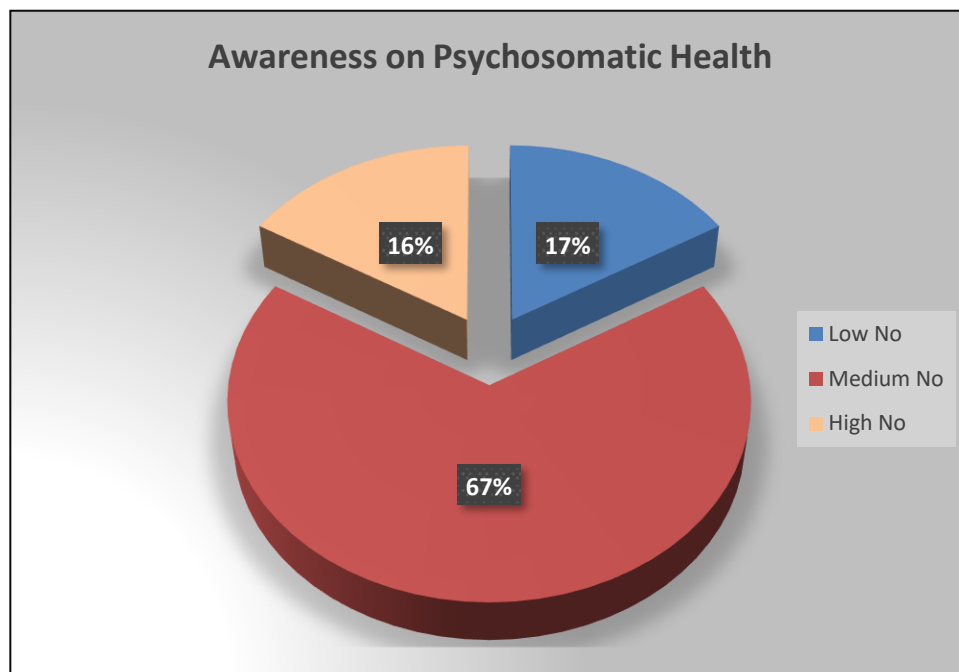
Table showing the level of awareness on psychosomatic health of adolescent students in higher secondary schools

Variables	Category	No.	Low		Medium		High	
			No	%	No	%	No	%
Gender	Male	139	27	19.4	94	67.6	18	12.9
	Female	161	22	13.7	108	67.1	31	19.3
Locality	Rural	200	45	22.5	124	62.0	31	15.5
	Urban	100	4	4.0	79	79.0	18	18.0
School Type	Govt	180	37	20.6	116	64.4	27	15.0
	Aided	120	12	10.0	86	71.7	22	18.3
School Nature	Boys	40	5	12.5	31	77.5	4	10
	Girls	60	3	8	43	71.7	14	23.3
	Co-Edu.	200	41	20.5	128	64	31	15.5
Qualification of Father	Elementary	149	18	12.1	105	70.5	26	17.4
	High	91	16	17.6	59	64.5	16	17.6
	Hr. Sec	33	12	36.4	17	51.5	4	12.1
	Degree	27	3	11.1	21	77.8	3	11.1
Qualification of Mother	Elementary	158	29	18.4	105	66.5	24	15.2
	High	83	10	12	57	68.7	16	19.3
	Hr. Sec	36	7	19.4	23	63.9	6	16.7
	Degree	23	3	13	17	73.9	3	13
Vocation of Father	Business	31	6	19.4	20	64.5	5	16.1
	Daily weigh	231	37	16	153	66.2	41	17.7
	Private	25	2	8	22	88	1	4
	Govt	13	4	30.8	7	53.8	2	15.4
Vocation of Mother	House wife	69	10	14.5	46	66.7	13	18.8
	Coolie	201	36	17.5	132	65.7	33	16.4
	Private	19	2	10.5	17	89.5	0	0
	Govt	11	1	9.1	7	63.6	3	27.3
Total		300	49	16.3	202	67.4	49	16.3

It is inferred that, the table shows 67.4% (N=202) of students have medium level of awareness on psychosomatic health, 16.3% (N=49) of the students have low level and high level of awareness on psychosomatic health. This table also shows that the level of awareness on psychosomatic health of adolescent students in higher secondary schools are moderate.

Figure4.3.1

Pie diagram showing the percentage analysis in the level of awareness on psychosomatic health of adolescent students



Hypothesis:2

The level of awareness on psychosomatic health of the adolescent students in higher secondary school in the dimensions namely physical and mental health are moderate.

Table :4.3.2

Table showing the level of awareness on psychosomatic health of the adolescent students in higher secondary school in the dimensions namely physical and mental health

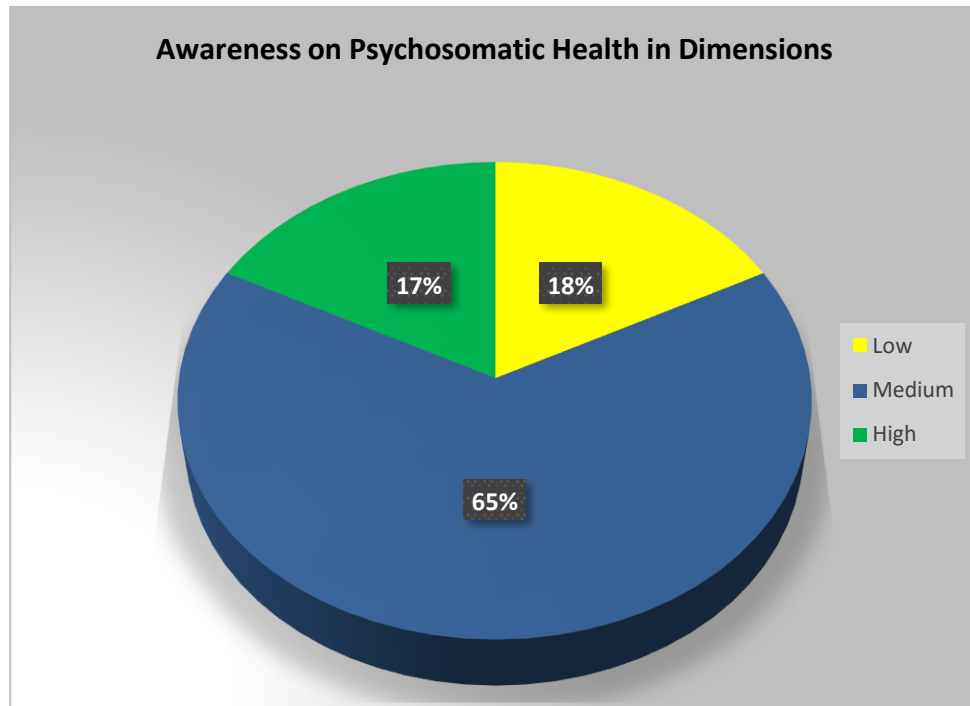
Variables	Dimensions	Category	No.	Low		Medium		High	
				No	%	No	%	No	%
Gender	Mental health	Male	139	30	21.6	99	64	20	14.4
		Female	161	22	13.7	107	66.5	22	19.9
	Physical Health	Male	139	28	20.3	88	63.3	23	16.5
		Female	161	23	14.3	116	72	22	13.7
Locality	Mental health	Rural	200	36	18	12.7	63.5	37	18.5
		Urban	100	16	16	69	69	15	15
	Physical Health	Rural	200	43	21.5	12.7	63.5	30	15
		Urban	100	8	8	77	77	15	15
School Type	Mental health	Govt	180	33	18.3	12.7	63.5	37	18.5
		Aided	120	19	15.8	81	67.5	20	16.7
	Physical Health	Govt	180	38	21.1	110	61.1	32	71.1
		Aided	120	13	10.8	94	78.3	13	71.1
Nature of School	Mental health	Boys	40	10	23	23	57.5	7	17.5
		Girls	60	5	83	43	71.7	12	20
		Co-Edu.	200	37	18.5	130	65	33	16.5
	Physical Health	Boys	40	7	17.5	28	70	5	12.5
		Girls	60	6	10.8	48	80	6	10
		Co-Edu.	200	38	14	128	64	34	17
Qualification of Father	Mental health	Elementary	149	23	13.4	100	67.1	26	17.4
		High	91	18	19.8	56	61.5	17	18.7
		Hr. Sec	33	7	21.2	21	63.6	5	13.2
		Degree	27	4	14.8	19	70.4	4	14.8
	Physical Health	Elementary	149	26	17.4	99	66.4	24	16.1
		High	91	16	17.8	60	65.9	15	16.5
		Hr. Sec	33	7	21.2	21	63.6	5	15.2
		Degree	27	2	7.4	24	88.9	1	3.7
	Mental health	Elementary	158	28	17.7	101	63.9	29	18.4

Qualification of Mother		High	83	15	18.1	54	65.1	14	16.9
		Hr. Sec	36	7	19.4	2.6	72.2	3	8.3
		Degree	23	2	9.7	15	65.2	6	26.1
	Physical Health	Elementary	158	31	19.5	10.3	65.2	24	15.2
		High	83	12	14.5	59	71.7	12	14.5
		Hr. Sec	36	6	16.7	22	61.1	8	22.2
		Degree	23	2	8.7	22	67	1	4.3
Fathers' Occupation	Mental health	Daily weighs	31	5	16.1	21	67.7	5	16.1
		Coolie	231	37	16	15.1	65.4	43	18.6
		Private	25	5	20	17	68	3	12
		Govt	13	5	38.5	7	53.8	1	7.7
	Physical Health	Daily weighs	31	3	9.7	24	77.4	4	12.9
		Coolie	231	43	18.6	130	64.9	38	16.5
		Private	25	2	8	22	88	1	4
		Govt	13	3	23	8	61.5	2	15.4
Mothers' Occupation	Mental health	House wife	69	12	17.4	46	66.7	11	15.3
		Coolie	201	37	18.4	13	64.7	34	16.9
		Private	19	0	0	15	78.9	4	21.1
		Govt	11	3	27.3	5	45.5	3	27.3
	Physical Health	House wife	69	11	13.9	40	69.6	10	14.5
		Coolie	201	37	18.4	131	65.2	33	16.4
		Private	19	3	15.8	16	84.2	7	13.2
		Govt	11	1	2	9	81.8	2	18.2
	Total		300	52	17.3	196	65.3	52	17.3

It is inferred that, the table shows 65.3% (N=196) of students have medium level of awareness on psychosomatic health in the dimension level, 17.3% (N=52) of the students have low level and high level of awareness on psychosomatic health in the dimension. This table also shows that the level of awareness on psychosomatic health in the dimensions of physical and mental health of adolescent students in higher secondary schools are moderate.

Figure4.3.2

Bar diagram showing the percentage analysis the level of awareness on psychosomatic health of the adolescent students in higher secondary school in the dimensions namely Physical and Mental health



Hypothesis:3

There is no significant difference between the awareness on psychosomatic health of the adolescent students in higher secondary schools and in the dimensions of physical and mental health with respect to gender

Table :4.3.3

‘t’ - test showing the mean differences of the awareness on psychosomatic health of the adolescent students in higher secondary schools and in the dimensions of physical and mental health with respect to gender

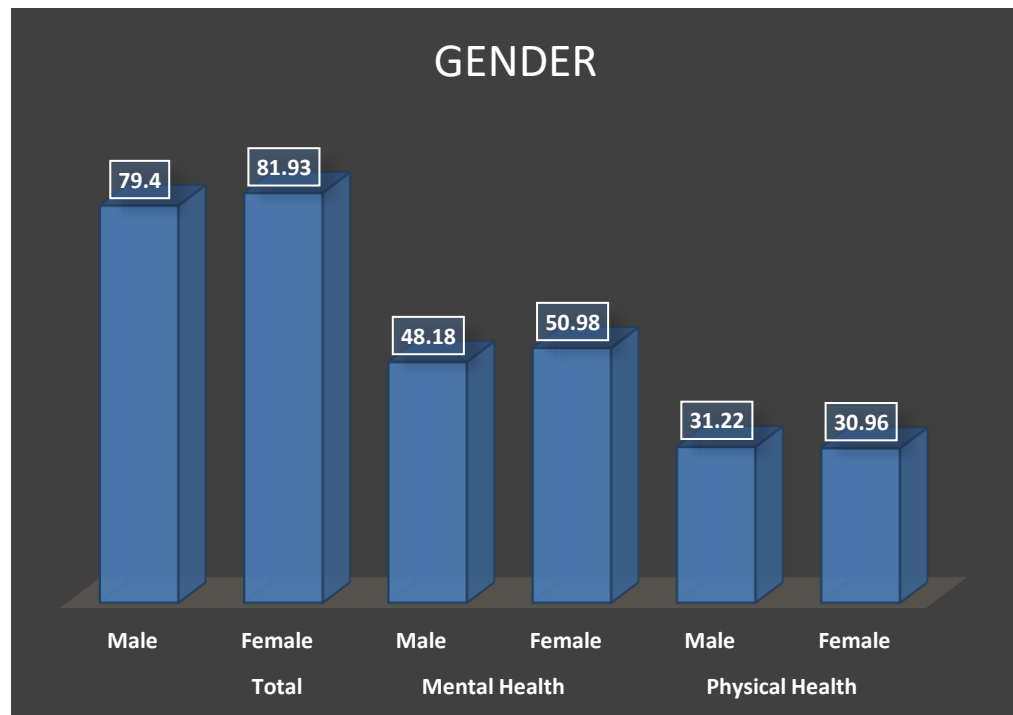
Variable Psychosomatic Health	Gender	No.	Mean	SD	‘t’ Value	Remark
Psychosomatic Health in Total	Male	139	79.40	9.063	2.379	Significant
	Female	161	81.93	9.319		
Mental Health	Male	139	48.18	11.353	2.092	Significant
	Female	161	50.98	11.753		
Physical Health	Male	139	31.22	13.402	0.177	Not Significant
	Female	161	30.96	12.507		

From the above table, it is inferred that the calculated ‘t’ value (2.379, 2.092) is greater than the table value of both total psychosomatic health and in the dimension mental health, in this female have more awareness on psychosomatic health than the male students. So, there are significant differences between psychosomatic health in total and in the dimension mental health, it is significant at 0.05 level with respect to the variable gender.

But there is no significant difference in Physical health of the adolescent students in awareness on psychosomatic health even at 0.05% level. Because, the calculated ‘t’ value is less than the table value.

Figure4.3.3

Bar diagram showing the mean differences of the awareness on psychosomatic health of the adolescent students in higher secondary schools and in the dimensions of physical and mental health with respect to gender



Hypothesis:4

There is no significant difference between the awareness on psychosomatic health of the adolescent students in higher secondary schools and in the dimensions of physical and mental health with respect to locality

Table :4.3.4

‘t’ - test showing the mean differences of the awareness on psychosomatic health of the adolescent students in higher secondary schools and in the dimensions of physical and mental health with respect to locality

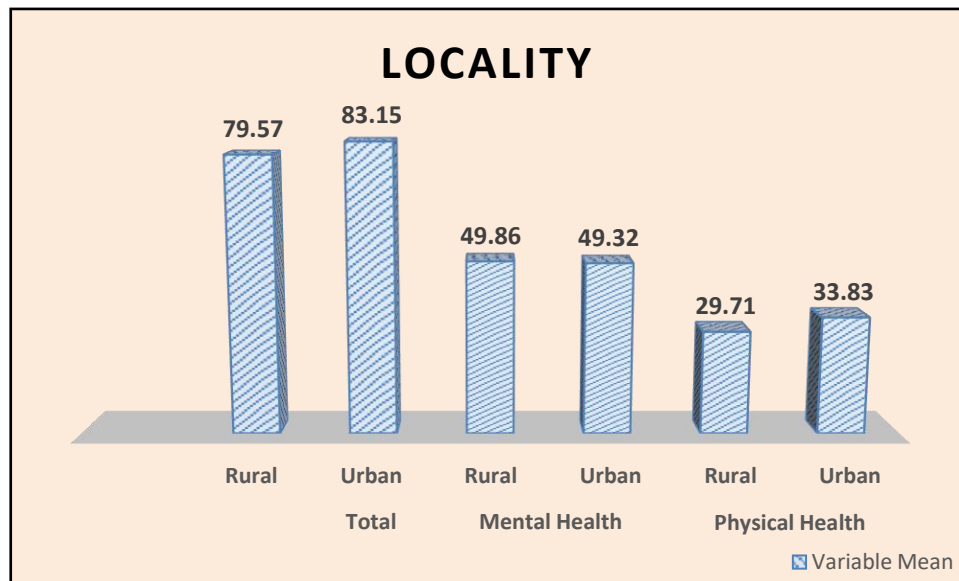
Variable Psychosomatic Health	Locality	No.	Mean	SD	‘t’ Value	Remark
Psychosomatic Health in Total	Rural	200	79.57	9.523	3.357	Significant
	Urban	100	83.15	8.287		
Mental Health	Rural	200	49.86	12.124	0.397	Significant
	Urban	100	49.32	10.636		
Physical Health	Rural	200	29.71	13.132	2.712	Not Significant
	Urban	100	33.83	12.046		

From the above table, it is inferred that the calculated ‘t’ value (3.357, 2.712) is greater than the table value of both total psychosomatic health and in the dimension physical health, in this male have more awareness on psychosomatic health than the female students. So, there are significant differences between psychosomatic health in total and in the dimension of physical health, it is significant at 0.05levelwithrespecttothe variable locality.

But there is no significant difference in Mental health of the adolescent students in awareness on psychosomatic health even at 0.05% level. Because, the calculated ‘t’ value is less than the table value.

Figure4.3.4

Bar diagram showing the mean differences of the awareness on psychosomatic health of the adolescent students in higher secondary schools and in the dimensions of physical and mental health with respect to locality



Hypothesis:5

There is no significant difference between the awareness on psychosomatic health of the adolescent students in higher secondary schools and in the dimensions of physical and mental health with respect to type of school.

Table :4.3.5

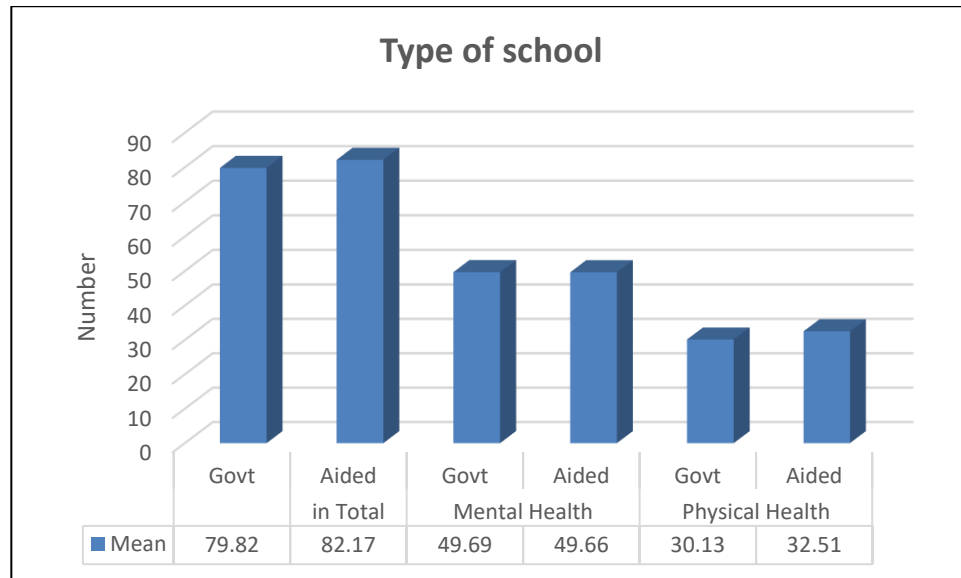
‘t’ - test showing the mean differences of the awareness on psychosomatic health of the adolescent students in higher secondary schools and in the dimensions of physical and mental health with respect to type of school

Variable Psychosomatic Health	Type of School	No.	Mean	SD	‘t’ Value	Remark
Psychosomatic Health in Total	Govt	180	79.82	9.739	2.225	Significant
	Aided	120	82.17	8.365		
Mental Health	Govt	180	49.69	12.148	0.027	Significant
	Aided	120	49.66	10.868		
Physical Health	Govt	180	30.13	13.826	1.633	Not Significant
	Aided	120	32.51	11.300		

From the above table, it is inferred that the calculated ‘t’ value (2.225) is greater than the table value of both in total psychosomatic health of the students, here government school students have more awareness on psychosomatic health than the aided school students. So, there is a significant difference in total psychosomatic health, it is significant at 0.05 level with respect to the variable type of the schools. But there is no significant difference in Mental and Physical health of the adolescent students in awareness on psychosomatic health even at 0.05% level. Because, the calculated ‘t’ value (0.027, 1.633) is less than the table value.

Figure4.3.5

Bar diagram showing the mean differences of the awareness on psychosomatic health of the adolescent students in higher secondary schools and in the dimensions of physical and mental health with respect to Type of school



Hypothesis:6

There is no significant difference in the awareness on psychosomatic health of the adolescent students among higher secondary schools and in the dimensions namely of physical and mental health with respect to nature of school.

Table :4.3.6

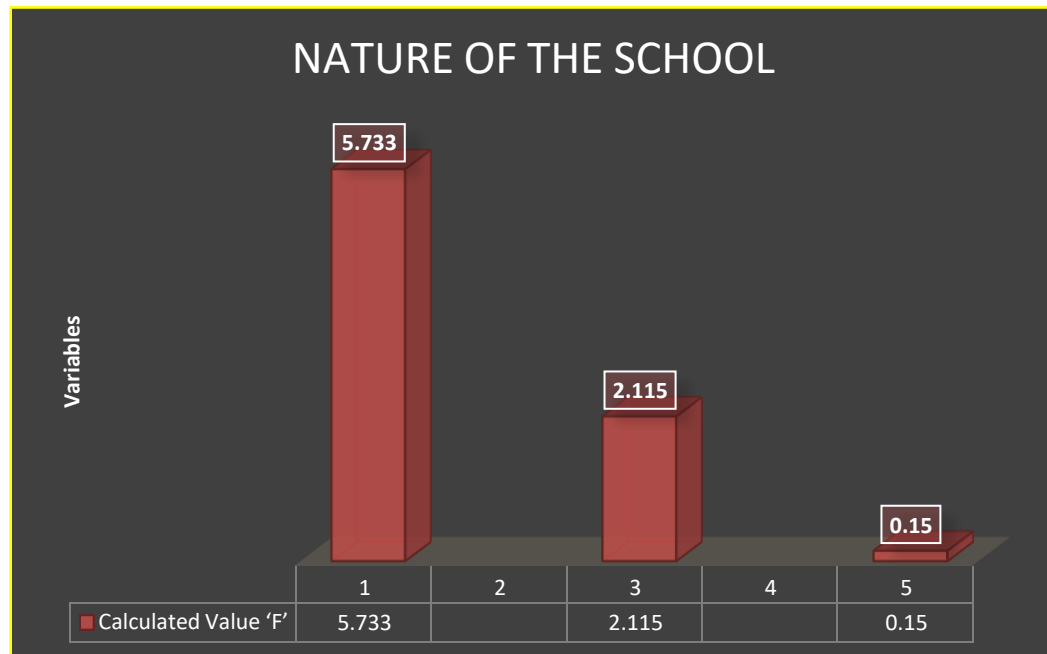
‘F’ - test showing the mean differences of the awareness on psychosomatic health of the adolescent students among higher secondary schools and in the dimensions namely of physical and mental health with respect to nature of school

Variable	Source of Variance	Sum of squares	df	Calculated Value ‘F’	Table value ‘F’	Remark
Nature of School in total	Between groups	955.342	2	5.733	12.59	Not Significant
	Within groups	24745.378	297			
Mental Health	Between groups	568.302	2	2.115	12.59	Not Significant
	Within groups	39900.978	297			
Physical Health	Between groups	50.430	2	0.150	12.59	Not Significant
	Within groups	49769.650	297			

The above table, it is inferred that, there is no significant difference among the Schools of Boys, Girls and Co-education schools of the students towards the awareness on psychosomatic health. Because, calculated ‘F’ value (5.733, 2.115, 0.150) is less than the table value (12.59), in the total and in the dimensions of Mental and Physical health. So, there is no significant difference even at 0.05 level.

Figure4.3.6

Bar diagram showing the mean differences of the awareness on psychosomatic health of the adolescent students among higher secondary schools and in the dimensions namely of physical and mental health with respect to nature of school



Hypothesis:7

There is no significant association between the awareness on psychosomatic health of the adolescent students in higher secondary schools in the dimensions namely physical and mental health with respect to Fathers' educational qualification.

Table :4.3.7

Association between Fathers' Educational Qualification of the adolescent student and the students' awareness on psychosomatic health in the dimensions namely physical and mental health

Variable Psychosomatic Health	df	Calculated χ^2 Value	Table Value	Remarks
Qualification of Father in Total	6	13.269	12.59	Significant
Mental Health	6	6.330	12.59	Not Significant
Physical Health	6	1.687	12.59	Not Significant

The above table, it is inferred that, there is a significant difference association between the Fathers' Educational Qualification in total on the awareness on psychosomatic health of the adolescent students. Calculated ' χ^2 ' value ($\chi^2 = 13.269$) of qualification of fathers' is more than the table value. So, there is a significant difference in the Fathers' Educational Qualification in total on the awareness on psychosomatic health of the adolescent students.

But in physical as well as mental health there is no significant difference in the variable Fathers' Educational Qualification on the awareness on psychosomatic health of the adolescent students. Because, calculated ' χ^2 ' value ($\chi^2 = 6.330, 1.687$) of qualification of fathers' is less than the table value even at 0.05 level.

Hypothesis:8

There is no significant association between the awareness on psychosomatic health of the adolescent students in higher secondary schools in the dimensions namely physical and mental health with respect to Mothers' educational qualification.

Table :4.3.8

Association between Mothers' Educational Qualification of the adolescent student and the students' awareness on psychosomatic health in the dimensions namely physical and mental health

Variable Psychosomatic Health	df	Calculated χ^2 Value	Table Value	Remarks
Qualification of Mother in total	6	2.667	12.59	Significant
Mental Health	6	4.237	12.59	Not Significant
Physical Health	6	6.667	12.59	Not Significant

The above table, it is inferred that, there is no significant difference association between the Mother's Educational qualification in total and in the dimensions Mental and Physical health in the awareness on psychosomatic health of the adolescent students. Because, ' χ^2 ' value (2.667, 4.237, 6.667) is less than the table value. So, there is no significant difference even at 0.05 level.

Hypothesis:9

There is no significant association between the awareness on psychosomatic health of the adolescent students in higher secondary schools in the dimensions namely physical and mental health with respect to Fathers' Occupation

Table :4.3.9

Association between Fathers' Occupation of the adolescent student and the students' awareness on psychosomatic health in the dimensions namely physical and mental health

Variable Psychosomatic Health	df	Calculated χ^2 Value	Table Value	Remarks
Fathers' Occupation in total	6	7.544	12.59	Not Significant
Mental Health	6	7.512	12.59	Not Significant
Physical Health	6	5.377	12.59	Not Significant

The above table, it is inferred that, there is no significant difference association between the Father's Occupation in total and in the dimensions Mental and Physical health in the awareness on psychosomatic health of the adolescent students. Because, ' χ^2 ' value (7.544, 7.512, 5.377) is less than the table value. So, there is no significant difference even at 0.05 level.

Hypothesis:10

There is no significant association between the awareness on psychosomatic health of the adolescent students in higher secondary schools in the dimensions namely physical and mental health with respect to Mothers' Occupation

Table :4.3.10

Association between Mothers' Occupation of the adolescent student and the students' awareness on psychosomatic health in the dimensions namely physical and mental health

Variable Psychosomatic Health	df	Calculated χ^2 Value	Table Value	Remarks
Mothers' Occupation in total	6	6.863	12.59	Not Significant
Mental Health	6	6.167	12.59	Not Significant
Physical Health	6	6.676	12.59	Not Significant

The above table, it is inferred that, there is no significant difference association between the Mother's Occupation in total and in the dimensions Mental and Physical health in the awareness on psychosomatic health of the adolescent students. Because, ' χ^2 ' value (6.863, 6.167, 6.676) is less than the table value. So, there is no significant difference even at 0.05 level.

Hypothesis:11

The level of academic achievement in various subjects of the adolescent students in higher secondary schools are moderate.

Table :4.3.11

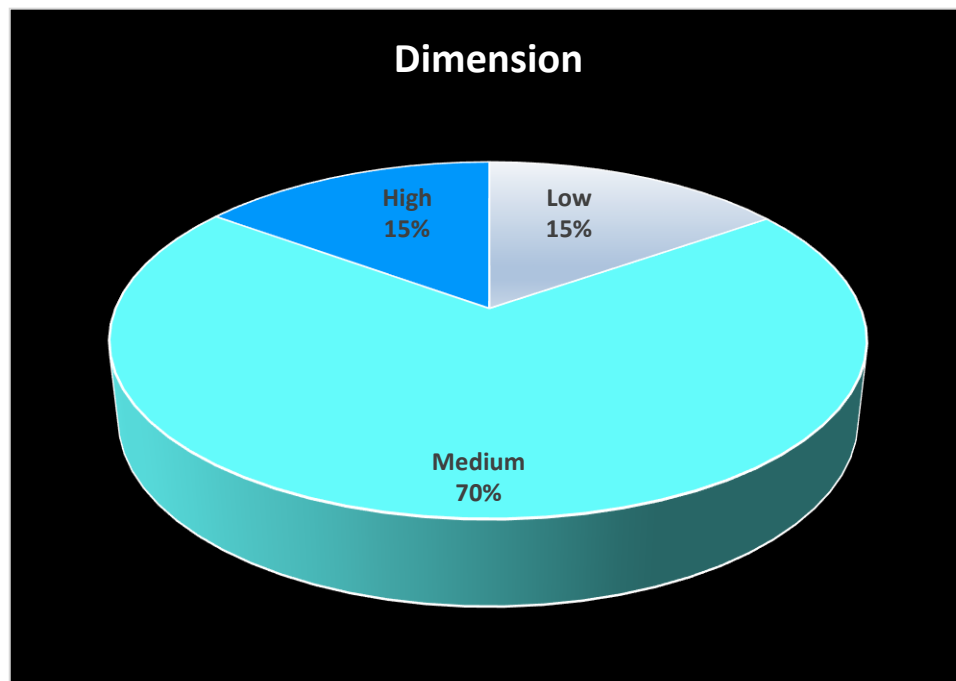
Table showing the level of academic achievement in various subjects of the adolescent students in higher secondary schools

Variables	Category	No.	Low		Medium		High	
			No	%	No	%	No	%
Gender	Male	139	25	18	91	65.5	23	16.5
	Female	161	21	13	118	73.3	22	13.7
Locality	Rural	200	31	15.5	141	70	28	14
	Urban	100	15	15	68	68	17	17
School Type	Govt	180	30	16.7	123	68.3	27	15
	Aided	120	18	13.5	86	71.7	18	15
School Nature	Boys	40	1	2.5	24	60	15	37.5
	Girls	60	7	11.7	41	68.3	12	20
	Co-Edu.	200	38	19	144	72	18	9
Qualification of Father	Elementary	149	26	17.4	108	72.5	15	10.1
	High	91	13	14.3	67	73.6	11	12.1
	Hr. Sec	33	5	15.2	27	63.6	7	21.2
	Degree	27	2	7.4	13	48.1	12	44.4
Qualification of Mother	Elementary	158	28	17.7	109	69	21	13.3
	High	83	13	15.7	62	74.7	8	9.6
	Hr. Sec	36	4	11.1	26	72.2	6	16.7
	Degree	23	1	4.3	12	52.2	10	43.5
Vocation of Father	Daily weighs	31	4	12.9	23	74.2	4	12.9
	Coolie	231	37	16	160	69.3	34	14.7
	Private	25	4	16	16	64	5	20
	Govt	13	1	7.7	10	76.9	2	15.4
Vocation of Mother	House wife	69	13	18.8	41	59.4	15	21.7
	Coolie	201	28	13.9	150	74.6	23	11.4
	Private	19	4	21.1	10	52.6	5	26.3
	Govt	11	1	9.1	8	72.7	2	18.2
Total		300	46	15.3	209	69.7	45	15

It is inferred that, the table shows 69.7% (N=209) of students have medium level of academic achievement in various subjects 15.3%, 15% (N=46, 48) of the students have low level and high level of academic achievement. This table also shows that the level academic achievement in various subjects of adolescent students in higher secondary schools are moderate.

Figure4.3.7

Pie diagram showing the percentage analysis in the level of academic achievement in various subjects of the adolescent students in higher secondary schools



Hypothesis:12

There is no significant difference between the academic achievement in various subjects of the adolescent students in higher secondary schools with respect to gender

Table :4.3.12

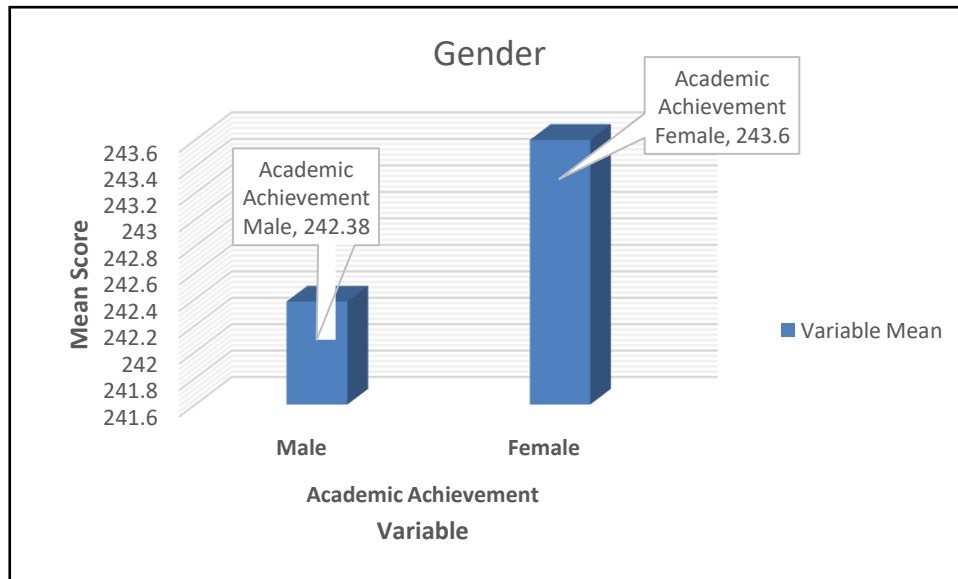
Table showing mean difference of the academic achievement in various subjects of the adolescent students in higher secondary schools with respect to gender

Variable	Gender	No.	Mean	SD	‘t’ Value	Remark
Academic Achievement	Male	139	242.38	86.766	0.130	Not Significant
	Female	161	243.60	77.954		

From the above table, it is inferred that the calculated ‘t’ value (0.130) is less than the table value of academic achievement in various subjects in higher secondary school students. So, there is no significant difference between academic achievement in various subjects in higher secondary school students, it is not significant at 0.05 level with respect to the variable gender.

Figure4.3.8

Bar diagram showing the mean difference of the academic achievement in various subjects of the adolescent students in higher secondary schools with respect to gender



Hypothesis:13

There is no significant difference between the academic achievement in various subjects of the adolescent students in higher secondary schools with respect to locality.

Table :4.3.13

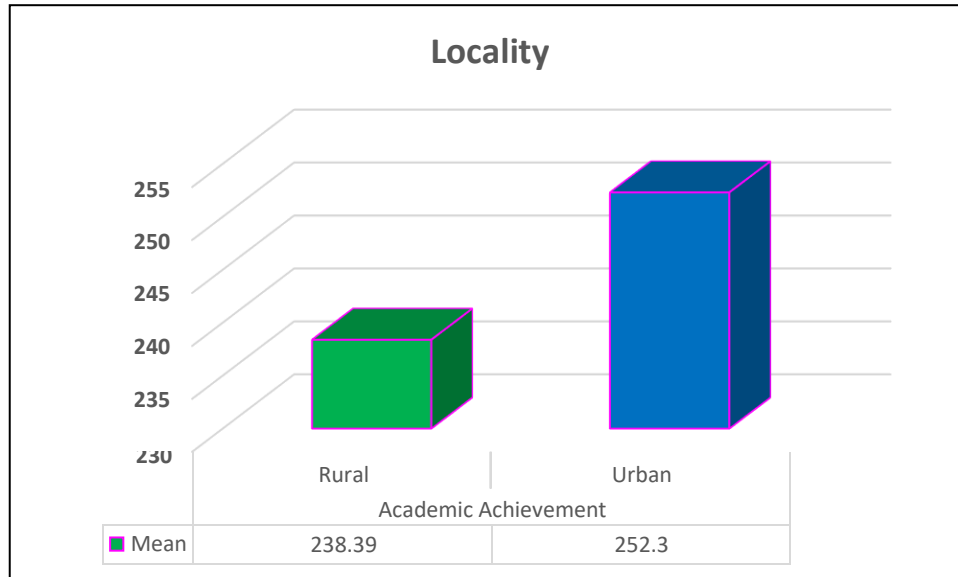
Table showing mean difference of the academic achievement in various subjects of the adolescent students in higher secondary schools with respect to locality

Variable	Locality	No.	Mean	SD	't' Value	Remark
Academic Achievement	Rural	200	238.39	97.482	1.348	Not Significant
	Urban	100	252.30	86.530		

From the above table, it is inferred that the calculated 't' value (1.348) is less than the table value of academic achievement in various subjects in higher secondary school students. So, there is no significant difference between academic achievement in various subjects in higher secondary school students, it is not significant at 0.05 level with respect to the variable locality.

Figure4.3.9

Bar diagram showing the mean difference of the academic achievement in various subjects of the adolescent students in higher secondary schools with respect to locality



Hypothesis:14

There is no significant difference between the academic achievement in various subjects of the adolescent students in higher secondary schools with respect to type of school.

Table :4.3.14

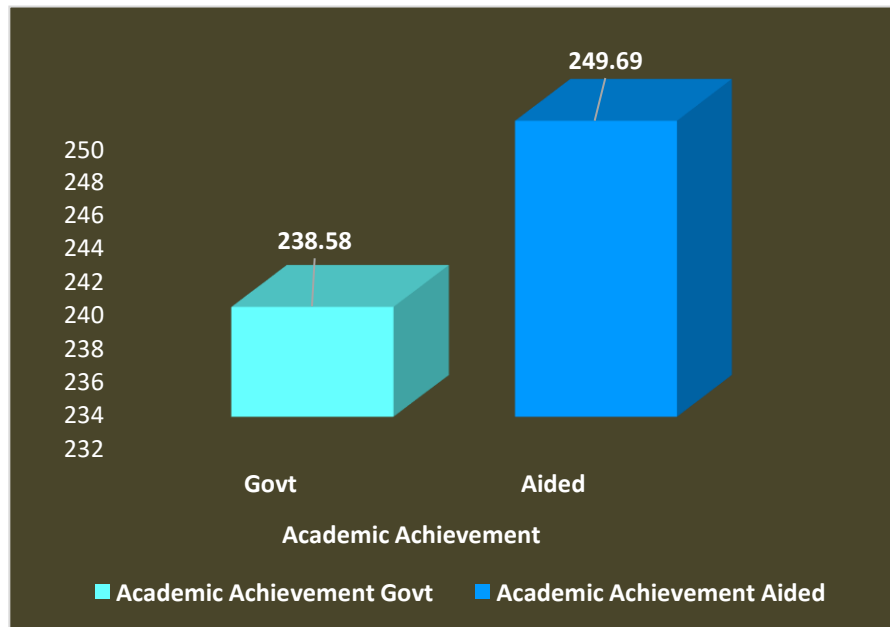
Table showing mean difference of the academic achievement in various subjects of the adolescent students in higher secondary schools with respect to type of school

Variable	Type of School	No.	Mean	SD	‘t’ Value	Remark
Academic Achievement	Govt	180	238.58	80.362	1.139	Not Significant
	Aided	120	249.69	80.339		

From the above table, it is inferred that the calculated ‘t’ value (1.139) is less than the table value of academic achievement in various subjects in higher secondary school students. So, there is no significant difference between academic achievement in various subjects in higher secondary school students, it is not significant at 0.05 level with respect to the variable type of school.

Figure4.3.10

Bar diagram showing the mean difference of the academic achievement in various subjects of the adolescent students in higher secondary schools with respect to type of school



Hypothesis:15

There is no significant difference the academic achievement in various subjects of the adolescent students among higher secondary schools with respect to nature of school.

Table :4.3.15

Table showing the mean difference of the academic achievement in various subjects of the adolescent students among higher secondary schools with respect to nature of school

Variable	Source of Variance	Sum of squares	df	Calculated Value 'F'	Table value 'F'	Remark
Nature of School	Between groups	351396.782	2	31.436	2.99	Significant
	Within groups	1659937.005	297			

The above table, it is inferred that, there is significant difference among the Schools of Boys, Girls and Co-education schools of the students in academic achievement. Because, calculated 'F' value (31.436) is more than the table value (2.99). So, there is significant difference at 0.05 level.

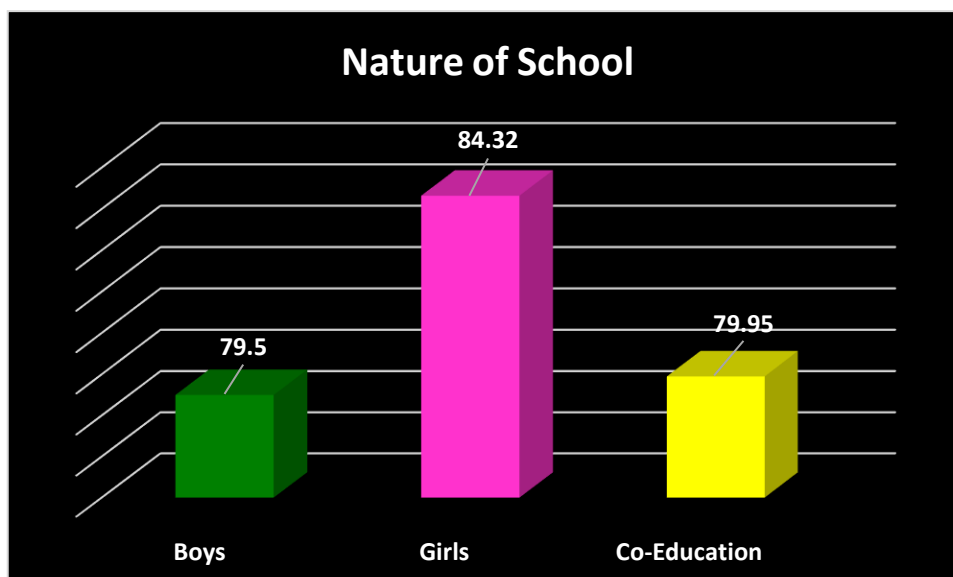
Post Hoc Test

Nature of School	No.	Subset Alpha=0.05
Boys	40	79.50
Girls	60	84.32
Co-Education	200	79.95

From the above, Post Hoc test proved that Girls schools' (84.32) adolescent students have high academic achievement than the students in Boys and Co-Educations school students.

Figure4.3.11

Bar diagram showing the mean difference of the academic achievement in various subjects of the adolescent students among higher secondary schools with respect to nature of school



Hypothesis:16

There is no significant association between the academic achievement in various subjects of the adolescent students in higher secondary schools with respect to Fathers' Educational Qualification.

Table :4.3.16

Table showing the significant association between the academic achievement in various subjects of the adolescent students in higher secondary schools with respect to Fathers' Educational Qualification

Variable Academic Achievement	df	Calculated χ^2 Value	Table Value	Remarks
Qualification of Father	6	23.336	12.59	Significant

The above table, it is inferred that, there is a significant difference in association between the Fathers' Educational Qualification in the academic achievement of the adolescent students. Because, ' χ^2 ' value (23.336) is greater than the table value. So, Fathers' Educational Qualification is significant difference at 0.05 level in the academic achievement of the adolescent students in the higher secondary schools.

Hypothesis:17

There is no significant association between the academic achievement in various subjects of the adolescent students in higher secondary schools with respect to Mothers' Educational Qualification.

Table :4.3.17

Table showing the significant association between the academic achievement in various subjects of the adolescent students in higher secondary schools with respect to Mothers' Educational Qualification

Variable Academic Achievement	df	Calculated χ^2 Value	Table Value	Remarks
Qualification of Mother	6	18.579	12.59	Significant

Educational Qualification in the academic achievement of the adolescent students. Because, ' χ^2 ' value (18.579) is greater than the table value. So, Mothers' Educational Qualification is significant difference at 0.05 level in the academic achievement of the adolescent students in the higher secondary school. The above table, it is inferred that, there is a significant difference in association between the Mothers' schools.

Hypothesis:18

There is no significant association between the academic achievement in various subjects of the adolescent students in higher secondary schools with respect Fathers' Occupation.

Table :4.3.18

Table showing the significant association between the academic achievement in various subjects of the adolescent students in higher secondary schools with respect to Fathers' Occupation

Variable Academic Achievement	df	Calculated χ^2 Value	Table Value	Remarks
Fathers' Occupation	6	1.523	12.59	Not Significant

The above table, it is inferred that, there is not significant difference in association between the Fathers' Occupation in the academic achievement of the adolescent students. Because, ' χ^2 ' value (1.523) is less than the table value. So, Fathers' Educational Qualification is significant difference at 0.05 level in the academic achievement of the adolescent students in the higher secondary schools.

Hypothesis:19

There is no significant association between the academic achievement in various subjects of the adolescent students in higher secondary schools with respect Mothers' Occupation.

Table :4.3.19

Table showing the significant association between the academic achievement in various subjects of the adolescent students in higher secondary schools with respect to Mothers' Occupation

Variable Academic Achievement	df	Calculated χ^2 Value	Table Value	Remarks
Mothers' Occupation	6	9.533	12.59	Not Significant

The above table, it is inferred that, there is not significant difference in association between the Mothers' Occupation in the academic achievement of the adolescent students. Because, ' χ^2 ' value (9.533) is less than the table value. So, Mothers' Occupation is significant difference at 0.05 level in the academic achievement of the adolescent students in the higher secondary schools.

Hypothesis: 20

There is no significant positive correlation between the awareness on psychosomatic health and academic achievement of the adolescent students in the higher secondary schools.

Table :4.3.20

Table showing the significant positive correlation between the awareness on psychosomatic health and academic achievement of the adolescent students in the higher secondary schools

Variable	Number	‘r’ Value	Table Value	Remarks
Psychosomatic Health and Academic Achievement	300	0.124	0.113	Significant

The above table inferred that; ‘r’ value (0.124) is greater than the table value the student’s psychosomatic health is influenced students’ academic achievement of the adolescent students in higher secondary students. So, there is significant positive correlation between psychosomatic health and academic achievement of the adolescent students in the higher secondary students.

4.4. CONCLUSION

The collected data related to this study were analysed and interpreted in this chapter. The hypothesis was tested using Percentage analyze, ‘t’ test, ‘F’ test, Chi-square and ‘r’ Value. The summary and main findings of the study are discussed in the fifth chapter.

FINDINGS, RECOMMENDATIONS AND SUGGESTIONS

5.1. INTRODUCTION

The aim of present study is psychosomatic health and academic achievement of the adolescent students in the higher secondary schools in Aruppukkottai block in Virudhunagar district. The investigator is briefed in five chapters in this study. The first chapter deals with the introduction and important terms related to the study. The second chapter includes related literature with which investigator interprets the present endeavour. The third chapter covers the design of the study. The fourth chapter deals with the analysis of data collected.

The Summary and Findings section are the most important part of the research report because it reviews all the information which have been given in the previous chapters. This chapter includes Discussions on Findings, Educational Implications of the Research, Suggestion for further study and Conclusion.

5.2. STATEMENT OF THE PROBLEM

The present study aims to enhance the awareness of the adolescent health, the study is entitled as “A Study on Awareness of Psychosomatic Health and Academic Achievement of Adolescent Students Higher Secondary School Students”.

5.3. OBJECTIVES OF THE STUDY

1. To find out the level of awareness on psychosomatic health of the adolescent students in higher secondary schools.
2. To find out the level of awareness on psychosomatic health of the adolescent students in higher secondary school in the dimensions namely physical and mental.
3. To find out the significant difference, if any, in the awareness on psychosomatic health of the adolescent students in higher secondary schools and in the dimensions namely physical and mental health with respect to gender, locality and type of school.
4. To find out the significant difference, if any, in the awareness on psychosomatic health of the adolescent students among higher secondary schools and in the dimensions namely physical and mental health with respect to nature of school.
5. To find out the significant association, if any, in the awareness on psychosomatic health of the adolescent students in higher secondary schools in the dimensions namely physical and mental health with respect to Parents' educational qualification and Occupation.
6. To find out the level of academic achievement of the adolescent students in higher secondary schools.
7. To find out the significant difference, if any, in the academic achievement of the adolescent students in higher secondary schools with respect to gender, locality and type of school.
8. To find out the significant difference, if any, in the academic achievement of the adolescent students among higher secondary schools with respect to nature of school.
9. To find out the significant association, if any, in the academic achievement of the adolescent students in higher secondary schools with respect to Parents' educational qualification and Occupation.
10. To find out the significant correlation between the awareness on psychosomatic health and academic achievement of the adolescent students in the higher secondary schools.

5.4. HYPOTHESES TO BE TESTED

1. The level of awareness on psychosomatic health of adolescent students in higher secondary schools are moderate.
2. The level of awareness on psychosomatic health of the adolescent students in higher secondary school in the dimensions namely physical and mental health are moderate.
3. There is no significant difference between the awareness on psychosomatic health of the adolescent students in higher secondary schools and in the dimensions of physical and mental health with respect to gender
4. There is no significant difference between the awareness on psychosomatic health of the adolescent students in higher secondary schools and in the dimensions of physical and mental health with respect to locality
5. There is no significant difference between the awareness on psychosomatic health of the adolescent students in higher secondary schools and in the dimensions of physical and mental health with respect to type of school.
6. There is no significant difference in the awareness on psychosomatic health of the adolescent students among higher secondary schools and in the dimensions namely of physical and mental health with respect to nature of school.
7. There is no significant association between the awareness on psychosomatic health of the adolescent students in higher secondary schools in the dimensions namely physical and mental health with respect to Fathers' educational qualification.
8. There is no significant association between the awareness on psychosomatic health of the adolescent students in higher secondary schools in the dimensions namely physical and mental health with respect to Mothers' educational qualification.
9. There is no significant association between the awareness on psychosomatic health of the adolescent students in higher secondary schools in the dimensions namely physical and mental health with respect to Fathers' Occupation
10. There is no significant association between the awareness on psychosomatic health of the adolescent students in higher secondary schools in the dimensions namely physical and mental health with respect to Mothers' Occupation
11. The level of academic achievement in various subjects of the adolescent students in higher secondary schools are moderate.
12. There is no significant difference between the academic achievement in various

- subjects of the adolescent students in higher secondary schools with respect to gender.
13. There is no significant difference between the academic achievement in various subjects of the adolescent students in higher secondary schools with respect to locality.
 14. There is no significant difference between the academic achievement in various subjects of the adolescent students in higher secondary schools with respect to type of school.
 15. There is no significant difference the academic achievement in various subjects of the adolescent students among higher secondary schools with respect to nature of school.
 16. There is no significant association between the academic achievement in various subjects of the adolescent students in higher secondary schools with respect to Fathers' Educational Qualification.
 17. There is no significant association between the academic achievement in various subjects of the adolescent students in higher secondary schools with respect to Mothers' Educational Qualification.
 18. There is no significant association between the academic achievement in various subjects of the adolescent students in higher secondary schools with respect Fathers' Occupation.
 19. There is no significant association between the academic achievement in various subjects of the adolescent students in higher secondary schools with respect Mothers' Occupation.
 20. There is no significant positive correlation between the awareness on psychosomatic health and academic achievement of the adolescent students in the higher secondary schools.

5.5. METHODOLOGY

5.5.1. METHOD

The Normative survey method adopted for this study.

5.5.2. SAMPLE

300 adolescent students from high and higher secondary school at Aruppukkottai block in Virudhunagar district.

5.5.3. TOOLS USED

The self-made tools to be used in this study. The tools were prepared by the Investigator.

3. Psychosomatic Scale Adolescent School Student
4. Achievement test score from their academic score for Students

5.5.4. STATISTICAL TECHNIQUES USED

The various statistical technique used for the study were

Arithmetic Mean

Standard Deviation

Critical Ratio

ANOVA

Chi-Square Test

Correlation coefficient.

5.6. MAJOR FINDINGS

1. Awareness on psychosomatic health of the students is 67.4% (N=202) of students have medium level of awareness on psychosomatic health, 16.3% (N=49) of the students have low level and high level of awareness on psychosomatic health. The level of awareness on psychosomatic health of adolescent students in higher secondary schools are moderate.
2. Awareness on psychosomatic health in the dimensions of the students is 65.3% (N=196) of students have medium level of awareness on psychosomatic health in the dimension level, 17.3% (N=52) of the students have low level and high level of awareness on psychosomatic health in the dimension. So, level of awareness on psychosomatic health in the dimensions of physical and mental health of adolescent students in higher secondary schools are moderate.
3. The calculated 't' value (2.379, 2.092) is greater than the table value of both total psychosomatic health and in the dimension mental health, in this female have more awareness on psychosomatic health than the male students. So, there are significant differences between psychosomatic health in total and in the dimension mental health, it is significant at 0.05 level with respect to the variable gender.
4. The calculated 't' value (3.357, 2.712) is greater than the table value of both total psychosomatic health and in the dimension physical health, in this male have more awareness on psychosomatic health than the female students. So, there are significant differences between psychosomatic health in total and in the dimension of physical health, it is significant at 0.05 level with respect to the variable locality.
5. The calculated 't' value (2.225) is greater than the table value of both in total psychosomatic health of the students, here government school students have more awareness on psychosomatic health than the aided school students. So, there is a significant difference in total psychosomatic health, it is significant at 0.05 level with respect to the variable type of the schools.
6. There is no significant difference among the Schools of Boys, Girls and Co-education schools of the students towards the awareness on psychosomatic health. Because, calculated 'F' value (5.733, 2.115, 0.150) is less than the table value

(12.59), in the total and in the dimensions of Mental and Physical health. So, there is no significant difference even at 0.05 level.

7. There is a significant difference association between the Fathers' Educational Qualification in total on the awareness on psychosomatic health of the adolescent students. Calculated ' χ^2 ' value ($\chi^2 = 13.269$) of qualification of fathers' is more than the table value. So, there is a significant difference in the Fathers' Educational Qualification in total on the awareness on psychosomatic health of the adolescent students.
8. There is no significant difference association between the Mother's Educational qualification in total and in the dimensions Mental and Physical health in the awareness on psychosomatic health of the adolescent students. Because, ' χ^2 ' value (2.667, 4.237, 6.667) is less than the table value. So, there is no significant difference even at 0.05 level.
9. There is no significant difference association between the Father's Occupation in total and in the dimensions Mental and Physical health in the awareness on psychosomatic health of the adolescent students. Because, ' χ^2 ' value (7.544, 7.512, 5.377) is less than the table value. So, there is no significant difference even at 0.05 level.
10. There is no significant difference association between the Mother's Occupation in total and in the dimensions Mental and Physical health in the awareness on psychosomatic health of the adolescent students. Because, ' χ^2 ' value (6.863, 6.167, 6.676) is less than the table value. So, there is no significant difference even at 0.05 level.
11. Academic achievement of the adolescents in various subjects is 69.7% (N=209) of students have medium level of academic achievement in various subjects 15.3%, 15% (N=46, 48) of the students have low level and high level of academic achievement. The level academic achievement in various subjects of adolescent students in higher secondary schools are moderate.
12. The calculated 't' value (0.130) is less than the table value of academic achievement in various subjects in higher secondary school students. So, there is no significant difference between academic achievement in various subjects in

higher secondary school students, it is not significant at 0.05 level with respect to the variable gender.

13. The calculated 't' value (1.348) is less than the table value of academic achievement in various subjects in higher secondary school students. So, there is no significant difference between academic achievement in various subjects in higher secondary school students, it is not significant at 0.05 level with respect to the variable locality.
14. The calculated 't' value (1.139) is less than the table value of academic achievement in various subjects in higher secondary school students. So, there is no significant difference between academic achievement in various subjects in higher secondary school students, it is not significant at 0.05 level with respect to the variable type of school.
15. There is significant difference among the Schools of Boys, Girls and Co-education schools of the students in academic achievement. Because, calculated 'F' value (31.436) is more than the table value (2.99). So, there is significant difference at 0.05 level. From the above, Post Hoc test proved that Girls schools' (84.32) adolescent students have high academic achievement than the students in Boys and Co-Educations school students.
16. There is a significant difference in association between the Fathers' Educational Qualification in the academic achievement of the adolescent students. Because, ' χ^2 ' value (23.336) is greater than the table value. So, Fathers' Educational Qualification is significant difference at 0.05 level in the academic achievement of the adolescent students in the higher secondary schools.
17. There is a significant difference in association between the Mothers' Educational Qualification in the academic achievement of the adolescent students. Because, ' χ^2 ' value (18.579) is greater than the table value. So, Mothers' Educational Qualification is significant difference at 0.05 level in the academic achievement of the adolescent students in the higher secondary schools.
18. There is not significant difference in association between the Fathers' Occupation in the academic achievement of the adolescent students. Because, ' χ^2 ' value (1.523) is less than the table value. So, Fathers' Educational Qualification is

significant difference at 0.05 level in the academic achievement of the adolescent students in the higher secondary schools.

19. There is no significant difference in association between the Mothers' Occupation in the academic achievement of the adolescent students. Because, ' χ^2 ' value (9.533) is less than the table value. So, Mothers' Occupation is significant difference at 0.05 level in the academic achievement of the adolescent students in the higher secondary schools.
20. 'r' value (0.124) is greater than the table value the student's psychosomatic health is influenced students' academic achievement of the adolescent students in higher secondary students. So, there is significant positive correlation between psychosomatic health and academic achievement of the adolescent students in the higher secondary students.

5.7. RECOMMENDATIONS

1. Teachers should need to develop knowledge about psychosomatic disorder. So, the teachers should develop awareness about their students physical and mental health.
2. The government should provide to conduct awareness health camp related to physical and mental health for the school heads, teachers and students.
3. The schools should take the necessary steps for the special awareness classes to invite the specialist in the field regarding student's mental health for support to stress release.
4. The School Heads should encourage and motivate the teachers as well as the students for create awareness about the physical and mental health of the students.
5. The students are highly affected by psychologically as well as academically. So, the school heads, teachers and parents may give a special guidance and counselling to the students.
6. Before implementing any program, planning is very important. So, Government, school heads, teachers and parents should plan about the program about teaching and learning strategies, activities framed for the students and execute it in a proper manner.
7. Provide immediate feedback through online knowledge checks, comments on collaborative documents and chat to keep students motivated and to move forward.
8. The parents should engage their child and give support to the school and take care of them. The parents should give proper home environment for their child.
9. Government and school heads should monitor about the adolescents mental and physical health. Periodic health check-up for the adolescents' students especially for the girl children.
10. Appoint a counsellor in all the higher secondary schools for giving the psychological guidance for the adolescent when they are needed, it helps the children to eradicate the psychological problems in the adolescent stage.

5.8. EDUCATIONAL IMPLICATIONS OF THE STUDY

The moderate level of result obtained in this study. Yet this analysis can help the implication of the education to solve the adolescents' day today problems.

1. This health education intervention showed a significant improvement in their knowledge on adolescent health, in the aspects of sex differences in pubertal spurts, probable causes of health problems during adolescence, physical changes in adolescent boys and girls, and psychological problems of adolescence. This study revealed some unknown parts of psychosomatic health among adolescent students.
2. The general patterns from the results also reveal that there are strong relationships between student academic achievement and psychosomatic health complaints. So, the adolescent students should need the psychological guidance and counselling.
3. Mental health problems in adolescents may have an important influence on academic achievement, which in turn have lifelong consequences for their future development.
4. Mental health issues may become problematic for adolescent in that they give a negatively influenced academic achievement, which also might affect future development.
5. The Government should provide more measure to be taken to the remote village for creating awareness on psychosomatic health.
6. The students should be encouraged more to be attentive during their extra class regarding awareness on psychosomatic health; and the teacher should conduct the warm-up activities related to this program.
7. The teachers should be develop about the technical knowledge, so that whenever the Government should provide necessary training programs regarding awareness on psychosomatic health through online platform from various filed experts, it may utilized by the students.

8. In online classes, the students should be encouraged so that they can come up with new innovative ideas every day, the teachers should show colorful and informative picture and videos related to the content.
9. Government, Schools, Parents and Students should join together and work for bringing up with betterment of student's life. The students also cooperate with the society and gain knowledge regarding the awareness on physical and mental health.

5.9. SUGGESIONFORTHEFURTHERRESEARCH

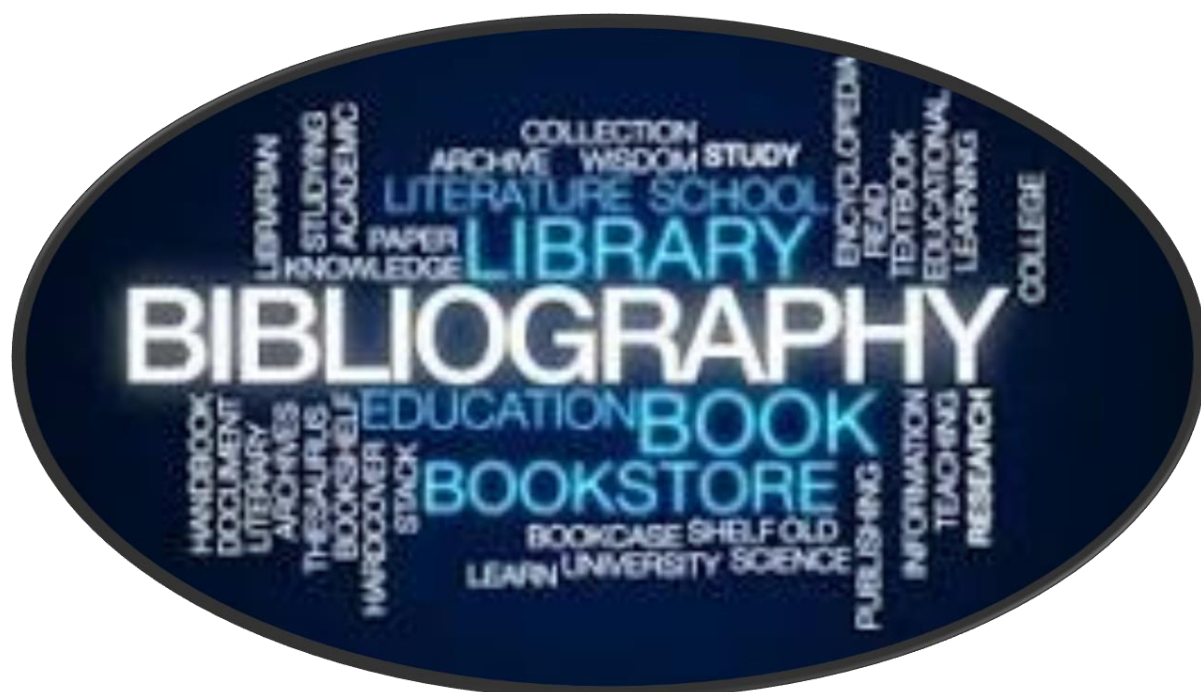
- The present study can be extended to a wider spectrum of schools in all the blocks of Virudhunagar district.
- Studies with a large sample can be done at more generalized findings.
- The present study was conducted with the higher secondary school students. Similar study may be conducted with the high schools and college going students also.
- Only few variables are taken in this study. The studies may be conducted including some other variables.
- This study was obtained for this study through questionnaire. The same study maybe undertaken using some other tool like check list, interview, observatory etc.,

5.10. CONCLUSION

The psychological ill-health, is the most common mental health disorders among adolescents include obsessive-compulsive disorder, attention deficit hyperactive disorder, bi-polar disorder, impulse disorders and oppositional defiance disorder. Often, adolescents experience psychosomatic health problems, with fewer than half of them, in other words nearly one third of them need receiving treatment. The situation is much more severe in adolescents living in racial and ethnic communities, who are more likely to have psychosomatic health disorders. Thus, when adolescents struggle with psychosomatic health problems, they often have attendance problems, difficulty completing assignments, increased have negatively impact in their physical health, academic achievement and interpersonal relationships.

Psychosomatic health issues among adolescents not only cause such problems, but they also negatively influence schooling. Adolescents with Psychosomatic health problems are at risk for schooling, and they may have increased difficulties primarily with academic achievement in school. Frequent feeling of Psychosomatic health problems exhibit school difficulties, including poor academic achievement. Adolescents displaying strong Psychosomatic health Psychosomatic health problems are likely to have better academic achievement, compared to adolescents displaying weak Psychosomatic health. Adolescents showing strong Psychosomatic health problems have good social skills with both adults and peers and their enhanced social and emotional behaviours have a strong impact on academic achievement.

This research has examined the potential relationship between Psychosomatic health problems and academic achievement, and the present research aims to fill this gap in the scope. Thus, the present research attempts to synthesize this association between Psychosomatic health and academic achievement of adolescents. This research, as expected, confirmed that there is a positive relationship between Psychosomatic health and academic achievement. This research also indicated that Psychosomatic health of adolescents is very important for schooling, in that it has a potential to influence in academic achievement positively or negatively. Therefore, it is deemed crucial for adolescents to have a strong Psychosomatic health, to perform better academically in school, which in turn have lifelong consequences for their future life.



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ENFORCEMENT SLIP 1

PERSONAL DATA

அன்பார்ந்த மாணவ / மாணவியர்களே,

"A Study on Awareness of Psychosomatic Health and Academic Achievement of Adolescent Students in Higher Secondary School" ஆய்விற்குத் தேவையான விபரங்களை அறிய இத்துடன் இணைந்துள்ள பொது தகவல்கள் மற்றும் வினாத்தாள்களை பூர்த்தி செய்து தரும்படி கேட்டுக் கொள்கிறேன். நீங்கள் அளிக்கும் தகவல்கள் ரகசியமாக பாதுகாக்கப்படும் என்றும் ஆய்வினைத் தவிர வேறு எந்த சொந்த விஷயத்திற்கும் பயன்படுத்த மாட்டேன் என்றும் உறுதி அளிக்கிறேன்.

இப்படிக்கு
முனைவர் செ.வசந்தி
விரிவுரையாளர்
DIET பாலையம்பட்டி

மாணவ / மாணவியர்களுக்கான சுயவிவரப் பட்டியல்

மாணவ / மாணவியரின் பெயர் :

பாலினம் : ஆண் / பெண்

பள்ளியின் பெயர் :

வகுப்பு :

பள்ளி அமைவிடம் : கிராமம்/நகரம்

பள்ளியின் வகை : அரசுப் பள்ளி / அரசு உதவி பெறும்

பள்ளி

பள்ளியின் தன்மை : ஆண் / பெண் / இருபாலர் பயிலும்

பள்ளி

பெற்றோரின் கல்வித் தகுதி :

தந்தை : இடை நிலை / உயர் நிலை / மேல்
நிலை

வகுப்பு / பட்டப்படிப்பு

தாய் : இடை நிலை / உயர் நிலை / மேல்
நிலை

வகுப்பு / பட்டப்படிப்பு

பெற்றோரின் தொழில்

தந்தை : வியாபாரம் / கூலி / தனியார்/
அரசுப்பணி

தாய் : இல்லத்தரசி / கூலி / தனியார் /
அரசுப்பணி

ENFACEMENT SLIP - II
PSYCHOSOMATIC SCALE - ADOLESCENT STUDENT

வ.எண்.	வாக்கியங்கள்	முழுமையாக ஏற்கிறேன்	ஏற்கிறேன்	பதிலளிக்க விரும்பவில்	மறுக்கிறேன்	முற்றிலும் மறுக்கிறேன்
1.	என்னால் வெகுநேரம் ஒரே இடத்தில் அமர்ந்து வகுப்பினைக் கவனிக்க முடிவதில்லை.					
2	நான் என் உடலமைப்பு குறித்து மகிழ்ச்சியாக இருக்கிறேன்.					
3	தேர்வு நேரங்களில் பொதுவாக உடல் நலக் கோளாறு ஏற்படுவது என்னால் உணர முடிகிறது.					
4	பள்ளி முடிந்து வீட்டுக்குச் செல்லும் போது நான் மிகவும் களைப்பாக உணருகிறேன்.					
5	பிறர் என்னை தொட்டு பேசுவது நான் விரும்புவதில்லை.					
6	வளரிளம் பருவத்தில் என் உடலில் ஏற்படக்கூடிய மாற்றங்களை என்னால் ஏற்றுக்கொள்ள முடிவதில்லை.					
7	நான் விளையாடும் போது மிகவும் களைப்படைந்து விடுவதை என்னால் உணர முடிகிறது.					
8	நான் வயதுக்கு ஏற்ற உடல் எடையைக் கொண்டுள்ளேன்.					
9	என்னுடன் பயிலும் சக மாணவர்களை ஒப்பிடும் போது, நான் சற்று உயரம் குறைவாக இருப்பதாக எண்ணுகிறேன்.					
10	எதிர்மறை எண்ணங்கள் எழும்போது நான் பதட்டமடைகிறேன்.					

11	எனக்கு அடிக்கடி உடல் உபாதைகள் ஏற்படுவது மனதளவில் வருத்தத்தை ஏற்படுத்துகிறது.					
12	என்னுடைய குடும்ப சூழ்நிலைகள் குறித்து சக மாணவர்களிடம் பகிர்ந்து கொள்வதில்லை.					
13	என் மனநிலைக்கு ஏற்ப என் உடல் நிலை இயங்குவதை என்னால் உணர முடிகிறது.					
14	எனக்கு பயம் ஏற்படும் போது அஜீரணக் கோளாறு ஏற்படுகிறது.					
15	நான் மகிழ்ச்சியாக இருக்கும்போது என்னால் எளிதாக சுவாசிக்க முடிகிறது.					
16	எதிர்மறை எண்ணங்கள் ஏற்படும் போது எனக்கு தலைவலி ஏற்படுகிறது.					
17	புதிய நபர்களிடம் பேசுவதை முடிந்த அளவு தவிர்த்து விடுகிறேன்.					
18	அடிக்கடி உடல் நலமின்மை ஏற்படுவதால் என்னால் படிப்பில் சரிவர கவனம் செலுத்த முடிவதில்லை.					
19	நான் என் நண்பர்களுடனே அதிக நேரம் செலவிட விரும்புகிறேன்.					
20	மன இறுக்கம் ஏற்படும் போது என்னால் எந்த ஒரு வேலையும் சரிவர செய்ய முடிவதில்லை.					
21	என் உடல் மற்றும் மன நலனில் என் பெற்றோர்கள் மிகுந்த அக்கறை கொண்டுள்ளனர்.					
22	என் ஆசிரியர்கள் என் உடல் மற்றும் மன பிரச்சனைக்கு தகுந்த வழிகாட்டியாக உள்ளனர்.					
23	நான் அனைத்து மாணவர்களிடம் சகஜமாக பழகுகிறேன்.					
24	எனக்கு மிகக் குறுகிய நண்பர்கள் வட்டம் மட்டுமே உள்ளது.					
25	எதிர் பாலினரிடம் என்னால் சகஜமாகப் பேச முடிவதில்லை.					

PHOTO GALLERY



DATA COLLECTION





RESEARCH PROJECT - ABSTRACT

I. Title:

A STUDY ON AWARENESS OF PSYCHOSOMATIC HEALTH AND ACADEMIC ACHIEVEMENT OF ADOLESCENT STUDENTS IN HIGHER SECONDARY SCHOOLS

II. Introduction:

Adolescence is the phase of life between childhood and adulthood, from ages 10 to 19. It is a unique stage of human development and an important time for laying the foundations of good health. Adolescents experience rapid physical, cognitive and psychosocial growth. This affects how they feel, think, make decisions, and interact with the world around them. Despite being thought of as a healthy stage of life, there is significant death, illness and injury in the adolescent years. Much of this is preventable or treatable. During this phase, adolescents establish patterns of behaviour – for instance, related to diet, physical activity, substance use, and sexual activity – that can protect their health and the health of others around them, or put their health at risk now and in the future. They also need opportunities to meaningfully participate in the design and delivery of interventions to improve and maintain their health. Expanding such opportunities is key to responding to adolescents' specific needs and rights.

III. Need for the Study

Psychosomatic health problems during adolescents may result in both short and long term consequences. Short term consequences include school problems, injuries, suicide attempts, early pregnancies, alcohol and drug abuse. Long term consequences are increased risk for mental health problems to persist into adulthood with negative consequences such as lower education, problems with toil market establishment and family formation. After COVID, the psychosomatic health problems are mostly seen in school going adolescents. So that the researcher, take this 'Creating Awareness on Psychosomatic Health among Adolescent Girls in Upper Primary School through Blended Learning' topic as the Research Project.

IV. Objectives:

1. To find out the level of awareness on psychosomatic health of the adolescent students in higher secondary schools.
2. To find out the level of awareness on psychosomatic health of the adolescent students in higher secondary school in the dimensions namely physical and mental.
3. To find out the significant difference, if any, in the awareness on psychosomatic health of the adolescent students in higher secondary schools and in the dimensions namely physical and mental health with respect to gender, locality and type of school.
4. To find out the significant difference, if any, in the awareness on psychosomatic health of the adolescent students among higher secondary schools and in the dimensions namely physical and mental health with respect to nature of school.
5. To find out the significant association, if any, in the awareness on psychosomatic health of the adolescent students in higher secondary schools in the dimensions namely physical and mental health with respect to Parents' educational qualification and Occupation.
6. To find out the level of academic achievement of the adolescent students in higher secondary schools.
7. To find out the significant difference, if any, in the academic achievement of the adolescent students in higher secondary schools with respect to gender, locality and type of school.
8. To find out the significant difference, if any, in the academic achievement of the adolescent students among higher secondary schools with respect to nature of school.
9. To find out the significant association, if any, in the academic achievement of the adolescent students in higher secondary schools with respect to Parents' educational qualification and Occupation.
10. To find out the significant correlation between the awareness on psychosomatic health and academic achievement of the adolescent students in the higher secondary schools.

V.METHODOLOGY

a. Method:

The investigator adopted the normative survey method for the present study.

b. Sample:

300 adolescent students from high and higher secondary school at Aruppukkottai block in Virudhunagar district.

c. Tool:

The self made questionnaire were used as the tool for this study. They are:

1. Psychosomatic Scale Adolescent School Student
2. Achievement test score from their academic score for Students

d. Statistical Techniques Applied:

Percentage Analysis, 't' - test, ANOVA - test, Chi-Square test and
Correlation

VI. Findings:

1. Awareness on psychosomatic health of the students is 67.4% (N=202) of students have medium level of awareness on psychosomatic health, 16.3% (N=49) of the students have low level and high level of awareness on psychosomatic health. The level of awareness on psychosomatic health of adolescent students in higher secondary schools are moderate.
2. Awareness on psychosomatic health in the dimensions of the students is 65.3% (N=196) of students have medium level of awareness on psychosomatic health in the dimension level, 17.3% (N=52) of the students have low level and high level of awareness on psychosomatic health in the dimension. So, level of awareness on psychosomatic health in the dimensions of physical and mental health of adolescent students in higher secondary schools are moderate.
3. Academic achievement of the adolescents in various subjects is 69.7% (N=209) of students have medium level of academic achievement in various subjects 15.3%, 15% (N=46, 48) of the students have low level and high level of academic

achievement. The level academic achievement in various subjects of adolescent students in higher secondary schools are moderate.

4. The calculated 't' value (2.379, 2.092) is greater than the table value of both total psychosomatic health and in the dimension mental health, in this female have more awareness on psychosomatic health than the male students. So, there are significant differences between psychosomatic health in total and in the dimension mental health, it is significant at 0.05 level with respect to the variable gender.
5. The calculated 't' value (3.357, 2.712) is greater than the table value of both total psychosomatic health and in the dimension physical health, in this male have more awareness on psychosomatic health than the female students. So, there are significant differences between psychosomatic health in total and in the dimension of physical health, it is significant at 0.05 level with respect to the variable locality.
6. The calculated 't' value (2.225) is greater than the table value of both in total psychosomatic health of the students, here government school students have more awareness on psychosomatic health than the aided school students. So, there is a significant difference in total psychosomatic health, it is significant at 0.05 level with respect to the variable type of the schools.
7. There is a significant difference association between the Fathers' Educational Qualification in total on the awareness on psychosomatic health of the adolescent students. Calculated ' χ^2 ' value ($\chi^2 = 13.269$) of qualification of fathers' is more than the table value. So, there is a significant difference in the Fathers' Educational Qualification in total on the awareness on psychosomatic health of the adolescent students.
8. The calculated 't' value (0.130) is less than the table value of academic achievement in various subjects in higher secondary school students. So, there is no significant difference between academic achievement in various subjects in higher secondary school students, it is not significant at 0.05 level with respect to the variable gender.
9. The calculated 't' value (1.348) is less than the table value of academic achievement in various subjects in higher secondary school students. So, there is no significant difference between academic achievement in various subjects in

higher secondary school students, it is not significant at 0.05 level with respect to the variable locality.

10. The calculated 't' value (1.139) is less than the table value of academic achievement in various subjects in higher secondary school students. So, there is no significant difference between academic achievement in various subjects in higher secondary school students, it is not significant at 0.05 level with respect to the variable type of school.
11. 'r' value (0.124) is greater than the table value the student's psychosomatic health is influenced students' academic achievement of the adolescent students in higher secondary students. So, there is significant positive correlation between psychosomatic health and academic achievement of the adolescent students in the higher secondary students.

VII. LIMITATIONS OF THE STUDY

1. The study was confined to selected 15 schools in Aruppukkottai block in Virudhunagar district.
2. The study was limited to students those who are studying IX standard students.
3. The Investigator had selected Higher Secondary School students alone taken as sample.
4. The Investigator had selected samples from Government and Government Aided Schools only.
5. The Investigator had conducted this study as a Survey method.

VIII. EDUCATIONAL IMPLICATIONS OF THE STUDY

1. This health education intervention showed a significant improvement in their knowledge on adolescent health, in the aspects of sex differences in pubertal spurts, probable causes of health problems during adolescence, physical changes in adolescent boys and girls, and psychological problems of adolescence. This study revealed some unknown parts of psychosomatic health among adolescent students.
2. The general patterns from the results also reveal that there are strong relationships between student academic achievement and psychosomatic health complaints. So, the adolescent students should need the psychological guidance and counselling.
3. Mental health problems in adolescents may have an important influence on academic achievement, which in turn have lifelong consequences for their future development.

4. Mental health issues may become problematic for adolescent in that they give a negatively influenced academic achievement, which also might affect future development.
5. The Government should provide more measure to be taken to the remote village for creating awareness on psychosomatic health.
6. The students should be encouraged more to be attentive during their extra class regarding awareness on psychosomatic health; and the teacher should conduct the warm-up activities related to this program.
7. The teachers should be develop about the technical knowledge, so that whenever the Government should provide necessary training programs regarding awareness on psychosomatic health through online platform from various filed expects, it may utilized by the students.
8. In online classes, the students should be encouraged so that they can come up with new innovative ideas every day, the teachers should show colorful and informative picture and videos related to the content.
9. Government, Schools, Parents and Students should join together and work for bringing up with betterment of student's life. The students also cooperate with the society and gain knowledge regarding the awareness on physical and mental health.

IX. Conclusion:

This research has examined the potential relationship between Psychosomatic health problems and academic achievement, and the present research aims to fill this gap in the scope. Thus, the present research attempts to synthesize this association between Psychosomatic health and academic achievement of adolescents. This research, as expected, confirmed that there is a positive relationship between Psychosomatic health and academic achievement. This research also indicated that Psychosomatic health of adolescents is very important for schooling, in that it has a potential to influence in academic achievement positively or negatively. Therefore, it is deemed crucial for adolescents to have a strong Psychosomatic health, to perform better academically in school, which in turn have lifelong consequences for their future life.