Chapter - I

Introduction

History of Physical Education

The history of physical education reflects peoples attitudes about physical activity. In prehistoric times, because survival was related to physical stamina and peoples ability to find food, no separate physical fitness programmes were needed. Ancient societies in China, Egypt, Greece, and Rome adopted physical education as part of military training. As developed societies came to value scholarly life, physical education lost favour. Many developed countries have had to strike a balance between physical and intellectual interests. The history of physical education frequently shows a pattern of military, social, and political influence.

At one high point of ancient history, Athenian Greeks came to the forefront in the era 700 to 600 B.C. with their quest for physical and intellectual perfection. In numerous festivals, Athenians celebrated the beauty of the human form in dance, art, religious rites, and athletics. Athenians honoured the gods of Olympus, especially Zeus, with the first Olympic Games. The Olympic Games offered a civilizing influence, with social class disregarded and all citizens judged on athletic competition. If a war
was being fought, it was halted during the Olympic Games. Many historians regard Athenian culture as the height of early physical education, but like their Chinese predecessors, the Athenians felt the competing influence of intellectualism.

The Middle Ages saw the fall of the Roman Empire and the rise of Christianity, and the Christian influence brought about a denial of physical activity for anything other than manual labor. Christians saw sports and physical play as immoral, and in 394 they halted the Olympic Games. This trend was not reversed until the medieval societies grew and sought power through military expansion.

Revival of physical activity

During the Renaissance, the pendulum swung to action once again as artists showed the human body as an object of admiration. The humanist faction, centred in Italy, valued education in sports such as fencing, archery, swimming, running, and ball games. The moralist faction, influenced by the Protestant Reformation, saw physical activity only as a way for carrying out work. During this period, much of Europe was still Catholic, and Catholics favoured recreational physical activity with the view that care should be taken of the body as the vessel that held the soul. The other major
Renaissance faction was realism, which favored physical education as part of a sound mind in a sound body.

In 19th-century Europe, Sweden and Germany developed systems of gymnastics that were adopted internationally with Germany building the first indoor gymnasium. In Finland, which also built a gymnasium, exercise was for the first time seen as a way to achieve physical rehabilitation. Scholars began to study anatomy and physiology in relation to exercise. Denmark was among the first countries to require physical education in schools. Physical education fulfilled a political role in early-20th-century Russia after the rise of communism. Physical fitness helped insure military strength, productivity, and nationalism. Sports were viewed as a way of achieving international fame.

Recreational programs

The United States followed other countries in its approach to physical education. During the Colonial period, the sheer physical demands of survival made physical education unnecessary. War required physical training as a part of military preparation. Between the Revolution War and the Civil War, Americans followed some recreational activities such as riding, hunting, dancing, swimming, and early forms of golf and tennis. By the 1820s, some American schools offered gymnasia and physical education. Instruction...
included development and care of the body, and training in hygiene. Students learned calisthenic exercises, gymnastics, and the performance and management of athletic games. Womens colleges offered exercise and dance classes. The Young Mens Christian Association (YMCA) opened its first American chapter in 1851. Many sports gained in popularity around this time, including baseball.

After the American Civil War, large school systems began to adopt physical education programs and many states passed laws requiring that physical education programs be taught. For the first time, specialized training was offered for physical education instructors. In another first, colleges offered intercollegiate sports such as rowing, football, and track and field. In keeping with this wave of interest in physical education, the Olympic Games were restored in 1896, after a 1,400-year interlude.

Surprisingly, many Americans were not physically fit for military service during World War I, and there were many postwar efforts to add physical education at all levels of schooling. During World War II, physical fitness was again required of soldiers—but it was also required of many others, particularly women, since the war effort required manual labour. Soldiers once again came up short in physical fitness requirements, so after the war, schools instituted
more rigorous physical education requirements, and there was greater interest in the teaching of physical education.

**Inclusion in curriculum**

By 1950, there were over 400 United States colleges and universities offering majors in physical education and there was increasing recognition of the scientific foundation of physical education. The fitness of the military in the Korean War again fell short of expectations, and the federal government set up the Presidents Council on Physical Fitness, which helped to raise fitness standards in schools across the country. A series of 1970s and 1980s recessions brought about cutbacks in many school programs, including physical education. By the 1970s, interest in the Presidents Council had waned and physical education courses began to emphasize lifetime sports such as golf, badminton, tennis, and bowling. In another swing of the pendulum, the American public spontaneously developed an intense interest in fitness in the late 1970s.

One of the most significant shifts of the 1970s was the Title IX amendment to the Federal Education Act, which stipulated that no federally funded education programs could discriminate on the basis of gender. Enforcement of Title IX opened up many new
opportunities for women in competitive athletics, both at the high school and collegiate levels.

In a continuation of 1980s trends, during the 1990s many school districts have limited the amount of time students spend in physical education or have even dropped the program in response to economic problems or concerns about poor curriculum. Some reformers in the field are turning to sports education as a way of re-engaging the students.

Importance of Physical Education

Physical education which is commonly a part of the curriculum at school level includes training in the development and care of the human body and maintaining physical fitness. Physical education is also about sharpening overall cognitive abilities and motor skills via athletics, exercise and various other physical activities like martial arts and dance. Here are some of the benefits that highlight the importance of physical education:

1 maintaining Sound Physical Fitness

Physical fitness is one of the most important elements of leading a healthy lifestyle. Physical education promotes the
importance of inclusion of a regular fitness activity in the routine. This helps the students to maintain their fitness, develop their muscular strength, increase their stamina and thus stretch their physical abilities to an optimum level. Physical fitness helps to inculcate the importance of maintaining a healthy body, which in turn keeps them happy and energized. Sound physical fitness promotes, increased absorption of nutrients, better functioning of digestion and all other physiological processes and hence results in all round fitness.

2. Overall Confidence Booster

Indulging in sports be it team sports or dual and individual sports, leads to a major boost in self-confidence. The ability to go on the field and perform instills a sense of self-confidence, which is very important for the development of a person’s character. Every victory achieved on the field, helps to boost a person’s self-confidence. Moreover, the ability to accept defeat on field and yet believe in your own capabilities brings a sense of positive attitude as well. Thus participation in sports, martial arts or even dance and aerobics, is always a positive influence on a student’s overall personality and character and works wonders for his/her self-confidence.

3. Awareness about Important Health and Nutrition Issues

Physical education classes are about participating in the physical
fitness and recreation activities, but they are also about gaining knowledge about the overall aspects of physical health. For example in today's world the problems of obesity, or anemia and bulimia are rampant amongst teenagers. Physical education provides an excellent opportunity for teachers to promote the benefits of healthy and nutritious food and cite the ill effects of junk food. Promoting sound eating practices and guidelines for nutrition are some of the very valuable lessons that can be taught through physical education classes at school level.

4. Inculcating Sportsmanship and Team Spirit

Participation in team sports, or even dual sports helps to imbibe a sense of team spirit amongst the students. While participating in team sports, the children have to function as an entire team, and hence they learn how to organize themselves and function together. This process of team building hones a person's overall communications skills and the ability to get along with different kind of people. Thus participating in team sports instills a sense of team spirit, which is a great value addition to anyone's personality and helps a lot in all the future endeavors.

5. Development of Motor Skills

The ability to concentrate, the ability to swing the racket just at the right time, are some of the examples of development of motor
skills in the physical education classes. Participation in sports and several physical education activities helps to sharpen the reflexes of the students. It also brings order and discipline to the body movements and helps in development of a sound body posture as well. The hand-eye co-ordination improves as well.

6. Importance of Hygiene and Sex education

Physical education classes also include lessons about the importance of personal hygiene and importance of cleanliness. Thus the physical education classes help the students to know the important hygiene practices that must be practiced in order to maintain the health and well being throughout the life. In addition to this, the physical education classes also cover an important aspect that the children have to deal with at the age of puberty. Physical education classes also impart sex-education and hence help the students deal with their queries and doubts about the subject of sexuality.

7. Enhancing Overall Cognitive Abilities

Physical education classes help to enhance the overall cognitive abilities of the students, since they get a lot of knowledge about the different kinds of sports and physical activities that they indulge in. For example a person who is participating in a specific type of martial arts class, will also gain knowledge about the origins of the
martial art, and the other practices and historical significance associated with it. Thus physical education helps to enrich the knowledge bank of the students.

8. Encouraging Budding Sportsmen

Physical education classes are an excellent opportunity for all the budding sportsmen and sportswomen who wish to make their mark in the world of sports. Physical education classes allow the budding sportsmen and sportswomen to explore and experiment with several areas until they find what interests them. After this, physical education classes also allow the students to indulge the sport of their choice and then go ahead to participate in several tournaments and competitions, which help to give the students an exposure to the competitive world of sports.

9. A Stress Buster and Source of Enjoyment

In addition to the health benefits and the knowledge benefits that the students get from the physical education classes, one important aspect of it remains to be recreation. Students, who are busy with their other subjects in the curriculum, often get exhausted with the listening, reading and writing pattern of studying and need a recreational activity as a source of recreation. Sports and other physical fitness activities offered in the physical education class are a welcome break for the students.
10. Promoting Healthy Lifestyle in Adulthood

Children, who learn the importance of health and hygiene in their early ages, tend to grow up to be responsible and healthy adults who are well aware of the benefits of a healthy lifestyle. Thus the overall physical education program, that includes different types of physical activities and sports and also provides important information about hygiene and overall health, helps in creating well-informed pupils. A well-balanced and all-round physical education class helps to create responsible adults who know the importance of a healthy lifestyle.

The AIM of physical education is to enable all students to enhance their quality of life through active living. There is an increasing awareness of the importance of providing children and youth with meaningful and enjoyable movement experiences. Movement and play are focal points of children's lives, critical to all aspects of their growth and development. A physical education program provides opportunities for all students to be physically active regularly and to develop an appreciation for and enjoyment of movement in the following categories: alternative-environment activities, dance, games, gymnastics, and individual or dual activities. Outdoor activities in a natural setting are encouraged.
The unique learning opportunities in physical education allow all students from Kindergarten to Grade 12 to acquire the knowledge, skills, and attitudes that enable them to enhance their quality of life through active living—a way of life that values physical activity as an essential component. Active living is characterized by the integration of physical activity into daily routines and leisure pursuits.

Physical education is also an integral part of the total education process. Students who participate in regular physical education classes enjoy enhanced memory and learning, better concentration, and increased problem-solving abilities. They are willing to take appropriate risks, and have a more positive attitude toward self and others. Positive personal and social behaviours improve school climate, resulting in better attendance and reduced violence and vandalism.

The physically educated person has the knowledge, skills, and attitudes necessary to incorporate physical activity into regular routines, leisure pursuits, and career requirements throughout life. Striving for an active, healthy lifestyle fosters personal growth and the ability to meet the challenges of society.

Characteristics of a Quality Physical Education Program

Quality physical education programs are structured so that the duration, intensity, and frequency of activities motivate students and
meet their individual needs. When appropriate, students participate in the selection of activities from all movement categories. All students are given equal opportunity to participate in a balanced physical education program. It is intended that a quality physical education program will:

- foster the development of positive attitudes
- foster active participation
- require problem-solving skills
- recognize the difference in students' interests, potential, and cultures
- develop personal and career-planning skills

The Development of Positive Attitudes

Students are exposed to experiences that encourage them to enjoy and value physical activity and its effect on lifelong health and well-being. They are encouraged to explore, take risks, exhibit curiosity, work with others co-operatively, and achieve a personal functional level of physical fitness. All movement experiences provide opportunities for the development of positive personal and social behaviours.
Active Participation

Learning experiences in physical education provide maximum activity and participation time for every student. During group work, every opportunity is made to ensure that each student has an active role in the learning activity.

Problem-Solving Skills

In order to develop decision-making and problem-solving skills, students are challenged to identify and investigate problems, find active ways to solve them, and represent solutions in a variety of ways.

Diverse Student Characteristics

Selection of learning activities, equipment, and materials reflect students' diverse characteristics. Cultural heritage, gender, special needs, and a variety of interests are examples of characteristics to be considered when planning learning opportunities.

Personal and Career-Planning Skills

Wherever possible, a physical education program should connect students to what is happening in the community and the workplace. Students should be provided with opportunities to explore careers related to physical activity and develop basic employability skills, including teamwork, problem solving, leadership, and effective communication.
The physical education curriculum is arranged under three curriculum organizers:

- Active Living
- Movement
- Personal and Social Responsibility

These organizers form the curriculum framework. Under each organizer, learning outcomes reflect the knowledge, skills, and attitudes that students are expected to demonstrate at each grade level.

**Active Living**

Active living is a way of life that values physical activity and its integration into daily routines and leisure pursuits. Physical education provides opportunities for students to participate in physical activities that promote well-being and a personal functional level of physical fitness. Through active living, students have opportunities to make appropriate choices and set personal goals that enhance their quality of life.

**Movement**

The elements of movement include the skills, concepts, and body mechanics necessary for participation in activities from all
movement categories. In all categories, students develop efficient and effective movement skills, and an understanding of the movement concepts and body mechanics that are necessary to develop activity-specific motor skills. Movement provides a unique medium in which students apply their critical-thinking processes in active and creative ways. Planning for physical education requires a progression from a long-term overview to short-term units and the development of individual lesson plans. Teachers can do this by first selecting a main concept, skill, or theme. Once they have identified the focus, they may select prescribed learning outcomes. They can design a series of lessons that reflects the sequential nature of skill development and meets a number of prescribed learning outcomes.

When selecting appropriate activities for students, teachers should consider their own expertise, available resources, and facilities within the school and community. It is recommended that no less than 15% of instructional time be spent in any one movement category. This minimum-time percentage provides flexibility for teachers to allocate additional time in areas that best meet the needs of their students.

Creating a Safe Learning Environment

It is essential that teachers address the following questions prior to, during, and after an activity has taken place:
• Is the activity suitable to the student's physical age, and mental and physical condition?
• Has the instruction been sequenced progressively to ensure safety?
• Have students been given specific instruction about how to use and handle the equipment appropriately?
• Is the equipment in good repair, and has it been suitably arranged?
• Are the students being properly supervised?
• Are the facilities in good repair?

Teachers should ensure that the following safety practices are implemented. This is not an all-inclusive list but a guide to help teachers establish a safe learning environment in physical education classes.

Students should:

• wear clothing and footwear appropriate for the activity
• follow established rules and routines
• respond appropriately to control signals
• select tasks that are within their ability and comfort zone
• move in the designed space with control and respect for others
• recognize hazards in the play areas
When planning instructional activities to meet the learning outcomes and needs of the students, teachers should always select appropriate exercises, drills, and activities that reflect safe practices in physical education.

When teaching activities in which contact or collisions occur (e.g., basketball, wrestling, football, rugby, hockey, soccer) or that require spotting (e.g., weight lifting and gymnastics), teachers should keep in mind the following:

- Appropriate teaching progressions and drills must be used to develop the skills required to participate in the activity safely.
- The height, weight, and age of students should be considered when planning specific drills and other activities.

Student interest and confidence level should be considered before encouraging student participation.

**Sensitive Content**

The body image components of the physical education curriculum address issues and concerns that may be a source of sensitivity for some students and their parents, such as self-image, body image, eating difficulties, and eating disorders. Concerns may arise about a student having an eating disorder, or a student may disclose this information directly. Eating disorders are a serious medical concern.
The following are some suggested guidelines for dealing with such sensitive issues:

- Obtain the support of the school administration before beginning instruction on any potentially sensitive issues.
- Inform an administrator or counsellor when a concern arises. Warning signals may include some or all of the following: excessive perfectionism, compulsive exercising, depression, very low or high body weight, or avoidance of wearing standard gym attire.
- Be aware of provincial and district policy and legislation on disclosure related to child abuse and eating disorders or suicide.
- Do not promise that information disclosed will be kept in confidence.
- Obtain appropriate inservice training before beginning instruction in these sensitive areas.

Adapting Instruction for Students with Special Needs

Participation in physical education is important for all students. Some students with special needs may require program modification to facilitate their participation. When students with special needs are expected to achieve the learning outcomes, with or without adaptations, teachers should follow regular grading practices and
reporting procedures. When students are not expected to achieve the learning outcomes because of special needs, teachers should make program modifications. Reports should be in the form of structured written comments rather than letter grades.

The following are examples of strategies that may help students with special needs succeed in physical education:

- Adapt the task by using props, simplifying the task, or substituting skills.
- Adapt the task by decreasing the complexity.
- Adapt rules and scoring systems (e.g., allow kicking instead of throwing).
- Adapt or modify equipment (e.g., smaller, softer, or lighter equipment).
- Identify methods of providing assistance (e.g., peers or teacher assistants).
- Provide opportunities for extension and more practice.
- Adapt success-measurement criteria to meet individual students' needs.
- Modify activities by providing parallel ones for students whose special needs preclude participation.
Many resources offer ideas for integrating all students into physical education programs or for providing specialized activities for some students with special needs.

**Gender Issues in Physical Education**

Research indicates that upon reaching secondary level, girls' participation and interest in physical education decreases significantly. Most young women do not select optional physical education in grades 11 and 12 and may develop a lifelong distaste for physical activity. A decline in interest has been particularly evident in physical education programs that emphasize highly structured and competitive sports. However, the research shows that young women tend to be more involved in physical education programs that provide a balance of co-operative, competitive activities from all movement categories.

Equitable physical education could be attained by using the following strategies:

- **Communication Strategies**
  - Be willing to examine interaction patterns with both male and female students.
  - Use inclusive language (i.e., avoid phrases such as "throw like a girl" or "man to man defence").
• Use incidents of students making derogatory remarks as teaching opportunities about gender expectations.
• Encourage students having difficulty.
• Promote assertive behaviour rather than passive or aggressive behaviour.
• Emphasize health and lifestyle rather than weight and appearance.

• Planning Strategies
  • Avoid special rules for girls' games or for girls in co-ed games.
  • Avoid using exercise as punishment.
  • Include structured peer teaching activities.
  • Provide opportunities for specific feedback on skill development.

• Professional Development Strategies
  • Team with colleagues for peer coaching opportunities.
  • Develop teaching skills in an activity that is not traditional for your gender.

• Programming Strategies
  • Give students the opportunity to choose activities.
  • Choose a wide range of non-violent activities that emphasize co-operation.
- Encourage students to engage in non-traditional activities.
- Increase the range of recreation-type activities.
- Choose activities in which both boys and girls have little experience.
- Include opportunities for co-ed and single-sex team and partner work.
- Introduce self-defence awareness and training.

Assessment is the systematic process of gathering information about students' learning in order to describe what they know, are able to do, and are working toward. From the evidence and information collected in assessments, teachers describe each student's learning and performance. They use this information to provide students with ongoing feedback, plan further instructional and learning activities, set subsequent learning goals, and determine areas requiring diagnostic teaching and intervention.

Teachers determine the purpose, aspects, or attributes of learning on which to focus the assessment. They also decide when to collect the evidence and the assessment methods, tools, or techniques most appropriate to use. Assessment focusses on the critical or significant aspects of the learning students will be asked to demonstrate. Students benefit when they clearly understand the
learning goals and learning expectations. Since the emphasis in physical education is on activity, teachers should use a variety of strategies to assess the ongoing development of skills in the various movement categories.

The history of sport psychology

Sport psychology is the scientific study of people and their behaviors in sport. The role of a sport psychologist is to recognize how participation in sport exercise and physical activity enhances a person's development.

The first sport psychologist is said to have been a North American man from Asia, born in 1861. Triplett's first finding as a sport psychologist was that cyclists cycle faster in pairs or a group, rather than riding solo. , a German, founded the world's first sport psychology laboratory in 1920. Five years later, opened a lab at the Institute of Physical Culture in Leningrad. Also in 1925, opened the first sport psychology lab in North America at the University of Illinois. He began his research in factors that affect sport performance in 1918, and in 1923, offered the first ever sport psychology course.

The International Society of Sport Psychology (ISSP) was formed by Dr. Ferruccio Antonelli of Italy in 1965. Beginning, in the 1970's, sport psychology became a part of the curriculum on
university campuses. These courses which were generally found in the kinesiology programs taught students how to develop positive attitudes in athletes using sport psychology and drugs. In the 1980's, sport psychology became more research focused. Sport psychologists looked into performance enhancement, the psychological impact of exercise and over training as well as stress management.

Today, sport and exercise psychologists have begun to research and provide information in the ways that psychological well-being and vigorous physical activity are related. This idea of psychophysiology, monitoring brain activity during exercise has aided in this research. Also, sport psychologists are beginning to consider exercise to be a therapeutic addition to healthy mental adjustment.

Just recently have sport psychologists begun to be recognized for the valuable contributions they make in assisting athletes and their coaches in improving performance during competitive situations, as well as understanding how physical exercise may contribute to the psychological well-being of non-athletes. Many can benefit from sport psychologists: athletes who are trying to improve their performance, injured athletes who are looking for motivation, individuals looking to overcome the pressure of competition, and young children involved in youth sports as well as their parents.
Special focus is geared towards psychological assessment of athletes. Assessment can be both, focused on selection of athletes and the team set up of rosters as well as on professional guidance and counseling of single athletes.

**Sports Psychology - Makes Sportmen Perform Better**

Modern day sports are very demanding. It requires for the sportmen and athletes alike to perform to the very best of their abilities and beyond. So it becomes all the more important that the athletes do get the maximum help that they can in order to compete and win in a highly competitive environment. While it is important that the athlete should have the necessary skills required to excel in a particular sporting event, the sports team that he or she is a part of also forms an equally important contributing factor for the athlete’s success. The team includes supporters, trainers and sports doctors among others, who are all doing their bit in ensuring that the athlete performs in competitions at the height of the mental, physical and emotional abilities that he or she is capable of. In all of this, one area of psychology has an important part to play, and that is sports psychology.

Sports psychology is concerned with preparing the athlete or teams to be able to handle the high emotional stress levels that come with participating in sports competitions. Psychologists and sports
trainers can work in tandem to enhance the performance levels of the athlete. The coach can give appropriate information about the particular athlete to the psychologist, who will then be able to derive the psychological and behavioral patterns of the athlete before an event. With the help of this mental picture as well as the characteristic mental attitude of the athlete, the coach will be able to set up the most effective training schedule that will bring out the best in all of the athlete's capabilities. Thus, sports trainers can use psychology and help their charges better and get the best performance out of them.

In order to better equip the athlete or teams for sports competitions, the coaches will have to have an idea about sports psychology. Event though it is not necessary for them to be experts in psychology, it does help their wards a lot if coaches are able to gauge the mental condition of the athletes before and during a competition. One of the best examples of the benefits of sports psychology can be witnessed in and during several sports competitions that are held over long periods and test the endurance levels of the different sportsmen. In such events, you will be able to see that certain of the athletes will be handling themselves through the competition with much lesser effort than others. These athletes and sportsmen will be turning up their peak performances with high levels of endurance and focus notwithstanding the length of the sporting competition.
Now it becomes clear that these athletes would have had a coach with an idea about sports psychology and the advantages that it brings along to the performing athletes. On the other hand, you will also see other athletes who appear to be struggling to maintain focus and complete goals; these will be the ones who might not have had the benefit of sports psychology.

Like in the other fields of psychology, sports psychology also deals with the complex human mind. Only it is more oriented towards extending the advantage of understanding the athletes' minds and giving them every chance of outperforming themselves and others. So a sports psychologist forms a necessary part of every sports team.

Sports psychology: Mental toughness: do you have what it takes to maintain focus, motivation and self-belief when the going gets hard?

There are certain moments during competition that appear to carry great psychological significance, when the momentum starts to shift in one direction or another. These situations require athletes to remain completely focused and calm in the face of difficult circumstances. Tennis players talk of the 'big' points during a tight match, such as a fleeting chance to break serve; for an athlete, it could be the final triple-jump in the competition after seriously under-
performing; for a footballer, it could be how you react to a perceived bad refereeing decision or to going behind in a match your team are expected to win. Think about times when things have not gone quite to plan and how you reacted. The journey towards peak performance is rarely a perfectly smooth road and we learn from our mistakes – or should do. Do setbacks shake your self-belief and lower your motivation or act as a catalyst for even greater effort?

Even great athletes and teams suffer setbacks. Olympic athlete Steve Backley is a prime example. In his book The Winning Mind, Backley cites his psychological strengths and, at times, his weaknesses as major determinants of whether he performed near to or below his own strict targets in competition. He talks of the transition from young up-and-coming javelin thrower to major international competitor when, after experiencing success so often as a junior, he found himself under-prepared for the mental hurdles and barriers created by higher-level competition. Backley says psychological strategies were the key to helping him to deal with this competitive stress.

Most top athletes and coaches believe that psychological factors play as crucial a role as physical attributes and learned skills in the make-up of champions. When physical skills are evenly matched – as they tend to be in competitive sport – the competitor with greater control over his or her mind will usually emerge as the victor. Mental
strength is not going to compensate for lack of skill, but in close contests it can make the difference between winning and losing.

A key question for sport and exercise psychologists is whether champions have simply inherited the dominant psychological traits necessary for success or whether mental toughness can be acquired through training and experience. Recent research has attempted to explore the concept of mental toughness in sport more thoroughly, and it appears that, while some people are naturally more tough-minded than others, people can be ‘toughened-up’ with the correct approach to training.

What do we mean by mental toughness? It is probably easiest to define in terms of how it affects behaviour and performance. A mentally tough athlete is likely to:

- achieve relatively consistent performances regardless of situational factors;
- retain a confident, positive, optimistic outlook, even when things are not going well, and not ‘choke’ under pressure;
- deal with distractions without letting them interfere with optimal focus;
- tolerate pain and discomfort;
- remain persistent when the ‘going gets tough’;
- have the resilience to bounce back from disappointments.
Self-concept

Sentience is the ability to feel or perceive subjectively. It is an important concept in philosophy, particularly in the philosophy of animal rights and in eastern philosophy, as well as in science fiction and the study of artificial intelligence, although in each of these fields the term is used slightly differently. Advocates of animal rights argue that all animals are sentient in that they can feel pleasure and pain, which entails the presumption of certain moral rights and ought to entail some legal rights. In eastern philosophy, sentience is a metaphysical quality of all things that requires our respect and care. In science fiction, sentience is "personhood": the essential quality that separates humankind from machines or lower animals. Sentience is used in the study of consciousness to describe the ability to have sensations or experiences, known to some philosophers as "qualia".

Non-human animal rights and sentience

In the philosophy of animal rights, sentience entails the ability to experience pleasure and pain. Animal rights advocates argue that anything that can suffer is sentient and that anything sentient is deserving of rights.

In the 17th century Thomas Tryon, a self-identified Pythagorean, raised the issue of non-human suffering. Soon thereafter, many philosophers used the anatomical discoveries of the
Enlightenment as a reason to include animals in what philosophers call "sympatheia," the principle of who or what deserves sympathy. Benjamin Franklin's autobiography identifies Tryon's writings as an influence in his decision to try vegetarianism; later in the book, he reverts to eating meat while still following Tryon's basic philosophy. Joseph Ritson coupled Tryon's work with Rousseau's for "Essay on Abstinence from Animal Food" as many Rousseauists became vegetarian. Voltaire compared the Hindu treatment of animals to how Europe's emperors & Popes treated even their fellow men, praising the former and heaping shame upon the latter; in the 17th century, Descartes, Pierre Gassendi, and Francis Bacon also advocated vegetarianism.

The 18th century philosopher Jeremy Bentham compiled Enlightenment beliefs in An Introduction to the Principles of Morals and Legislation, and he included his own reasoning in a comparison between slavery and sadism toward animals:

The French have already discovered that the blackness of the skin is no reason why a human being should be abandoned without redress to the caprice of a tormentor [see Louis XIV's hat] else is it that should trace the insuperable line? Is it the faculty of reason, or, perhaps, the faculty of discourse? But a full-grown horse or dog is beyond comparison a more rational, as well as a more conversable animal, than an infant of a day, or a week, or even a
month, old. But suppose the case were otherwise, what would it avail? The question is not, "Can they reason?" nor, "Can they talk?" but, "Can they suffer?"

In the 20th century, Princeton University professor Peter Singer argued that Bentham's conclusion is often dismissed by an appeal to a distinction that condemns human suffering but allows non-human suffering, typically "appeals" that are logical fallacies. Because many of the suggested distinguishing features of humanity—extreme intelligence; highly complex language; etc.—are not present in marginal cases such as young or mentally disabled humans, it appears that the only distinction is a prejudice based on species alone, which non-human animal rights supporters call speciesism—that is, differentiating humans from other animals purely on the grounds that they are human.

Gary Francione also bases his abolitionist theory of animal rights, which differs significantly from Singer's, on sentience. He asserts that "all sentient beings, humans or nonhuman, have one right: the basic right not to be treated as the property of others."

Andrew Linzey, founder of the Oxford Centre for Animal Ethics in England, is known as a foremost international advocate for recognizing animals as sentient beings in Biblically-based faith traditions. The Interfaith Association of Animal Chaplains
encourages animal ministry groups to adopt a policy of recognizing and valuing sentient beings.

Science fiction

In science fiction, an alien, android, robot, hologram or computer who is described as "sentient" is often ascribed qualities such as will, desire, consciousness, ethics, personality, intelligence, insight, and so on. Sentience is being used in this context to describe an essential human property that brings all these other qualities with it. An entity that it is "sentient" will be treated as completely human character, with similar rights, capabilities and desires as any other character. The words sapience, self-awareness and consciousness are used in similar ways in science fiction.

Some science fiction plot lines explore ethical concerns analogous to the concerns of advocates of animal rights. In an episode of Star Trek: The Next Generation, "The Measure of a Man," Data, a sentient android, takes legal action to prove that he has the same rights as a human being. In the Star Trek: Voyager episode "Author, Author" the Doctor, a holographic program by nature, fights for his rights as a sentient lifeform. The film Artificial Intelligence: A.I. considers a machine in the form of a small boy which has been given the ability to feel human emotions, including the capacity to suffer.
In many science fiction works sentience is often used as a synonym for sapience meaning "human-level or higher intelligence". But others make a distinction; for example, in David Brin's Uplift stories, the Tandu are undoubtedly sapient (both technologically skilled and cunning) but only marginally sentient, since they regard other races and sometimes other Tandu mainly as potential prey.[citation needed]

**Eastern religion**

Eastern religions including Hinduism, Buddhism, Sikhism, and Jainism recognize nonhumans as sentient beings. In Jainism and Hinduism, this is closely related to the concept of ahimsa, nonviolence toward other beings. In Jainism, all matter is endowed with sentience; there are five degrees of sentience, from one to five! Water, for example, is a sentient being of first order, as it is considered to possess only one sense, that of touch. Man is considered to be sentient being of the fifth order. According to Buddhism, sentient beings made of pure consciousness are possible. In Mahayana Buddhism, which includes Zen and Tibetan Buddhism, the concept is related to the Bodhisattva, an enlightened being devoted to the liberation of others. The first vow of a Bodhisattva states: "Sentient beings are numberless; I vow to free them."

Sentience is, from a Buddhist perspective, the state of having senses (sat + ta in Pali or sat + tva in Sanskrit). In Buddhism, the
senses are six in number, the sixth being the mind or consciousness, just as consciousness is in the whole body. Sentience, then, is the ability to sense / experience pain and pleasure, make conscious choices, such as abstaining from action, speech, speculation, etc. Thus, while an animal qualifies as a sentient being, a computer doesn’t, for at least two reasons: (a) Even if it makes intelligent decisions (which no computer will ever be capable of without sentience), it has to be programmed by an outside agent (human or even a super-computer), whereas a sentient being is self-directed, and (b) a computer must always perform using instructions in order to communicate, whereas a sentient being, can still express in silence - through kinesics (body language), oculesics (eye language) and proxemics (distance).

Philosophy and sentience

In the philosophy of consciousness, "sentience" can refer to the human ability to have subjective perceptual experiences, or "qualia".[5] This is distinct from other aspects of the mind and consciousness, such as creativity, intelligence, sapience, self-awareness and intentionality (the ability to have thoughts that mean something or are "about" something). Sentience is a more general concept than consciousness, which is often used to imply a form of sentience that includes a sense of time, place and self.
Some philosophers, notably Colin McGinn, believe that sentience will never be understood, a position known as New Mysterianism. They do not deny that most other aspects of consciousness are subject to scientific investigation but they argue that subjective experiences will never be explained; i.e., sentience is the only aspect of consciousness that can't be explained. Other philosophers (such as Daniel Dennett) disagree, arguing that all aspects of consciousness will eventually yield to scientific investigation.

**Sentience quotient**

The **Sentience Quotient** concept was introduced by Robert A. Freitas Jr. in the late 1970s. It defines sentience as the relationship between the information processing rate of each individual processing unit (neuron), the weight/size of a single unit and the total number of processing units (expressed as mass). It was proposed as a measure for the sentience of all beings living and computer from a single neuron up to a hypothetical being at the theoretical computational limit of the entire universe. On a logarithmic scale it runs from -70 up to +50.

**Sentience vs. Sapience**

The word sentient is often confused with the word sapient, which can connote knowledge, consciousness or apperception. The
root of the confusion is that the word conscious has a number of different usages in the English language. The two words can be distinguished by looking at their Latin roots: sentire, "to feel"; and sapere, "to know." Thus, sentience is a subjective experience, while sapience is a somewhat more objective cognitive ability.

Self-consciousness

Self-consciousness is an acute sense of self-awareness. It is a preoccupation with oneself, as opposed to the philosophical state of self-awareness, which is the awareness that one exists as an individual being. An unpleasant feeling of self-consciousness may occur when we realize that we are being watched or observed, the feeling that "everyone is looking" at us. Some people are habitually more self-conscious than others. Feelings of self-consciousness are sometimes associated with shyness or paranoia.

Impairment

When feeling self-conscious, one becomes aware of even the smallest of one's own actions. Such awareness can impair one's ability to perform complex actions. For example, a piano player may "choke", lose confidence, and even lose the ability to perform at the moment they notice the audience. This is a function of the
psychological phenomenon of social facilitation. As self-consciousness fades one may regain the ability to "lose one's self". Adolescence is believed to be a time of heightened self-consciousness. A person with a chronic tendency toward self-consciousness may be shy or introverted.

Psychology

Unlike self-awareness, self-consciousness can be a problem at times. It is often associated with shyness and embarrassment, and can affect self-esteem. In a positive context, self-consciousness may affect the development of identity, because it is during periods of high self-consciousness that people come the closest to knowing themselves objectively. Self-consciousness affects people in varying degrees, as some people are constantly self-monitoring or self-involved, while others are completely oblivious about themselves. [citation needed]

Psychologists frequently distinguish between two kinds of self-consciousness, private and public. Private self-consciousness is a tendency to introspect and examine one's inner self and feelings. Public self-consciousness is an awareness of the self as it is viewed by others. This kind of self-consciousness can result in self-monitoring and social anxiety. Both private and public self-consciousness are viewed as personality traits that are relatively stable over time, but they are not correlated. Just because an
individual is high on one dimension doesn't mean that he or she is high on the other.

Different levels of self-consciousness affect behavior, as it is common for people to act differently when they "lose themselves in a crowd". Being in a crowd, being in a dark room, or wearing a disguise creates anonymity and temporarily decrease self-consciousness (see deindividuation). This can lead to uninhibited, sometimes destructive behavior.

Self-esteem

Self-esteem encompasses beliefs (for example, "I am competent/incompetent") and emotions (for example, triumph/despair, pride/shame). Behavior may reflect self-esteem (for example, assertiveness/timorousness, confidence/caution).

Psychologists usually regard self-esteem as an enduring personality characteristic (trait self-esteem), though normal, short-term variations (state self-esteem) occur.

Self-esteem can apply specifically to a particular dimension (for example, "I believe I am a good writer, and feel proud of that in particular") or have global extent (for example, "I believe I am a good person, and feel proud of myself in general").

Synonyms or near-synonyms of self-esteem include: self-worth, self-regard, self-respect, self-love (which can express overtones of
self-promotion), self-integrity. Self-esteem is distinct from self-confidence and self-efficacy, which involve beliefs about ability and future performance.

History of the concept

The Oxford English Dictionary (OED) traces the use of the word "self-esteem" in English back as far as 1657. John Milton is argued to have first coined this term. After a career in the proto-psychological lore of phrenology in the 19th century the term entered more mainstream psychological use in the work of the American psychologists and philosophers Lorne Park[citation needed] and William James in 1890.

Self-esteem has become the third most frequently occurring theme in psychological literature: as of 2003 over 25,000 articles, chapters, and books referred to the topic.[9]

Definitions

Given a long and varied history, the term has, unsurprisingly, no less than three major types of definitions in the field, each of which has generated its own tradition of research, findings, and practical applications:

1. The original definition presents self-esteem as a ratio found by dividing one’s successes in areas of life of importance to a given
individual by the failures in them or one's "success / pretensions". Problems with this approach come from making self-esteem contingent upon success: this implies inherent instability because failure can occur at any moment.

2. In the mid 1960s Morris Rosenberg and social-learning theorists defined self-esteem in terms of a stable sense of personal worth or worthiness, (see Rosenberg self esteem scale). This became the most frequently used definition for research, but involves problems of boundary-definition, making self-esteem indistinguishable from such things as narcissism or simple bragging.

3. Nathaniel Branden in 1969 briefly defined self-esteem as "...the experience of being competent to cope with the basic challenges of life and being worthy of happiness". This two-factor approach, as some have also called it, provides a balanced definition that seems to be capable of dealing with limits of defining self-esteem primarily in terms of competence or worth alone.

Branden's (1969) description of self-esteem includes the following primary properties:
1. self-esteem as a basic human need, i.e., "...it makes an essential contribution to the life process", "...is indispensable to normal and healthy self-development, and has a value for survival."

2. self-esteem as an automatic and inevitable consequence of the sum of individuals' choices in using their consciousness

3. something experienced as a part of, or background to, all of the individuals thoughts, feelings and actions.

Self esteem is a concept of personality, for it to grow, we need to have self worthy, and this self worthy will be sought from embracing challenges that result in the showing of success.

Compare the usage of terms such as self-love or self-confidence. Implicit self-esteem refers to a person's disposition to evaluate themselves positively or negatively in a spontaneous, automatic, or unconscious manner. It contrasts with explicit self-esteem, which entails more conscious and reflective self-evaluation. Both explicit and implicit self-esteem are subtypes of self-esteem proper.

Implicit self-esteem is assessed using indirect measures of cognitive processing. These include the Name Letter Task and the Implicit Association Test. Such indirect measures are designed to reduce awareness of, or control of, the process of assessment. When used to assess implicit self-esteem, they feature stimuli designed to
represent the self, such as personal pronouns (e.g., "I") or letters in one's name.

Measurement

For the purposes of empirical research, psychologists typically assess self-esteem by a self-report inventory yielding a quantitative result. They establish the validity and reliability of the questionnaire prior to its use. Researchers are becoming more interested in measures of implicit self-esteem. Popular lore recognizes just "high" self-esteem and "low" self-esteem. The Rosenberg Self-Esteem Scale (1965) and the Coopersmith Self-Esteem Inventory (1967/1981) feature among the most widely used systems for measuring self-esteem. The Rosenberg test usually uses a ten-question battery scored on a four-point response-system that requires participants to indicate their level of agreement with a series of statements about themselves. The Coopersmith Inventory uses a 50-question battery over a variety of topics and asks subjects whether they rate positive or negative characteristics of someone as similar or dissimilar to themselves.

Theories

Many early theories suggested that self-esteem is a basic human need or motivation. American psychologist Abraham Maslow, for example, included self-esteem in his hierarchy of needs. He described
two different forms of esteem: the need for respect from others and the need for self-respect, or inner self-esteem. Respect from others entails recognition, acceptance, status, and appreciation, and was believed to be more fragile and easily lost than inner self-esteem. According to Maslow, without the fulfillment of the self-esteem need, individuals will be driven to seek it and unable to grow and obtain self-actualization.

Modern theories of self-esteem explore the reasons why humans are motivated to maintain a high regard for themselves. Sociometer theory maintains that self-esteem evolved to check one's level of status and acceptance in one's social group. According to terror management theory, self-esteem serves a protective function and reduces anxiety about life and death.

**Quality and level of self-esteem**

Level and quality of self-esteem, though correlated, remain distinct. Level-wise, one can exhibit high but fragile self-esteem (as in narcissism) or low but stable self-esteem (as in humility). However, investigators can indirectly assess the quality of self-esteem in several ways:

1. in terms of its constancy over time (stability)
2. in terms of its independence of meeting particular conditions (non-contingency)
Humans have portrayed the dangers of excessive self-esteem and the advantages of more humility since at least the development of Greek tragedy, which typically showed the results of hubris.

Self-esteem, grades and relationships

From the late 1970s to the early 1990s many Americans assumed as a matter of course that students' self-esteem acted as a critical factor in the grades that they earn in school, in their relationships with their peers, and in their later success in life. Given this assumption, some American groups created programs which aimed to increase the self-esteem of students. Until the 1990s little peer-reviewed and controlled research took place on this topic.

The self-concept is composed of relatively permanent self-assessments, such as personality attributes, knowledge of one's skills and abilities, one's occupation and hobbies, and awareness of one's physical attributes. For example, the statement, "I am lazy" is a self-assessment that contributes to the self-concept. In contrast, the statement "I am tired" would not normally be considered part of someone's self-concept, since being tired is a temporary state. Nevertheless, a person's self-concept may change with time, possibly going through turbulent periods of identity crisis and reassessment.
The self-concept is not restricted to the present. It includes past selves and future selves. Future selves or "possible selves" represent individuals' ideas of what they might become, what they would like to become, and what they are afraid of becoming. They correspond to hopes, fears, standards, goals, and threats. Possible selves may function as incentives for future behavior and they also provide an evaluative and interpretive context for the current view of self.

Peer-reviewed research undertaken since then has not validated previous assumptions. Recent research indicates that inflating students' self-esteem in and of itself has no positive effect on grades. One study has shown that inflating self-esteem by itself can actually decrease grades.

High self-esteem correlates highly with self-reported happiness. However, it is not clear which, if either, necessarily leads to the other. Additionally, self-esteem has been found to be related to forgiveness in close relationships, in that people with high self-esteem will be more forgiving than people with low self-esteem.

The relationship involving self-esteem and academic results does not signify that high self-esteem contributes to high academic results. It simply means that high self-esteem may be accomplished due to high academic performance.
Bullying, violence and murder

Some of the most interesting results of recent studies center on the relationships between bullying, violence, and self-esteem. People used to assume that bullies acted violently towards others because they suffered from low self-esteem (although supporters of this position offered no controlled studies to back up this belief).

These findings suggest that the low-esteem theory is wrong. But none involves what social psychologists regard as the most convincing form of evidence: controlled laboratory experiments. When we conducted our initial review of the literature, we uncovered no lab studies that probed the link between self-esteem and aggression.

In contrast to old beliefs, recent research indicates that bullies act the way that they do because they suffer from unearned high self-esteem.

Violent criminals often describe themselves as superior to others - as special, elite persons who deserve preferential treatment. Many murders and assaults are committed in response to blows to self-esteem such as insults and humiliation. (To be sure, some perpetrators live in settings where insults threaten more than their opinions of themselves. Esteem and respect are linked to status in the social hierarchy, and to put someone down can have tangible and even life-threatening consequences.)
The presence of superiority-complexes can be seen both in individual cases, such as the criminals Roy Baumeister studied, and in whole societies, such as Germany under the Nazi regime.

The findings of this research do not take into account that the concept of self-esteem lacks a clear definition and that differing views exist of the precise definition of self-esteem. In his own work, Baumeister often uses a "common use" definition: self-esteem is how you regard yourself (or how you appear to regard yourself) regardless of how this view was cultivated. Other psychologists believe that a "self esteem" that depends on external validation of the self (or other people's approval), such as what seems relevant in the discussion of violent people, does not, in fact, equate to "true" self-esteem. Nathaniel Branden labeled external validation as "pseudo self-esteem", arguing that "true self-esteem" comes from internal sources, such as self-responsibility, self-sufficiency and the knowledge of one's own competence and capability to deal with obstacles and adversity, regardless of what other people think.

Psychologists who agree with Branden's view dismiss Baumeister's findings. Such psychologists say that Baumeister mistakes narcissism as "high self-esteem" in criminals. They see such narcissism as an inflated opinion of self, built on shaky grounds, and opine that violence comes when that opinion comes under threat. Those with "true" self-esteem who valued themselves and believed
wholly in their own competence and worth would have no need to resort to violence or indeed have any need to believe in their superiority or to prove their superiority.

Contingencies of self-worth

Contingencies of self-worth comprise those qualities a person believes he or she must have in order to class as a person of value; proponents claim the contingencies as the core of self-esteem. According to the "Contingencies of Self-Worth model" (Crocker & Wolfe, 2001) people differ in their bases of self-esteem. Their beliefs — beliefs about what they think they need to do or who they need to "be" in order to class as a person of worth — form these bases. Crocker and her colleagues (2001) identified seven "domains" in which people frequently derive their self-worth:

1. Virtue
2. God's love
3. Support of family
4. Academic competence
5. Physical attractiveness
6. Gaining others' approval
7. Outdoing others in competition
Individuals who base their self-worth in a specific domain (such as, for example, academic success) leave themselves much more vulnerable to having their self-esteem threatened when negative events happen to them within that domain (such as when they fail a test at school). A 2003 study by Crocker found that students who based their contingency of self-worth on academic criteria had a greater likelihood of experiencing lower-state self-esteem, greater negative affect, and negative self-evaluative thoughts when they did not perform well on academic tasks, when they received poor grades, or when graduate schools rejected them (Crocker, Karpinski, Quinn, & Chase, 2003; Crocker, Sommers, & Luhtanen, 2002).

Crocker and her colleagues (2003) have constructed the "Contingencies of Self-Worth Scale", which measures the seven domains mentioned above that previous research had hypothesized as providing important internal and external sources of self-esteem. Crocker argues that the domains on which people base self-worth play a greater role than whether self-worth is actually contingent or not. Contingencies of self-worth can function internally, externally, or somewhere in between. Some research has shown that external contingencies of self-worth, such as physical appearance and academic success, correlate negatively to well-being, even promoting depression and eating-disorders (Jambekar, Quinn, & Crocker, 2001). Other work has found internal contingencies, on the other hand,
unrelated or even positively related to well-being (Sargent, Crocker, & Luhtanen, 2006).

Research by Crocker and her colleagues also suggests that contingencies of self-worth have self-regulatory properties (Crocker, Luhtanen, Cooper, & Bouvrette, 2003). Crocker et al. define successful self-regulation as "the willingness to exert effort toward one's most important goals, while taking setbacks and failures as opportunities to learn, identify weaknesses and address them, and develop new strategies toward achieving those goals" (Crocker, Brook, & Niiya, 2006). Since many individuals strive for a feeling of value, it makes sense that those people would experience special motivation to succeed and actively to avoid failure in the domains on which they base their own self-worth. Accordingly, successful self-regulation can prove difficult for people aiming to maintain and enhance their self-esteem, because they would have to actually embrace failure or criticism as a learning opportunity, rather than avoid it. Instead, when a task which individuals see as fundamental to their self-worth proves difficult and failure seems probable, contingencies of self-worth lead to stress, feelings of pressure, and a loss of intrinsic motivation. In these cases, highly contingent people may withdraw from the situation. On the other hand, the positive emotional affect following success in a domain of contingency may become addictive for the highly contingent
individual (Baumeister & Vohs, 2001). Over time, these people may require even greater successes to achieve the same satisfaction or emotional "high". Therefore, the goal to succeed can become a relentless quest for these individuals (Crocker & Nuer, 2004).

Researchers such as Crocker believe that people confuse the boosts to self-esteem resulting from successes with true human needs, such as learning, mutually supportive relationships, autonomy, and safety (Crocker & Nuer, 2004; Crocker & Park, 2004; Deci & Ryan, 2000). Crocker claims that people do not seek "self-esteem", but basic human needs, and that the contingencies on which they base their self-esteem has more importance than the level of self-esteem itself.

Criticism and controversy

The concept of self-esteem has been criticized by different camps but notably by figures like Dalai Lama, Carl Rogers, Paul Tillich, Alfred Korzybski and George Carlin.

Perhaps one of the strongest theoretical and operational critiques of the concept of self-esteem has come from American psychologist Albert Ellis who on numerous occasions criticized the philosophy as essentially self-defeating and ultimately destructive. Although acknowledging the human propensity and tendency to ego rating as innate, he has claimed that the philosophy of self-esteem in
the last analysis is both unrealistic, illogical and self- and socially destructive – often doing more harm than good. Questioning the foundations and usefulness of generalized ego strength, he has claimed that self-esteem is based on arbitrary definitional premises, over-generalized, perfectionistic and grandiose thinking. Acknowledging that rating and valuing behaviours and characteristics is functional and even necessary, he sees rating and valuing human beings totality and total selves as irrational, unethical and absolutistic. The more healthy alternative to self-esteem according to him is unconditional self-acceptance and unconditional other-acceptance and these concepts are incorporated in his therapeutic system Rational Emotive Behavior Therapy. In 2005 he released a book with a detailed analysis of the concept of self-esteem titled "The Myth of Self-esteem".

Identity crisis (psychology)

Description

The identity is "a subjective sense as well as an observable quality of personal sameness and continuity, paired with some belief in the sameness and continuity of some shared world image. As a quality of unself-conscious living, this can be gloriously obvious in a young person who has found himself as he has found his communality. In him we see emerge a unique unification of what is
irreversibly given—that is, body type and temperament, giftedness and vulnerability, infantile models and acquired ideals—with the open choices provided in available roles, occupational possibilities, values offered, mentors met, friendships made, and first sexual encounters." (Erikson, 1970.)

According to Erikson's stages, the onset of the identity crisis is in the teenage years, and only individuals who succeed in resolving the crisis will be ready to face future challenges in life. But the identity crisis may well be recurring, as the changing world demands us to constantly redefine ourselves. Erikson suggested that people experience an identity crisis when they lose "a sense of personal sameness and historical continuity". Given today's rapid development in technology, global economy, dynamics in local and world politics, one might expect identity crises to recur more commonly now than even thirty years ago, when Erikson formed his theory.

Seven areas

If you find yourself (again) in an identity crisis, you can look at seven areas of difficulty in which to work towards a resolution.
Time Perspective

Can you distinguish immediate gratification from long-term goals? Have you learned to balance between jumping at opportunities as soon as they are presented to you and working steadily and patiently towards your long-term goal?

Self-Certainty

Do you feel consistent in your self-image and the image you present to others?

Role Experimentation

Have you tried different roles in search of the one that feels right to you?

Anticipation of Achievement

Do you believe that you will be successful in what you choose to do -- whether your role is at the work front or home front?

Sexual Identity

Do you feel comfortable being a male or a female, and dealing with others as such?
Leadership polarization

Are you able to become both a leader and a follower, whichever is called for in a given situation?

Ideological

Have you found a set of basic social, philosophical, or religious values that your outlook on life can be based upon?

Self (psychology)

The self is a key construct in several schools of psychology, broadly referring to the cognitive representation of one's identity. The earliest formulation of the self in modern psychology stems from the distinction between the self as I, the subjective knower, and the self as Me, the object that is known. Current views of the self in psychology diverge greatly from this early conception, positioning the self as playing an integral part in human motivation, cognition, affect, and social identity.

The Self in Kohut's Formulation

Heinz Kohut initially proposed a bipolar self compromising two systems of narcissistic perfection: 1) a system of ambitions and, 2) a system of ideals. Kohut called the pole of ambitions the narcissistic self (later, the grandiose self), while the pole of ideals was
designated the idealized parental imago. According to Kohut, these poles of the self represented natural progressions in the psychic life of infants and toddlers.

Kohut argued that when the child's ambitions and exhibitionistic strivings were chronically frustrated, arrests in the grandiose self led to the preservation of a false, expansive sense of self that could manifest outwardly, in the visible grandiosity of the frank narcissist, or remain hidden from view, unless discovered in a narcissistic therapeutic transference (or selfobject transference) that would expose these primitive grandiose fantasies and strivings. Kohut termed this form of transference a mirror transference. In this transference, the strivings of the grandiose self are mobilized and the patient attempts to use the therapist to gratify these strivings.

Kohut proposed that arrests in the pole of ideals occurred when the child suffered chronic and excessive disappointment over the failings of early idealized figures. Deficits in the pole of ideals were associated with the development of an idealizing transference to the therapist who becomes associated with the patient's primitive fantasies of omnipotent parental perfection.

Kohut believed that narcissistic injuries were inevitable and, in any case, necessary to temper ambitions and ideals with realism through the experience of more manageable frustrations and disappointments. It was the chronicity and lack of recovery from
these injuries (arising from a number of possible causes) that he regarded as central to the preservation of primitive self systems untempered by realism.

By 1984, Kohut's observation of patients led him to propose two additional forms of transference associated with self deficits: 1) the twinship and, 2) the merger transference. In his later years, Kohut believed that selfobject needs were both present and quite varied in normal individuals, as well as in narcissistic individuals. To be clear, selfobjects are not external persons. Kohut and Wolf, 1978 explain:

"Selfobjects are objects which we experience as part of our self; the expected control over them is, therefore, closer to the concept of control which a grownup expects to have over his own body and mind than to the concept of control which he expects to have over others. (p.413)"

Kohut's notion of the self can be difficult to grasp because it is experience-distant, although it is posited based upon experience-near observation of the therapeutic transference. Kohut relied heavily on empathy as a method of observation. Specifically, the clinician's observations of his or her own feelings in the transference help the clinician see things from the subjective view of the patient -- to experience the world in ways that are closer to the way the patient
experiences it. (note: Kohut did not regard empathy as curative. Empathy is a method of observation).

**Jung self**

In Jungian theory, the Self is one of the archetypes. It signifies the coherent whole, unified consciousness and unconscious of a person. The Self, according to Jung, is realised as the product of individuation, which in Jungian view is the process of integrating one's personality. For Jung, the self is symbolised by the circle (especially when divided in four quadrants), the square, or the mandala.

What distinguishes Jungian psychology is the idea that there are two centers of the personality. The ego is the center of consciousness, whereas the Self is the center of the total personality, which includes consciousness, the unconscious, and the ego. The Self is both the whole and the center. While the ego is a self-contained little circle off the center contained within the whole, the Self can be understood as the greater circle.

**Critiques of the concept of selfhood**

'Selfhood' or complete autonomy is a common Western approach to psychology and models of self are employed constantly in areas such as psychotherapy and self help. Edward E. Sampson (1989) argues that the preoccupation with independence is harmful in
that it creates racial, sexual and national divides and does not allow for observation of the self-in-other and other-in-self.

The very notion of selfhood is an attacked idea because it is seen as necessary for the mechanisms of advanced capitalism to function. In Inventing our selves: Psychology, power, and personhood, Nikolas Rose (1998) proposes that psychology is now employed as a technology that allows humans to buy into an invented and arguably false sense of self. Rose believes that freedom assists governments and exploitation.

It is said by some that for an individual to talk about, explain, understand or judge oneself is linguistically impossible, since it requires the self to understand its self. This is seen as philosophically invalid, being self-referential, or reification, also known as a circular argument. Thus, if actions arise so that the self attempts self-explanation, confusion may well occur within linguistic mental pathways and processes.

**Self-efficacy**

**Self-efficacy** is the belief that one is capable of performing in a certain manner to attain certain goals. It is a belief that one has the capabilities to execute the courses of actions required to manage prospective situations. Unlike efficacy, which is the power to produce an effect (in essence, competence), self-efficacy is the belief (whether
or not accurate) that one has the power to produce that effect. For example, a person with high self efficacy may engage in a more health related activity when an illness occurs, whereas a person with low self efficacy would harbor feelings of hopelessness.

It is important here to understand the distinction between self-esteem and self-efficacy. Self-esteem relates to a person’s sense of self-worth, whereas self-efficacy relates to a person’s perception of their ability to reach a goal. For example, say a person is a terrible rock climber, they would probably have poor self-efficacy with regard to rock climbing, but this need not affect their self-esteem since most people don’t invest much of their self-esteem in this activity. Conversely, one might have enormous skill at rock climbing, yet set such a high standard for oneself that self-esteem is low. At the same time, someone who has high self-efficacy in general might think that they are good at rock climbing even when they are not, or, knowing they are not, still believe that they could do it, and could quickly learn.

Social cognitive theory

Psychologist Albert Bandura has defined self-efficacy as our belief in our ability to succeed in specific situations. Your sense of self-efficacy can play a major role in how you approach goals, tasks, and challenges. The concept of self-efficacy lies at the centre of
Bandura’s social cognitive theory, which emphasizes the role of observational learning and social experience in the development of personality. According to Bandura’s theory, people with high self-efficacy - that is, those who believe they can perform well - are more likely to view difficult tasks as something to be mastered rather than something to be avoided.

**How self-efficacy affects human function**

Choices regarding behaviour People will be more inclined to take on a task if they believe they can succeed. People generally avoid tasks where their self-efficacy is low, but will engage in tasks where their self-efficacy is high. People with a self-efficacy significantly beyond their actual ability often overestimate their ability to complete tasks, which can lead to difficulties. On the other hand, people with a self-efficacy significantly lower than their ability are unlikely to grow and expand their skills. Research shows that the ‘optimum’ level of self-efficacy is a little above ability, which encourages people to tackle challenging tasks and gain valuable experience.

Motivation

People with high self-efficacy in a task are more likely to make more of an effort, and persist longer, than those with low efficacy. On
the other hand, low self-efficacy provides an incentive to learn more about the subject. As a result, someone with a high efficacy may not prepare sufficiently for a task.

Thought patterns & responses

Low self-efficacy can lead people to believe tasks are harder than they actually are. This often results in poor task planning, as well as increased stress. Observational evidence shows that people become erratic and unpredictable when engaging in a task in which they have low efficacy. On the other hand, people with high self-efficacy often take a wider overview of a task in order to take the best route of action. People with high self-efficacy are shown to be encouraged by obstacles to make a greater effort. Self-efficacy also affects how people respond to failure. A person with a high self-efficacy will attribute the failure to external factors, where a person with low self-efficacy will attribute failure to low ability. For example; a person with high self-efficacy in regards to mathematics may attribute a poor result to a harder than usual test, feeling sick, lack of effort or insufficient preparation. A person with a low self-efficacy will attribute the result to poor ability in mathematics.
Health behaviours such as non-smoking, physical exercise, dieting, condom use, dental hygiene, seat belt use, or breast self-examination are, among others, dependent on one's level of perceived self-efficacy (Conner & Norman, 2005). Self-efficacy beliefs are cognitions that determine whether health behaviour change will be initiated, how much effort will be expended, and how long it will be sustained in the face of obstacles and failures. Self-efficacy influences the effort one puts forth to change risk behaviour and the persistence to continue striving despite barriers and setbacks that may undermine motivation. Self-efficacy is directly related to health behaviour, but it also affects health behaviours indirectly through its impact on goals. Self-efficacy influences the challenges that people take on as well as how high they set their goals (e.g., "I intend to reduce my smoking," or "I intend to quit smoking altogether").

A number of studies on the adoption of health practices have measured self-efficacy to assess its potential influences in initiating behaviour change (Luszczynska, & Schwarzer, 2005). Often single-item measures or very brief scales (e.g., 4 items) have been used. It is actually not necessary to use larger scales if a specific behaviour is to be predicted. More important is rigorous theory-based item wording. A rule of thumb is to use the following semantic structure: "I am certain that I can do xx, even if yy (barrier)" (Schwarzer, 2008). If the target behavior is less specific, one can either go for more items that
jointly cover the area of interest, or develop a few specific subscales. Whereas general self-efficacy measures refer to the ability to deal with a variety of stressful situations, measures of self-efficacy for health behaviors refer to beliefs about the ability to perform certain health behaviours. These behaviours may be defined broadly (i.e., healthy food consumption) or in a narrow way (i.e., consumption of high-fibre food).

**The Destiny Idea**

Bandura successfully showed that people of differing self-efficacy perceive the world in fundamentally different ways. People with a high self-efficacy are generally of the opinion that they are in control of their own lives; that their own actions and decisions shape their lives. On the other hand, people with low self-efficacy may see their lives as somewhat out of their hands.

**Factors affecting self-efficacy**

Bandura points to four sources affecting self-efficacy;

1. Experience

"Mastery experience" is the most important factor deciding a person's self-efficacy. Simply put, success raises self-efficacy, failure lowers it.
"Children cannot be fooled by empty praise and condescending encouragement. They may have to accept artificial bolstering of their self-esteem in lieu of something better, but what I call their accruing ego identity gains real strength only from wholehearted and consistent recognition of real accomplishment, that is, achievement that has meaning in their culture.

2. Modelling - a.k.a. "Vicarious Experience"

“If they can do it, I can do it as well.” This is a process of comparison between a person and someone else. When people see someone succeeding at something, their self-efficacy will increase; and where they see people failing, their self-efficacy will decrease. This process is more effectual where the person sees themselves as similar to his or her model. If a peer who is perceived as having similar ability succeeds, this will usually increase an observer's self-efficacy. Although not as influential as past experience, modelling is a powerful influence when a person is particularly unsure of him- or herself.

3. Social Persuasions

Social persuasions relate to encouragements/discouragements. These can have a strong influence – most people remember times where something said to them significantly altered their confidence. Where positive persuasions increase self-efficacy,
negative persuasions decrease it. It is generally easier to decrease someone's self-efficacy than it is to increase it.

4. Physiological Factors

In unusual, stressful situations, people commonly exhibit signs of distress; shakes, aches and pains, fatigue, fear, nausea, etc. A person's perceptions of these responses can markedly alter a person's self-efficacy. If a person gets 'butterflies in the stomach' before public speaking, those with low self-efficacy may take this as a sign of their own inability, thus decreasing their efficacy further, while those with high self-efficacy is likely to interpret such physiological signs as normal and unrelated to his or her actual ability. Thus, it is the person's belief in the implications of their physiological response that alters their self-efficacy, rather than the sheer power of the response.

Theoretical models

A theoretical model of the effect of self-efficacy on transgressive behavior was developed and verified in research with school children.
Prosodality and moral disengagement

Feelings of self-efficacy with respect to academic work, social interactions, and self-regulation influenced prosocial behaviour and whether or not a child could avoid moral responsibility. Self-regulatory self-efficacy and academic self-efficacy have a negative relationship with moral disengagement (making excuses for bad behaviour, avoiding responsibility for consequences, blaming the victim). Social Self-Efficacy has a positive relationship with prosocial behaviour (helping others, sharing, being kind and cooperative). On the other hand, moral disengagement and prosocial behaviour have a negative relationship. The three types of self-efficacy are positively related.

Over-Efficaciousness in Learning

Research on learning has indicated that in certain circumstances, having less self-efficacy for a subject may be helpful, as negative attitudes towards how quickly/well one will learn can actually prove of benefit. One study uses the foreign language classroom to examine students' beliefs about learning, perceptions of goal attainment, and motivation to continue language study. Survey and interview results indicated students' attributions for success and failure and their expectations for certain subjects' learning ability
played a role in the relationship between goal attainment and volition. It appears that over-efficaciousness negatively affected student motivation. For other students who felt they were "bad at languages," their negative beliefs increased their motivation to study.

Models of Health Behavior Change

Social-cognitive models of health behavior change include the construct of perceived self-efficacy either as predictors, mediators, or moderators. Self-efficacy is supposed to facilitate the forming of behavioral intentions, the development of action plans, and the initiation of action. Moreover, self-efficacy can assist relapse prevention. As a moderator, self-efficacy can support the translation of intentions into action.

Self image

A person's self image is the mental picture, generally of a kind that is quite resistant to change, that depicts not only details that are potentially available to objective investigation by others (height, weight, hair color, sex, IQ, score, etc.), but also items that have been learned by that person about himself or herself, either from personal experiences or by internalizing the judgments of others.
Definition

A simple definition of a person's self image is their answer to this question - "What do you believe people think about you?" A more technical term for self image that is commonly used by social and cognitive psychologists is self-schema. Like any schema, self-schemas store information and influence the way we think and remember. For example, research indicates that information which refers to the self is preferentially encoded and recalled in memory tests, a phenomenon known as "Self-Referential Encoding" (Rogers et al. 1977).

Inaccurate self image

The formation of a healthy self image can be challenging for an individual, especially when family, peers, community, or the general society issues very negative evaluations of a person that happen to be inaccurate. The consequences can be severe for the individual, who may learn self-hatred. They can also be severe for the society. Poor self image may be the result of accumulated invalid criticisms that the person collected as a child which have led to damaging his own view of himself. Children in particular are vulnerable to accepting false negative judgments from authority figures because they have yet to develop competency in evaluating such reports.
What is not known to others

It should be noted that some information about an individual is not directly available to others, and that information may be very pertinent to the formation of an accurate and well functioning self image. For instance, only the individual may know whether certain of his or her acts were malicious or benevolent in intent. Only individuals know whether in their internal experience they are masculine or feminine, good or bad and so on.

Individuals often form a negative self image as a result of physicalities affecting themselves, such as alcoholic parents or other unstable environments, and the use of drugs to unintentionally hurt themselves.

Self-Schema

The term self-schema refers to the beliefs and ideas people have about themselves. These beliefs are used to guide and organize information processing, especially when the information is significant to the self. Self-schemas are important to a person's overall self-concept.

Self-schemas vary from person to person because each individual has very different social and cultural life experiences. A few examples of self-schemas are; exciting/ dull, quiet/ loud, healthy/ sickly, athletic/ nonathletic, lazy/ active, and geek/ jock. If a person
has a schema for geek/jock, for example, he might think of himself as a bit of a computer geek and so he would possess a lot of information about that trait. Because of this he would probably interpret a lot of situations based on their relevance to being a geek. For another example consider the healthy/sickly schema. A person with this schema might consider herself a very health conscious person. Her concern with being healthy would then affect every day decisions like what to buy at the grocery store, what restaurant to eat out at, or how much exercise she should get daily.

Technologies, particularly if they are new, often give rise to emotional reactions that are based on perceived risks. Recent examples of such technological risks involve cloning and genetically modified food; the use of nuclear energy continues to spark heated and emotional debates. Empirical research has shown that people rely on emotions in making judgments about what constitutes an acceptable risk (Slovic 1999). However, this does not answer the question of whether judgments that are based on emotions can provide a better understanding of the moral acceptability of risks than do judgments that do not take the emotions into consideration. Many scientists dismiss the emotions of the public as a sign of irrationality. Should engineers, scientists, and policy makers involved
in developing risk regulation take the emotions of the public seriously?

Emotions and Moral Judgments

There are two major traditions in modern moral theory that deal with the role of emotions, going back to the Enlightenment thinkers David Hume (1711–1776) and Immanuel Kant (1724–1804). For the Scottish philosopher Hume ethics is based not on reason but on the emotions, particularly the sentiment of benevolence, which reason assists in achieving its goals. In opposition to that view the German philosopher Kant maintained that ethics depends on the rational determination of human conduct, with the emotions tending to function as distractions. In neither case, however, are the emotions understood to function in a cognitive manner to reveal something about the world. They are either the noncognitive source of moral value or a noncognitive distraction from moral rationality.

A quite different minority tradition in moral theory, however, grants the emotions cognitive value. This line of thought goes back to Aristotle (1925) who argued that through emotions we perceive morally salient features of concrete situations. In Hume's time the economist Adam Smith (1723–1790) suggested in Theory of the Moral Sentiments (1759) that emotional sympathies for others through imaginative identification with their pleasures and pains can provide
knowledge about how other people experience the world. For Max Scheler the emotions are the motivators of decent behavior; they reveal the basic moral facts of life (Scheler 1913–1916).

In the 1970s such theories of the cognitive power of the emotions were given new support by developments in neurobiology, psychology, and the philosophy of the emotions. For scholars as diverse as Ronald De Sousa (1987), Robert Solomon (1993), Antonio Damasio (1994), and Martha Nussbaum (2001) emotions and cognitions are not mutually exclusive. Rather, to have moral knowledge, it is necessary to experience certain emotional states.

To be able to have moral knowledge, a person has to know or be able to imagine how it feels to be in a certain situation and to be treated by others in certain ways as well as how it feels when one is humiliated and hurt or cherished and embraced. These emotions are fundamental features of human life that point to what morality is really about. It is not possible to understand moral life without knowing these emotions and without having the ability to feel sympathy and compassion for others. Hence, only beings with the ability to have emotions can make justified moral judgments. The moral point of view implies that people can feel with others or at least imagine what their emotions might be like and that people care about morally important aspects of the lives of others (Schopenhauer 1969, Scheler 1970).
The self is a complex process of gaining self awareness. We develop a concept of who we are through our interactions with others. This view is expressed in pragmatic philosophy in the works of William James and George Herbert Mead, among others. The self-concept is the accumulation of knowledge about the self, such as beliefs regarding personality traits, physical characteristics, abilities, values, goals, and roles. Beginning in infancy, children acquire and organize information about themselves as a way to enable them to understand the relation between the self and their social world. This developmental process is a direct consequence of children's emerging cognitive skills and their social relationships with both family and peers. During early childhood, children's self-concepts are less differentiated and are centered on concrete characteristics, such as physical attributes, possessions, and skills. During middle childhood, the self-concept becomes more integrated and differentiated as the child engages in social comparison and more clearly perceives the self as consisting of internal, psychological characteristics. Throughout later childhood and adolescence, the self-concept becomes more abstract, complex, and hierarchically organized into cognitive mental representations or self-schemas, which direct the processing of self-relevant
information. "Self concept is what you understand about yourself. It is not the same as self image or self consciousness."

It includes: your social character or abilities, your physical appearance and your body image, your thinking. Your self concept can change because you see and understand things differently depending on your feelings, beliefs and attitude. Self awareness is a two-way process as your feelings and beliefs affect your self concept and the opposite is also true.

Lewis (1990) suggests that development of a concept of self has two aspects:

(1) The Existential Self:

This is "the most basic part of the self-scheme or self-concept; the sense of being separate and distinct from others and the awareness of the constancy of the self" (Bee 1992).

The child realizes that they exist as a separate entity from others and that they continue to exist over time and space. According to Lewis awareness of the existential self begins as young as two to three months old and arises in part due to the relation the child has with the world. For example,
the child smiles and someone smiles back, or the child touches a mobile and sees it move.

(2) The Categorical Self:

Having realised that he or she exists as a separate experiencing being, the child next becomes aware that he or she is also an object in the world. Just as other objects including people have properties that can be experienced (big, small, red, smooth and so on) so the child is becoming aware of him or her self as an object which can be experienced and which has properties. The self too can be put into categories such as age, gender, size or skill. Two of the first categories to be applied are age ("I am 3") and gender ("I am a girl").

In early childhood the categories children apply to themselves are very concrete (e.g. hair colour, height and favourite things). Later, self-description also begins to include reference to internal psychological traits, comparative evaluations and to how others see them.

Carl Rogers Believes that Self Concept has three different components:

- The view you have of yourself (Self image)
How much value you place on yourself (Self-esteem or self-worth)

What you wish you were really like (Ideal self)

Adjustment

There is no sure or easy way to provide a person with information or skills which will allow him to cope with a treatment and a changed life style he has not yet experienced. This is particularly true with kidney disease, since it is not like the usual medical illness which can be treated by a doctor with perhaps only minimal participation by the patient. In the case of an infection, which can be treated by antibiotics, all the patient need do is take the medication as prescribed. Even though taking medicines on a rigidly prescribed schedule should be relatively simple, people do forget to take their pills with them when they leave the house, for example.

The reason kidney disease is different is because it is chronic and progressive. Except for prescribing dietary restrictions, the doctor is relatively helpless. The doctor has no cure to offer; only at a certain point can he offer dialysis to imperfectly substitute the washing of the blood which the kidneys, when healthy, do so easily and perfectly.

The job of coping with and living with kidney disease is almost totally in the hands of the patient. The role of doctor-patient is
reversed to patient-doctor in the sense that the patient is really in charge of the treatment; he or she must take an active role for it to be successful. The patient has to reorganize his/her life to accommodate the dietary and fluid restriction and the change in daily activities to go to the center for treatment. No longer is the patient totally free to plan his/her life; the medical condition comes first, all other activities have to take second place. This is why kidney disease is different, why it is called a chronic condition; it is life-long and requires changes in the patient’s life style to accommodate the demands of the treatment. It also means a long and continuing partnership between patient and doctor. This cannot be emphasized enough. The usual doctor-patient contact and contract are different in many ways, and how well things go depends on what the patient does, how actively he participates in treatment, how well his family and marriage hold together, and how well he can deal with the stresses of life on an artificial kidney.

Since most patients are treated at a center, this discussion will deal mainly with the tasks of a patient undergoing treatment at a center. The patients on home dialysis have to deal with similar psychological problems, but there are differences.

It will be important to remember that one’s feelings and outlook will change as treatment goes on. After the first few dialyses, which will clean the blood of many poisons, you will feel much more
yourself, more alert, less fatigued. This has been called by some the “honeymoon” phase. As time goes on, however, the full impact of the many changes you had to make in your life will hit home. You will not necessarily feel progressively better, your spirits may drop, and discouragement and depression may set in. This is quite normal, and the staff, family, or friends will help you if you let them know how you feel; others have been down that road before.

While the tendency is to withdraw from others when depressed, just the opposite needs to be done. If you let people know how you feel, they will try to help. Your doctor may prescribe medications to lift your spirits.

In time, and this will vary from person to person, you must resume work or other activities on a full-time basis. It will mean pushing yourself, extending your efforts even though it seems like your energy is drained. If you know you cannot return to your previous work, you should very early seek job retraining by asking to see a social worker. We have found that those who adjust best to dialysis are those who continue to work; in the case of a homemaker, she resumes her housework on a full-time basis.

Family and Marriages

It is a rare marriage and family that avoids stress, conflict, anxiety, and unsettlement while a member is making the psychological, emotional, and financial adjustments which are bound
to occur while coming to grips with dialysis treatment. Disruption, discomfort, disillusionment are inevitable at some point. Friends rush to help the sick, but they don’t intend to stay; neighbors and friends extend themselves in emergencies, but it is the family that is expected to deal with the long haul.

Every effort has to be made to keep the marriage and family intact, since the presence or absence of support provided by family members affects health and recovery from illness. How this works is unknown but it does work. The same is true for religious beliefs. In our experience, practicing one’s religion is more important than the type of church one attends.

The tendency, however, is for the patient on dialysis to withdraw from social activities outside the home and rely heavily and exclusively on the family. We do not know why this happens, but it certainly is not necessary and unwise psychologically and emotionally. The larger the number of friends, the greater the diversity, the more likely a solid network of support is available to the patient. For example, if one has maintained contact with friends or relatives in another part of the country where dialysis facilities are available, quite inexpensive vacations can be taken which otherwise might be too expensive or difficult to arrange. With the facilities now available, vacations, that important restoring change of scene and pace, need not be denied to patients undergoing dialysis treatment.
With the likelihood of a change in income either because of inability to work or the expense of the treatment, only inexpensive vacations are likely to be possible and only possible if contact is maintained with friends and relatives. The practical aspect is far less important than the support a network of friendships provides. The people around us need not be seen; letters maintain contact, and that important invention the telephone is even better. However the way, keep in touch, do not rely exclusively on the immediate family for support.

One of the stresses dialysis places on the marriage is what we call role reversal, which happens if the patient-husband was the primary bread winner and can no longer work at his former occupation. It can be very stressful to accept the change from being the person on whom others depend to become the dependent one. This is a particularly difficult change for patients on home dialysis if the husband has to give up control and depend on his wife's skill in inserting needles and regulating the equipment—in our culture typically male activities. It is difficult enough to be dependent on the machine for one's life; to be dependent on the person who was formerly dependent does not come easily and may be fought vigorously by the husband if, in fact, or in his eyes, his wife was of the "weaker sex."
Adjustment can be considered in two ways. Firstly, it can be taken to be a process by which man and his environment are kept in balance. Secondly, it can be thought of as the individual’s efforts to fulfil his needs.

The effect of good adjustment is that the individual gets as much real satisfaction out of his interaction with his environment as can be had without getting unfairly in the way of other people’s attempts to do the same. However, adjustment does not ensure complete happiness. Still it is the best means for achieving happiness.

The quality of adjustment:

The quality of a person’s adjustment can be judged by getting answers to these questions: Is he successful in finding companionship, friendship, love, and a sense of fulfillment? Does he feel sufficiently secure in the world? Is he showing courage, skill, and persistence, where necessary?

2. KINDS OF ADJUSTMENT

Adjustment may be considered under three headings. These are personal adjustment, social adjustment, and occupational adjustment.

1. Personal adjustment: Every individual has some psychological handicaps. This is the case even if a person enjoys good health and is
intelligent. This is because barriers to adjustment may not be related to health or intelligence.

The above point of view is brought out when we study the lives of famous men and women. Beethoven was deaf; and yet he wrote some of the world’s great music. Demosthenes was a stammerer; still he became a famous orator. What makes a person successful in personal adjustment is his attitude to barriers. Persons who adjust well consider barriers as challenges. They overcome the barriers by putting extra effort.

For most people, personal adjustment comes through knowledge. For example, to solve problems effectively, a person must consider his personality, the strength of his achievement motivation, and the capacity for tolerating uncertainty. Thus, to adjust well, the individual must know his strengths and shortcomings.

2. Social adjustment: No human being is a Robinson Crueso; none of us lives on a deserted island. Everyone of us lives in society; and society includes several groups - some large, some small. In his everyday life, a man interacts with several groups. In some cases, his interactions are on person-to-person basis. In other cases, they are on person-to-group basis. In either case, his needs, desires, goals and
aspirations are bound to conflict with those of his fellowmen, at least on some occasions.

Conflicts create a "hot house" atmosphere; they keep the individual under a state of stress. Ultimately, the stress must be resolved. Either the individual has to make others subordinate their needs to his needs; or he has to give up some of his goals. But a better choice is adjustment. That is, the individual will have to satisfy his desires in ways which his social situations permit.

Social adjustments are required in all areas of our life. Let us state the main ones. Adjustments are required within the family, the play group of early childhood, the school, the peer group, the interpersonal heterosexual relationships, the marital situation, the occupation, and so on. Further, no one's needs remain static. So, the adjustive patterns must continuously undergo changes.

Healthy adjustment neither requires a "mule-like" stubbornness nor "whatever you say" attitude (complete social conformity). It requires a balanced combination of firmness and flexibility. When the individual believes that his needs and demands are justified, he has to maintain his standpoint firmly. On the other hand, when he realizes that the others' viewpoints are worth considering, he has to modify his needs and demands. If need be, he
has even to sacrifice his needs for the greater good of his social group.

An important step in deciding when to be firm and when to be flexible is to develop empathy. Empathy involves looking at matters from the other persons' point of view. An empathetic approach will most often lead to healthy adjustment.

4. Occupational adjustment:

If we were to transport a human being to heaven, he would find the conditions there difficult to live with, at least in the beginning. He will have to make some adjustments. Business and industrial organizations are not heaven-like places. Even if a person were to join the best among them, he would find some condition or the other which is not to his complete satisfaction.

The following are the main aspects of occupation which require adjustment on the part of a person:

**Nature of the work:** All work causes physical fatigue. Work may also cause mental fatigue. These do not cause problems. But when fatigue is caused by emotional factors, problems arise. In occupation, the main factor responsible for this kind of fatigue is the worker's dislike of the work. Apart from fatigue, work may be repetitive, and the
worker may find it monotonous. Due to this, he may get bored with it.

Vocational guidance is the best solution to the problems of monotony and boredom. It can help by changing the attitude of the worker towards his occupation. Apart from these, the organisation joined by the worker can also help in reducing boredom. One way of doing so is by introducing variety in work.

i) Working conditions: If a worker can do a job efficiently feels satisfied. So whatever improves the worker's efficiency would lead to better occupational adjustment. Certain physical conditions work affect efficiency of work. The main ones are illumination, music, and ventilation.

ii) Job satisfaction: Job satisfaction partly depends upon what an employee expects from his job. Studies have shown that employees attach the greatest value to job security, moderate value to wage, and the least value to benefits (e.g. retirement, pension, leave, vacation, medical benefits).

iv) Supervision: The manner in which the supervisor deals with the workers makes a significant difference to the worker's adjustment to his occupation. If the supervisor adopts the "we" attitude towards men, employees will be happy. A supervisor with such an out usually
"employee-centered". If the supervisor is employee-center worker is not under tension.

By contrast, a supervisor may be authoritarian in outlook, supervisor would 'order' workers to carry out the job in the pre way. Since his emphasis is on the job, such a supervisor is sai< 'job-centered'. Job-centered supervisors are likely to cause dissati; among the workers.

v) Communication: In a small organisation, there are i face-to-face contacts between people. That is, communica personal. In large organisations, communication is mostly impf It is in the form of printed or typed instructions.

Occupational adjustment is easier if the communication c, are open. That is, it should be possible for an employee to J suggestions, etc. even to the highest authority in the company.

3. CHARACTERISTICS OF WELL-ADJUSTED PERSON

Maslow focused his research on extremely well-adjusted j He called such persons as self-actualising individuals. In fa< persons are very rare. However, these unusual men and won serve as models for us.

A well-adjusted person is fairly successful in dealing with fru; The following are the characteristics of well-adjusted people:
1. **Practical and realistic attitude towards self, others; world:** Well-adjusted persons have a practical and realistic towards themselves most of the time. They have a fairly clear their capacities and weaknesses. They accept themselves with limitations. Due to this, they have a positive self-concept. That think of themselves as good and capable.

2. **Ability to accept people and the world:** Well-adjusted persons feel good about themselves. So, they can accept other people even if they are different from them. This ability is seen in children who experience life as it is. The comparison to children is merely meant to indicate that well-adjusted people do not approach others with a prejudiced mind. They have basic trust in them.

3. **Feeling of psychological security:** Due to their positive self-concept, well-adjusted persons feel psychologically secure. They are not over-anxious. So they can accept unpleasant emotions, such as anger and fear in themselves. War-time studies showed that when a person is in danger and admits that he is afraid, fear does not become intolerable to him.

4. **More efficient perception of reality:** Well-adjusted persons perceive people and situations in a realistic way. They see things as they are, and not as they wish them to be. So, when a problem arises, they can solve it more efficiently.
5. **Able to give and receive affection:** Well-adjusted people are able to develop intimate relationships with others. Because of their self-confidence; they do not hide their feelings. They express their feelings freely.

6. **Empathy:** Well-adjusted persons can understand others, because they have a capacity for empathy. Due to this capacity for empathy, a well-adjusted person’s relationships with others are fairly harmonious. Their dealings with other people do not generate unnecessary tension.

7. **Ability to be productive:** Well-adjusted persons are aware of their capacities. They use these capacities to a fuller extent. They attempt to solve problems, and not avoid them.

Further, they are success-oriented. That is, they approach work in a much more optimistic manner. So, they can attempt new jobs or take additional responsibilities without being afraid of failure.

**Creative:** Mentally healthy persons are creative. This creativity need not be in the usual forms of writing books, composing music, or producing artistic works. It can be more humble. The creativeness of mentally healthy persons means that they tend to approach their work in their own special way. For example, while doing a job, they explore new ideas or new approaches to it. As a result, the job
generates excitement and appreciation for life. So, in this special sense of creativeness, there can be creative shoemakers, carpenters, or clerks.

9. **Ability to control one’s environment:** Well-adjusted people try to change the circumstances in their favour. They have the courage to face the consequences of their actions and decisions.

10. **Flexibility:** Mentally healthy persons have the ability to change themselves when the situation so demands. They can modify their behaviour in line with the circumstances.

11. **Independence from culture and environment:** Mentally healthy people rely on their own judgments about what should be done in a given situation. They are able to be independent of group pressures, including the climate of opinion generated by the mass media such as newspapers and television.

12. **Democratic character:** Maslow maintained that mentally healthy persons are democratic. They practise democracy by recognising the rights of others and by willingly listening to their viewpoints.

Often mentally healthy people are people who speak out when they see inequalities. That is why such men as Mahatma Gandhi are always included in the list of mentally healthy persons.
Knowing when to worry and when not to worry: A mentally healthy person is realistic. He judges the situation to determine whether he has something to worry about. However, if he worries, it is effective worrying. For him, worrying is a means of finding a solution to the problem.

The above characteristics of well-adjusted personality are based on the Human Potential Movement. The main psychologists who are leaders of this movement are Abraham Maslow and Karl Rogers.

4 MALADJUSTMENT

When a person's behaviour does not possess the characteristics of a well-adjusted person, he is said to be maladjusted or poorly adjusted. Maladjusted persons have certain characteristics. Before stating the\textsuperscript{e}, we may say that maladjusted behaviour is learned,

1. Failure in problem-solving techniques: Due to a general lack of self-confidence, a maladjusted person has poor capacity for dealing with everyday life situations.

2. Excessive behaviour: Maladjusted persons do not react to situations realistically. Their reactions are excessive. These make them indulge in such activities as excessive drinking, over-irritability, and over-anxiety.
3- Disturbance of thought: Thought disturbances affect the perceptions and beliefs of maladjusted persons. The main features of these are the occurrence of hallucinations and delusions. (Hallucinations are perceptions for which there is no appropriate stimulus. Delusions are strong beliefs opposed to reality.) A person may see or hear tiling when there is nothing to be seen or heard. Or he may have beliefs which go against evidence, "When thought disturbances become senou; a person becomes a neurotic or a psychotic.

4. Emotional disturbances: Emotional reactions of a maladjusted person are extreme. They may involve apathy (almost complete lack of 'emotional feeling), excessive cheerfulness, or long-lasting depression.

5 Rigidity of behaviour: Maladjusted persons find it difficult to change their behaviour. Hershey and Lugo report that a student with long hair came to them, very depressed. He said that he found it difficult to live at home, and he couldn't get a job because of his long hair. The student was not prepared to cut his hair, even though it would have solved his problem.

6 Psychosomatic disturbances: These are bodily reactions which occur due to mental causes. Common examples of these are stomach ulcers, tension headaches and heart diseases caused by tension.
Relativity of adjustment: Some people adjust well; others poorly. When a person is well-adjusted, he is said to be mentally healthy, or normal. When his adjustment is faulty, he is said to be mentally ill, or abnormal. However, good adjustment and poor adjustment are not "mutually exclusive. In some respects, a person may show good adjustment. In other respects, he may be maladjusted. Further, a person may be mentally healthy one day, and the next day his behaviour may indicate mental illness. So mental health or illness is a matter of degrees. This may be represented by a diagram with three overlapping circular figures. (Fig. 5-1)

Sexual Activity
A very wise physician predicted some time ago when dialysis was first available that the emotional problems of dialysis patients would not be fully appreciated for some time to come. He correctly reasoned that the concern with keeping the patient alive would be uppermost in everyone's mind, and not until the treatment was refined and became routine would anyone have the time to look at patients and ask what was going on inside them and in their lives. He knew that there would be an emotional and psychological cost, and time has proven him right.

It was not until 1973 that a survey was done on a large group of patients to find out what the disease and the treatment does to sexual
desire and drive. Man's sexual interest and activity has deep biological roots; how else would man have survived as a species? Yet we all know that sexual urges and expression are highly sensitive to how we feel emotionally and physically, the situation, the receptivity of our partners, the recency of the last sexual activity, etc., etc. A man may be satisfied with twice weekly intercourse with his wife, for example, yet find himself having intercourse twice in an evening with his lover. His hormonal levels have not changed, the intensity of his sexual stimulation has.

Just as we stress the importance of the relationship with the doctor, of equal importance is open communication between the patient on dialysis and his/her loved ones. While dialysis reverses many unpleasant feelings and states it does not necessarily restore sexual energy and may in fact produce less interest and desire. Patients typically report they can "take it or leave it" when asked about sexual desire. We do not know why this happens but fortunately studies are being conducted to search for the cause or causes and if hormones are being washed out in dialysis. There are ways to correct and restore this vital part of life and living.

In the meantime the partner should realize that loss of interest in sexual activity does not mean loss of love or that he/she is no longer desirable. Except in relatively rare cases, the male patient on dialysis can perform the sexual act; he only feels the desire less
intensely and therefore performs less frequently. The sexual partner obviously has to make adjustments, but there is no reason why he or she could not provide the setting and stimulation to arouse the partner to a level of excitement for both of them to obtain the needed pleasure and release that sexual activity produces.

What we are saying is that sexual appetite may change in patients on dialysis, and as such, adjustment must be made. It is a problem which can be worked on, however, and needs to be openly discussed and jointly tackled. For some couples, intercourse is the chief form of expressing love and affection; for them alternate ways of filling these needs and finding these pleasures will have to be developed lest each feels undesirable and unloved. These feelings rapidly lead to depression.

Probably the single most difficult psychological adjustment is an internal one and involves using denial as a protection against facing the reality of one’s illness and its treatment. This is not unique to kidney disease. Some patients in the early stages of a heart attack will attribute the crushing pain of damaged heart muscle to “indigestion.” This is an unconscious reaction and protects against the intense anxiety that would accompany realization that death may be imminent. This goes on even though another part of the individual knows that delaying emergency medical attention increases the risk of death.
Denial is part of everyone’s method of coping with life. In measured doses it is healthy, when excessive it is dangerous. Ignoring dietary and fluid restrictions is the way excessive use of denial shows itself in patients on dialysis. Without some use of denial who would fly in an airplane or drive a car on a holiday weekend when statisticians can accurately predict the number of automobile deaths that will occur?

Striking the right balance between denial and recognition may not be possible without professional help. A person using denial excessively is most unlikely to recognize this and ask for help. Family members may recognize it, and certainly the doctor and dialysis technicians will recognize it because deniers will not follow instructions. In the extreme case they may miss treatments because they convince themselves that either they don’t need dialysis or feel well, so why bother. Professional help is available and should be used.

One thing is clear with dialysis, in fact any long term disease: support from the family is critical. This includes children. While the sight of blood moving through tubes into a whirling machine may be frightening on first exposure, the unknown is equally frightening. With repeated exposure and information, fear diminishes. Anxiety about dental procedures, for example, is greatly diminished if a child sees dental procedures on specially prepared television tapes before
visiting the dentist. This is not true of the unknown; it remains frightening because knowledge or familiarity cannot take place when dealing with an unknown fear. For patients on home dialysis there should be no locked doors, and for children the ideal arrangement would be to have the area in which dialysis occurs also be suitable for children’s play. The association of pleasurable activities with a medical procedure quickly crowds out fears and worries. While hooked up to the machine, physical participation with the children in play is not possible, but verbal participation and involvement in children’s play is definitely possible. Children are flexible and can adapt surprisingly well if they are aware what has changed in their lives. Dialysis cannot be kept secret, the treatment is just too time consuming, and the access is visible for all to see. As in most disfigurements, others are less shocked than we fear they are or might be.

Family involvement in treatment, whether in center or at home, is not without stress, and weak points will be exposed. Asking for professional help early can prevent serious rupture in the family life. Anything that weakens the support felt by the patient is very likely to affect treatment. Sticking with diet restrictions, for example, is very difficult if we are upset or in an atmosphere of quarreling, or if irritation pervades family life. Not eating enough is as bad as eating the wrong foods. Everyone has to be aware that their lives will be
affected some way, and that adjustments will be necessary; some of these are major. Being aware that we will have to make changes allows us to identify the problem and then to cope with it.

Anxiety

Anxiety is a physiological and psychological state characterized by cognitive, somatic, emotional, and behavioral components. These components combine to create an unpleasant feeling that is typically associated with uneasiness, fear, or worry. Anxiety is a generalized mood state that occurs without an identifiable triggering stimulus. As such, it is distinguished from fear, which occurs in the presence of an external threat. Additionally, fear is related to the specific behaviors of escape and avoidance, whereas anxiety is the result of threats that are perceived to be uncontrollable or unavoidable.

Anxiety is a normal reaction to stress. It may help a person to deal with a difficult situation, for example at work or at school, by prompting one to cope with it. When anxiety becomes excessive, it may fall under the classification of an anxiety disorder.\[3\]

Symptoms

Anxiety can be accompanied by physical effects such as heart palpitations, nausea, chest pain, shortness of breath, stomach aches or
headaches. Physically, the body prepares the organism to deal with a threat. Blood pressure and heart rate are increased, sweating is increased, bloodflow to the major muscle groups is increased, and immune and digestive system functions are inhibited (the fight or flight response). External signs of anxiety may include pale skin, sweating, trembling, and pupillary dilation. Someone suffering from anxiety might also experience it as a sense of dread or panic.

Palpitation

A palpitation is an awareness of the abnormal beating of the heart, whether it is too slow, too fast, irregular, or at its normal frequency. It should not be confused with ectopic beat.

The difference between an abnormal awareness and a normal awareness is that the latter is almost always caused by a concentration on the beating of one's heart and the former interrupts other thoughts. Palpitations may be brought on by overexertion, adrenaline, alcohol, caffeine, cocaine, amphetamines, and other drugs, disease (such as hyperthyroidism and Pheochromocytoma) or as a symptom of panic disorder. More colloquially, it can also refer to a shaking motion. It can also happen in mitral stenosis.

Nearly everyone experiences an occasional awareness of their heart beating, but when it occurs frequently, it can indicate a
problem. Palpitations may be associated with heart problems, but also with anemias and thyroid malfunction.

Attacks can last for a few seconds or hours, and may occur very infrequently, or more than daily. Palpitations alongside other symptoms, including sweating, faintness, chest pain or dizziness, indicate irregular or poor heart function and should be investigated. Palpitations may also be associated with anxiety and panic attacks, in which case psychological assessment is recommended. This is a common disorder associated with a lot of common medications such as anti-depressants.

Causes of palpitation

Palpitations can be attributed to one of three main causes:

1. **Hyperdynamic circulation** (Valvular Incompetence, Thyrotoxicosis, Hypercapnia, Pyrexia, Anemia, Pregnancy)

2. **Sympathetic overdrive** (Panic disorders, Hypoglycemia, Hypoxia, Levocetirizine antihistamines, Anemia, Heart Failure, Mitral valve prolapse)

3. **Arrhythmias** (Atrial fibrillation, Supraventricular tachycardia, Ventricular tachycardia, Ventricular fibrillation, Heart block)
Types of palpitation

People describe their palpitations in many different ways, but there are some common patterns:

The heart "stops"

Those who experience palpitations may have the feeling that their heart stops beating for a moment, and then starts again with a "thump" or a "bang". Usually this feeling is actually caused by an extra beat (premature beat or extrasystole) that happens earlier than the next normal beat, and results in a pause (called a compensatory pause) until the next normal beat comes through. People are not usually aware of the early, extra beat, but may be aware of the pause, which follows it (the heart seems to stop). The beat after the pause is more forceful than normal (due to filling with more blood than usual during the compensatory pause), giving the "thumping" sensation.

The heart is "fluttering" in the chest

Any rapid heartbeat (or tachycardia) can give rise to this feeling. A rapid, regular fluttering in the chest may be associated with sensation of pounding in the neck as well, due to simultaneous contraction of the upper, priming chambers of the heart (the atria) and the lower, main pumping chambers (the ventricles). If the fluttering in the chest feels very irregular, then it is likely that the
underlying rhythm is atrial fibrillation. During this type of rhythm abnormality, the atria beat so rapidly and irregularly that they seem to be quivering, rather than contracting. The ventricles are activated more rapidly than normal (tachycardia) and in a very irregular pattern.

Minor

Some people may experience what is known as a minor palpitation, where the heart feels like it skips a beat. These are generally easy to ignore, but cause the person to worry more if their symptoms have not been diagnosed by a doctor.

Types

Palpitations may be associated with feelings of anxiety or panic. It is normal to feel the heart thumping when feeling terrified or scared, but it may be difficult to know whether the palpitations or the panicked feeling came first. Unfortunately, since it can take some time before a clear diagnosis is made in a patient complaining of palpitations, people are sometimes told initially that the problem is anxiety.

Stressful situations cause an increase in the level of stress hormones, such as adrenaline, circulating in the blood, and there are some types of abnormal heart rhythm that can be stimulated by
adrenaline excess, or by exercise. It may be possible to diagnose these sorts of palpitations by performing simple tests, such as an exercise test, while monitoring the ECG.

Some types of abnormal heart rhythm seem to be affected by posture. For many people, standing up straight after bending over can provoke a rapid heart rate. Often these attacks can be abolished again by lying down. Many people, if not all, are more aware of the heartbeat when lying quietly in bed at night. This is partly because at that time, the attention is not focused on other things, but also because the slower heart beat at rest can allow more premature beats to occur..

Symptoms

Many times, the person experiencing palpitations may not be aware of anything apart from the abnormal heart rhythm itself. But palpitations can be associated with other things such as tightness in the chest, shortness of breath, dizziness or light-headedness. Depending on the type of rhythm problem, these symptoms may be just momentary or more prolonged. Actual blackouts or near blackouts, associated with palpitations, should be taken seriously because they often indicate the presence of important underlying heart disease.
Diagnosis

The most important initial clue to the diagnosis is one's description of the palpitations. The approximate age of the person when first noticed and the circumstances under which they occur are important, as is information about caffeine intake (tea or coffee drinking). It is also very helpful to know how they start and stop (abruptly or not), whether or not they are regular, and approximately how fast the pulse rate is during an attack. If the person has discovered a way of stopping the palpitations, that is also helpful information.

The diagnosis is usually not made by a routine medical examination and electrical tracing of the heart's activity (ECG), because most people cannot arrange to have their symptoms while visiting the doctor. Nevertheless, findings such as a heart murmur or an abnormality of the ECG, which could point to the probable diagnosis, may be discovered. In particular, ECG changes that can be associated with specific disturbances of the heart rhythm may be picked up; so routine physical examination and ECG remain important in the assessment of palpitations.

Blood tests, particularly tests of thyroid gland function are also important baseline investigations (an overactive thyroid gland is a potential cause for palpitations; the treatment in that case is to treat the thyroid gland over-activity).
The next level of diagnostic testing is usually 24 hour (or longer) ECG monitoring, using a form of tape recorder (a bit like a Walkman) called a Holter monitor, which can record the ECG continuously during a 24-hour period. If symptoms occur during monitoring it is a simple matter to examine the ECG recording and see what the cardiac rhythm was at the time. For this type of monitoring to be helpful, the symptoms must be occurring at least once a day. If they are less frequent then the chances of detecting anything with continuous 24, or even 48-hour monitoring, are quite remote.

Other forms of monitoring are available, and these can be useful when symptoms are infrequent. A continuous-loop event recorder monitors the ECG continuously, but only saves the data when the wearer activates it. Once activated, it will save the ECG data for a period of time before the activation and for a period of time afterwards - the cardiologist who is investigating the palpitations can program the length of these periods. A new type of continuous-loop recorder has been developed recently that may be helpful in people with very infrequent, but disabling symptoms. This recorder is implanted under the skin on the front of the chest, like a pacemaker. It can be programmed and the data examined using an external device that communicates with it by means of a radio signal.
Investigation of heart structure can also be important. The heart in most people with palpitations is completely normal in its physical structure, but occasionally abnormalities such as valve problems may be present. Usually, but not always, the cardiologist will be able to detect a murmur in such cases, and an echo scan of the heart (echocardiogram) will often be performed to document the heart's structure. This is a painless test performed using sound waves and is virtually identical to the scanning done in pregnancy to look at the fetus.

**Treatment**

Treating heart palpitations depends greatly on the nature of the problem. In many patients, caffeine intake triggers heart palpitations. In this case, treatment simply requires caffeine intake reduction. If it’s been determined that caffeine is not the cause, another dietary consideration is too little magnesium, particularly in pre-menopausal women. A supplement of equal dosages of magnesium and calcium may be helpful in eliminating palpitations. For severe cases, medication is often prescribed.

A variety of medications manipulate heart rhythm, which can be used to try to prevent palpitations. If severe palpitations occur, a beta-blocking drug is commonly prescribed. These block the effect of adrenaline on the heart, and are also used for the treatment of angina.
and high blood pressure. However, they can cause drowsiness, sleep disturbance, depression, impotence, and can aggravate asthma. Other anti-arrhythmic drugs can be employed if beta-blockers are not appropriate.

If heart palpitations become severe, antiarrhythmic medication can be injected intravenously. If this treatment fails, cardioversion may be required. Cardioversion is usually performed under a short general anaesthesia, and involves delivering an electric shock to the chest, which stops the abnormal rhythm and allows the normal rhythm to continue.

For some patients, often those with specific underlying problems found in ECG tests, an electrophysiological study may be advised. This procedure involves inserting a series of wires into a vein in the groin, or the side of the neck, and positioning them inside the heart. Once in position, the wires can be used to record the ECG from different sites within the heart, and can also start and stop abnormal rhythms to further accurate diagnosis. If appropriate, i.e. if an electrical "short circuit" is shown to be responsible for the abnormal rhythm, then a special wire can be used to cut the "short circuit" by placing a small burn at the site. This is known as "radiofrequency ablation" and is curative in the majority of patients with this condition.
Atrial fibrillation has been discussed in a separate article. Treatment may include medication to control heart rate, or cardioversion to support normal heart rhythm. Patients may require medication after a cardioversion to maintain a normal rhythm. In some patients, if attacks of atrial fibrillation occur frequently despite medication, ablation of the connection between the atria and the ventricles (with implantation of a pacemaker) may be advised. A very important risk of atrial fibrillation is the increased risk of stroke. Management of atrial fibrillation usually includes some form of blood thinning treatment.

Very rarely, palpitations are associated with an increased risk of blackouts, and even premature death[citation needed]. Generally speaking, serious arrhythmias occur in patients who are known to have heart disease, or carry a genetic predisposition for heart disease or related abnormalities and complications.

Palpitations, in the setting of the above problems, or occurrences such as blackouts or near blackouts, should be taken seriously. Even if ultimately nothing is found, a doctor should be contacted immediately to arrange the appropriate investigations, especially if palpitations occur with blackouts or if any of the above conditions are noticed.
Nausea

Nausea is also an adverse effect of many drugs, opiates in particular, and may also be an effect of a large intake of sugary foods. Nausea is not a sickness, but rather a symptom of several conditions, many of which are not related to the stomach. Nausea is often indicative of an underlying condition elsewhere in the body. Travel sickness, which is due to confusion between perceived movement and actual movement, is an example. The sense of equilibrium lies in the ear and works together with eyesight. When these two don't "agree" to what extent the body is actually moving the symptom is presented as nausea even though the stomach itself has nothing to do with the situation. The reason for the stomach's involvement is because the brain is concluding that one of the senses is hallucinating due to poison ingestion. The brain then induces vomiting to clear the supposed toxin.

In medicine, nausea can be a problem during some chemotherapy regimens and following general anaesthesia. Nausea is also a common symptom of pregnancy, in which it is called "morning sickness." Mild nausea experienced during pregnancy can be normal, and should not be considered an immediate cause for alarm.

Although panic attacks are not experienced by every anxiety sufferer, they are a common symptom. Panic attacks usually come
without warning, and although the fear is generally irrational, the perception of danger is very real. A person experiencing a panic attack will often feel as if he or she is about to die or pass out. Panic attacks may be confused with heart attacks.

Panic attack

Panic attacks are very sudden, discrete periods of intense anxiety, mounting physiological arousal, fear, stomach problems and discomfort that are associated with a variety of somatic and cognitive symptoms. The onset of these episodes is typically abrupt, and may have no obvious triggers. Although these episodes may appear random, they are a subset of an evolutionary response commonly referred to as fight or flight that occur out of context. This response floods the body with hormones, particularly epinephrine (adrenaline), that aid it in defending against harm. Experiencing a panic attack is said to be one of the most intensely frightening, upsetting and uncomfortable experiences of a person's life. According to the American Psychological Association the symptoms of a panic attack commonly last approximately thirty minutes. However, panic attacks can be as short as 15 seconds, while sometimes panic attacks may form a cyclic series of episodes, lasting for an extended period, sometimes hours. Often those afflicted will experience significant anticipatory anxiety and limited symptom
attacks in between attacks, in situations where attacks have previously occurred.

Panic attacks are commonly linked to agoraphobia and the fear of not being able to escape a bad situation. Many who experience panic attacks feel trapped and unable to free themselves. Panic attacks also affect people differently. Experienced sufferers may be able to completely "ride out" a panic attack with little to no obvious symptoms or external manifestations. Others, notably first-time sufferers, may even call for emergency services; many who experience a panic attack for the first time fear they are having a heart attack or a nervous breakdown.

Descriptions

Sufferers of panic attacks often report a fear or sense of dying, "going crazy", or experiencing a heart attack or "flashing vision", feeling faint or nauseated, heavy breathing, or losing control of themselves. These feelings may provoke a strong urge to escape or flee the place where the attack began (a consequence of the sympathetic "fight or flight" response).

A panic attack is a response of the sympathetic nervous system (SNS). The most common symptoms may include trembling, dyspnea (shortness of breath), heart palpitations, chest pain (or chest tightness), hot flashes, cold flashes, burning sensations (particularly
in the facial or neck area), sweating, nausea, dizziness (or slight vertigo), light-headedness, hyperventilation, paresthesias (tingling sensations), sensations of choking or smothering, and derealization. These physical symptoms are interpreted with alarm in people prone to panic attacks. This results in increased anxiety, and forms a positive feedback loop.

Often the onset of shortness of breath and chest pain are the predominant symptoms, the sufferer incorrectly appraises this as a sign or symptom of a heart attack. This can result in the person experiencing a panic attack seeking treatment in an emergency room. Panic attacks are distinguished from other forms of anxiety by their intensity and their sudden, episodic nature. They are often experienced in conjunction with anxiety disorders and other psychological conditions, although panic attacks are not always indicative of a mental disorder.

**Triggers and causes**

- **Long-Term, Predisposing Causes — Heredity.** Panic disorder has been found to run in families, and this may mean that inheritance genes plays a strong role in determining who will get it. However, many people who have no family history of the disorder develop it. Various twin studies where one identical twin has an anxiety disorder have reported an
incidence ranging from 31 to 88 percent of the other twin also having an anxiety disorder diagnosis. Environmental factors such as an overly cautious view of the world expressed by parents and cumulative stress over time have been found to be causes.

- **Biological Causes** — obsessive compulsive disorder, post traumatic stress disorder, hypoglycemia, hyperthyroidism, Wilson's disease, mitral valve prolapse, pheochromocytoma and inner ear disturbances (labyrinthitis). Vitamin B deficiency from inadequate diet or caused by periodic depletion due to parasitic infection from tapeworm can be a trigger of anxiety attacks.

- **Phobias** — People will often experience panic attacks as a direct result of exposure to a phobic object or situation.

- **Short-Term Triggering Causes** — Significant personal loss, including an emotional attachment to a romantic partner, life transitions, significant life change, stimulants such as caffeine or nicotine, or the drugs marijuana or psilocybin, can act as triggers.

- **Maintaining Causes** — Avoidance of panic provoking situations or environments, anxious/negative self-talk ("what-if"
thinking), mistaken beliefs ("these symptoms are harmful and/or dangerous"), withheld feelings, lack of assertiveness.

- **Lack of Assertiveness** — A growing body of evidence supports the idea that those that suffer from panic attacks engage in a passive style of communication or interactions with others. This communication style, while polite and respectful, is also characteristically un-assertive. This un-assertive way of communicating seems to contribute to panic attacks while being consistently present in those that are afflicted with panic attacks.

- **Medications** — Sometimes panic attacks may be a listed side effect of medications such as Ritalin (methylphenidate) or even fluoroquinolone type antibiotics. These may be a temporary side effect, only occurring when a patient first starts a medication, or could continue occurring even after the patient is accustomed to the drug, which likely would warrant a medication change in either dosage, or type of drug. Nearly the entire SSRI class of antidepressants can cause increased anxiety in the beginning of use. It is not uncommon for inexperienced users to have panic attacks while weaning on or off the medication, especially ones prone to anxiety.
• Alcohol, medication or drug withdrawal — Various substances both prescribed and unprescribed can cause panic attacks to develop as part of their withdrawal syndrome or rebound effect. Alcohol withdrawal and benzodiazepine withdrawal are the most well known to cause these effects as a rebound withdrawal symptom of their tranquillising properties.

• Hyperventilation Syndrome — Breathing from the chest may cause overbreathing, exhaling excess carbon dioxide in relation to the amount of oxygen in one's bloodstream. Hyperventilation Syndrome can cause respiratory alkalosis and hypocapnia. This syndrome often involves prominent mouth breathing as well. This causes a cluster of symptoms including rapid heart beat, dizziness, and lightheadedness which can trigger panic attacks.

• Situationally Bound Panic Attacks — Associating certain situations with panic attacks, due to experiencing one in that particular situation, can create a cognitive or behaviorally predisposition to having panic attacks in certain situations (situationally bound panic attacks). It is a form of classical conditioning. See PTSD
Pharmacological Triggers — Certain chemical substances, mainly stimulants but also certain depressants, can either contribute pharmacologically to a constellation of provocations, and thus trigger a panic attack or even a panic disorder, or directly induce one. This includes caffeine, amphetamine, alcohol and many more. Some sufferers of panic attacks also report phobias of specific drugs or chemicals, that thus have a merely psychosomatic effect, thereby functioning as drug-triggers by non-pharmacological means.

Physiological considerations

While the various symptoms of a panic attack may feel that the body is failing, it is in fact protecting itself from harm. The various symptoms of a panic attack can be understood as follows. First, there is frequently (but not always) the sudden onset of fear with little provoking stimulus. This leads to a release of adrenaline (epinephrine) which brings about the so-called fight-or-flight response wherein the person's body prepares for strenuous physical activity. This leads to an increased heart rate (tachycardia), rapid breathing (hyperventilation) which may be perceived as shortness of breath (dyspnea), and sweating (which increases grip and aids heat loss). Because strenuous activity rarely ensues, the hyperventilation leads to a drop in carbon dioxide levels in the lungs and then in the
blood. This leads to shifts in blood pH (respiratory alkalosis or hypocapnia), which in turn can lead to many other symptoms, such as tingling or numbness, dizziness, burning and lightheadedness. Moreover, the release of adrenaline during a panic attack causes vasoconstriction resulting in slightly less blood flow to the head which causes dizziness and lightheadedness. A panic attack can cause blood sugar to be drawn away from the brain and towards the major muscles. It is also possible for the person experiencing such an attack to feel as though they are unable to catch their breath, and they begin to take deeper breaths, which also acts to decrease carbon dioxide levels in the blood.

Symptoms

Agoraphobia

Agoraphobia is an anxiety disorder which primarily consists of the fear of experiencing a difficult or embarrassing situation from which the sufferer cannot escape. As a result, severe sufferers of agoraphobia may become confined to their homes, experiencing difficulty traveling from this "safe place". The word "agoraphobia" is an English adoption of the Greek words agora (ἀγορά) and phobos (φόβος), literally translated as "a fear of the marketplace" usually applies to any or all public places; however the essence of agoraphobia is a fear of panic attacks especially if they occur in
public as the victim may feel like he or she has no escape and be very embarrassed of having one publicly in the first place. This translation is the reason for the common misconception that agoraphobia is a fear of open spaces, and is not clinically accurate.

People who have had a panic attack in certain situations may develop irrational fears, called phobias, of these situations and begin to avoid them. Eventually, the pattern of avoidance and level of anxiety about another attack may reach the point where individuals with panic disorder are unable to drive or even step out of the house. At this stage, the person is said to have panic disorder with agoraphobia. This can be one of the most harmful side-effects of panic disorder as it can prevent sufferers from seeking treatment in the first place. It should be noted that upwards of 90% of agoraphobics achieve a full recovery. Agoraphobia is actually not a fear of certain places but a fear of having panic attacks in certain places.

It is important to note that agoraphobia is by no means a hopeless situation. Sufferers often do not realize that they have experienced these same situations before and nothing terrible occurred. Successful treatment is possible with the right combination of therapy and medication.
Panic disorder

People who have repeated, persistent attacks or feel severe anxiety about having another attack are said to have Panic Disorder. Panic Disorder is strikingly different from other types of anxiety disorders in that panic attacks are often sudden and unprovoked.

In 1993 Jacob Markusson developed a technique he coined the POEM system, or Point Of Exit Methodology, whereby a patient focuses a pattern of thinking during the exit of the panic attack. The theory being that the sufferer can break the cycle of panic attacks and resume a panic-free life. The POEM system has been used effectively to give patients relief without the use of medication such as Paxil.

Treatment

Paper bag rebreathing

Many panic attack sufferers as well as doctors recommend breathing into a paper bag as an effective short-term treatment of an acute panic attack. However, this treatment has been criticised by others as ineffective and possibly hazardous to the patient, even potentially worsening the panic attack. They say it can fatally lower oxygen levels in the bloodstream,\(^\text{14}\) and increase carbon dioxide levels, which in turn has been found to be a major cause of panic attacks.
It is therefore important to discover whether hyperventilation is truly involved in each case. If it is, then rebalancing the oxygen/CO2 levels in the blood and/or re-establishing an even, measured breathing pattern is an appropriate treatment which may be also achieved by extending the outbreath either by counting or even humming.

Medication

The benzodiazepine class of drugs includes diazepam, lorazepam, alprazolam, and clonazepam. These drugs are fast acting in stopping panic but long-term use often leads to tolerance and physical dependence. Benzodiazepines are best used for a few days to avoid the development of tolerance or dependence. Some doctors may prefer to prescribe an antidepressant, particularly an SSRI (such as paroxetine, sertraline, fluvoxamine, escitalopram or fluoxetine), which after an initial titration period may be effective at reducing anxiety and panic attacks. SNRIs such as Venlafaxine can also be prescribed.

Other Treatments

All persons experiencing persistent and frequent panic attacks should consult their physicians. However, many experienced
sufferers treat panic attacks with some the following methods and techniques:

- **Diaphragmatic Breathing or Abdominal Breathing** — Breathing slowly through the nose using the diaphragm and abdomen. Do not breathe through the mouth. Focus on exhaling very slowly. This will correct or prevent an imbalance of oxygen to carbon dioxide in the blood stream.

- **Taking anti-anxiety medication** — to be used under the guidance and direction of a physician.

- **Staying in the Present** — rather than having "what if" thoughts that are future oriented asking yourself, "what is happening now" and "how do I wish to respond to it". (Carbonell 2004)

- **Acceptance and Acknowledgement** — accepting and acknowledging the panic attack. (Carbonell 2004)

- **Floating with the symptoms** — allowing time to pass and floating with the symptoms rather than trying to make them better or fighting them. (Carbonell 2004)

- **Coping Statements** — repeated as part of an internal monologue
  - "No one has ever died from an anxiety attack."
"I will let my body do its thing. This will pass."

"I can be anxious and still deal with this situation."

"This does not feel great, but I can deal with it."

"I am frightened of being frightened, therefore if I stop worrying about being frightened, then I have nothing to be scared of."

- **Talking with a supportive person** — someone who has experienced true panic attacks personally; someone who is highly trained in treating panic attacks; loved ones who can offer support and comfort.

- One particularly helpful and effective form of therapy is **Cognitive Behavioral Therapy** (CBT). This is the most generally accepted method of treatment.

**Interoceptive desensitization/symptom inductions**

Another form of treatment is Interoceptive Desensitization which intends to **desensitize** the afflicted from the symptoms of panic attacks. In a study by Barlow & Craske (1989), 87% of the individuals that participated in the two of four treatments that involved Interoceptive Desensitization were free of panic at the end of treatment and these results were maintained at a 2-year follow up. In controlled studies of Interoceptive Desensitization treatments
compared to other treatments, those treatments that included Interoceptive Desensitization were found to be significantly superior to other treatments such as muscle relaxation alone, or education or insight-oriented treatments. Interoceptive Desensitization often leads to a dramatic reduction in the frequency and intensity of panic attacks and as such should be implemented immediately under the guidance of a mental health professional. It is important the patient is given medical clearance and permission from a medical doctor before attempting these exercises. The key to the induction is that the exercises should mimic the most frightening symptoms of a panic attack. Symptom Inductions should be repeated 3-5 times per day until the patient has little to no anxiety in relation to the symptoms that were induced. Often it will take a period of weeks for the afflicted to feel no anxiety in relation to the induced symptoms. With repeated trials, a person learns through experience that these internal sensations do not need to be feared – the individual becomes less sensitized or desensitized to the internal sensation. After repeated trials, when nothing catastrophic happens, the brain learns (hippocampus & amygdala) to not fear the sensations, and the sympathetic nervous system activation fades. Many people overcome Panic Disorder and sudden Panic Attacks on their own. It takes time, but in a sense, they ride out the panic attacks and eventually learn that nothing is going to happen during one. Often, they 'taper off
until they are not noticeable any longer. It is for this reason that some psychologists helping people with panic disorders induce them into an attack, so they can see for themselves that indeed, nothing will happen.

**Increased risk of heart attack and stroke**

A recent study suggests that menopausal women with panic disorder and many occurrences of panic attacks have a threefold higher risk of suffering heart attack or stroke over the next five years. The researchers believe that panic attacks or more accurately their associated symptoms (chest pain, dyspnea) can be manifestations of undiagnosed cardiovascular disease, or result in heart damage due to cardiovascular stress in patients with panic disorder and many panic attacks over periods of years.[21] The study did not find that isolated cases of panic attacks in patients without panic disorder or agoraphobia lead to immediate heart damage, nor did it prove that the correlation between panic disorder and strokes was causal, or that it couldn't be attributed to the cardiovascular effects of medication that many panic disorder patients receive, such as SSRIs and benzodiazepines. For example one study albeit in the elderly found that the consumption of benzodiazepines combined with analgesics in elderly men is correlated with an increased risk of dying of ischaemic heart disease in a small study. The study doesn't say if
this is to be blamed on the benzodiazepine drug in this case nitrazepam, the analgetics or their combination:

**Limited symptom attack**

Many people being treated for panic attacks begin to experience limited symptom attacks. These panic attacks are less comprehensive with fewer than 4 bodily symptoms being experienced.

**Myocardial infarction**

Myocardial infarction (MI or AMI for acute myocardial infarction), commonly known as a heart attack, occurs when the blood supply to part of the heart is interrupted. This is most commonly due to occlusion (blockage) of a coronary artery following the rupture of a vulnerable atherosclerotic plaque, which is an unstable collection of lipids (like cholesterol) and white blood cells (especially macrophages) in the wall of an artery. The resulting ischemia (restriction in blood supply) and oxygen shortage, if left untreated for a sufficient period, can cause damage and/or death (infarction) of heart muscle tissue (myocardium).

Classical symptoms of acute myocardial infarction include sudden chest pain (typically radiating to the left arm or left side of the neck), shortness of breath, nausea, vomiting, palpitations, sweating, and anxiety (often described as a sense of impending
Women may experience fewer typical symptoms than men, most commonly shortness of breath, weakness, a feeling of indigestion, and fatigue. Approximately one quarter of all myocardial infarctions are silent, without chest pain or other symptoms. A heart attack is a medical emergency, and people experiencing chest pain are advised to alert their emergency medical services, because prompt treatment is beneficial.

Heart attacks are the leading cause of death for both men and women all over the world. Important risk factors are previous cardiovascular disease (such as angina, a previous heart attack or stroke), older age (especially men over 40 and women over 50), tobacco smoking, high blood levels of certain lipids (triglycerides, low-density lipoprotein or "bad cholesterol") and low high density lipoprotein (HDL, "good cholesterol"), diabetes, high blood pressure, obesity, chronic kidney disease, heart failure, excessive alcohol consumption, the abuse of certain drugs (such as cocaine), and chronic high stress levels.

Immediate treatment for suspected acute myocardial infarction includes oxygen, aspirin, and sublingual glyceryl trinitrate (colloquially referred to as nitroglycerin and abbreviated as NTG or GTN). Pain relief is also often given, classically morphine sulfate.

The patient will receive a number of diagnostic tests, such as an electrocardiogram (ECG, EKG), a chest X-ray and blood tests to
detect elevations in cardiac markers (blood tests to detect heart muscle damage). The most often used markers are the creatine kinase-MB (CK-MB) fraction and the troponin I (TnI) or troponin T (TnT) levels. On the basis of the ECG, a distinction is made between ST elevation MI (STEMI) or non-ST elevation MI (NSTEMI). Most cases of STEMI are treated with thrombolysis or if possible with percutaneous coronary intervention (PCI, angioplasty and stent insertion), provided the hospital has facilities for coronary angiography. NSTEMI is managed with medication, although PCI is often performed during hospital admission. In patients who have multiple blockages and who are relatively stable, or in a few extraordinary emergency cases, bypass surgery of the blocked coronary artery is an option.

The phrase "heart attack" is sometimes used incorrectly to describe sudden cardiac death, which may or may not be the result of acute myocardial infarction. A heart attack is different from, but can be the cause of cardiac arrest, which is the stopping of the heartbeat, and cardiac arrhythmia, an abnormal heartbeat. It is also distinct from heart failure, in which the pumping action of the heart is impaired; severe myocardial infarction may lead to heart failure, but not necessarily.
Epidemiology

Myocardial infarction is a common presentation of ischemic heart disease. The WHO estimated that in 2002, 12.6 percent of deaths worldwide were from ischemic heart disease.; Ischemic heart disease is the leading cause of death in developed countries, but third to AIDS and lower respiratory infections in developing countries.

In the United States, diseases of the heart are the leading cause of death, causing a higher mortality than cancer (malignant neoplasms). Coronary heart disease is responsible for 1 in 5 deaths in the U.S.. Some 7,200,000 men and 6,000,000 women are living with some form of coronary heart disease. 1,200,000 people suffer a (new or recurrent) coronary attack every year, and about 40% of them die as a result of the attack. This means that roughly every 65 seconds, an American dies of a coronary event.

Risk factors

Risk factors for atherosclerosis are generally risk factors for myocardial infarction:

- **Older age**
- **Male sex**
- **Tobacco smoking**
- **Hypercholesterolemia** (more accurately hyperlipoproteinemia, especially high low density lipoprotein and low high density lipoprotein)
- **Hyperhomocysteinemia** (high homocysteine, a toxic blood amino acid that is elevated when intakes of vitamins B2, B6, B12 and folic acid are insufficient)
- **Diabetes** (with or without insulin resistance)
- **High blood pressure**
- **Obesity** (defined by a body mass index of more than 30 kg/m², or alternatively by waist circumference or waist-hip ratio).
- **Stress** Occupations with high stress index are known to have susceptibility for atherosclerosis.

Many of these risk factors are modifiable, so many heart attacks can be prevented by maintaining a healthier lifestyle. Physical activity, for example, is associated with a lower risk profile. Non-modifiable risk factors include age, sex, and family history of an early heart attack (before the age of 60), which is thought of as reflecting a genetic predisposition.

Socioeconomic factors such as a shorter education and lower income (particularly in women), and unmarried cohabitation may
also contribute to the risk of MI. To understand epidemiological study results, it's important to note that many factors associated with MI mediate their risk via other factors. For example, the effect of education is partially based on its effect on income and marital status. Women who use combined oral contraceptive pills have a modestly increased risk of myocardial infarction, especially in the presence of other risk factors, such as smoking.

Inflammation is known to be an important step in the process of atherosclerotic plaque formation. C-reactive protein (CRP) is a sensitive but non-specific marker for inflammation. Elevated CRP blood levels, especially measured with high sensitivity assays, can predict the risk of MI, as well as stroke and development of diabetes. Moreover, some drugs for MI might also reduce CRP levels. The use of high sensitivity CRP assays as a means of screening the general population is advised against, but it may be used optionally at the physician's discretion, in patients who already present with other risk factors or known coronary artery disease. Whether CRP plays a direct role in atherosclerosis remains uncertain.

Inflammation in periodontal disease may be linked coronary heart disease, and since periodontitis is very common, this could have great consequences for public health. Serological studies measuring antibody levels against typical periodontitis-causing bacteria found that such antibodies were more present in subjects
with coronary heart disease.\textsuperscript{22} Periodontitis tends to increase blood levels of CRP, fibrinogen and cytokines;\textsuperscript{23} thus, periodontitis may mediate its effect on MI risk via other risk factors.\textsuperscript{24} Preclinical research suggests that periodontal bacteria can promote aggregation of platelets and promote the formation of foam cells. A role for specific periodontal bacteria has been suggested but remains to be established.

Baldness, hair greying, a diagonal earlobe crease and possibly other skin features are independent risk factors for MI. Their role remains controversial; a common denominator of these signs and the risk of MI is supposed, possibly genetic. Calcium deposition is another part of atherosclerotic plaque formation. Calcium deposits in the coronary arteries can be detected with CT scans. Several studies have shown that coronary calcium can provide predictive information beyond that of classical risk factors.

\textbf{Pathophysiology}

A myocardial infarction occurs when an atherosclerotic plaque slowly builds up in the inner lining of a coronary artery and then suddenly ruptures, totally occluding the artery and preventing blood flow downstream.

Acute myocardial infarction refers to two subtypes of acute coronary syndrome, namely non-ST-elevated myocardial infarction.
and ST-elevated myocardial infarction, which are most frequently (but not always) a manifestation of coronary artery disease. The most common triggering event is the disruption of an atherosclerotic plaque in an epicardial coronary artery, which leads to a clotting cascade, sometimes resulting in total occlusion of the artery. Atherosclerosis is the gradual buildup of cholesterol and fibrous tissue in plaques in the wall of arteries (in this case, the coronary arteries), typically over decades. Blood stream column irregularities visible on angiography reflect artery lumen narrowing as a result of decades of advancing atherosclerosis. Plaques can become unstable, rupture, and additionally promote a thrombus (blood clot) that occludes the artery; this can occur in minutes. When a severe enough plaque rupture occurs in the coronary vasculature, it leads to myocardial infarction (necrosis of downstream myocardium).

If impaired blood flow to the heart lasts long enough, it triggers a process called the ischemic cascade; the heart cells die (chiefly through necrosis) and do not grow back. A collagen scar forms in its place. Recent studies indicate that another form of cell death called apoptosis also plays a role in the process of tissue damage subsequent to myocardial infarction. As a result, the patient's heart will be permanently damaged. This scar tissue also puts the patient at risk for potentially life threatening arrhythmias, and may result in the
formation of a ventricular aneurysm that can rupture with catastrophic consequences.

Injured heart tissue conducts electrical impulses more slowly than normal heart tissue. The difference in conduction velocity between injured and uninjured tissue can trigger re-entry or a feedback loop that is believed to be the cause of many lethal arrhythmias. The most serious of these arrhythmias is ventricular fibrillation (V-Fib/VF), an extremely fast and chaotic heart rhythm that is the leading cause of sudden cardiac death. Another life threatening arrhythmia is ventricular tachycardia (V-Tach/VT), which may or may not cause sudden cardiac death. However, ventricular tachycardia usually results in rapid heart rates that prevent the heart from pumping blood effectively. Cardiac output and blood pressure may fall to dangerous levels, which can lead to further coronary ischemia and extension of the infarct.

The cardiac defibrillator is a device that was specifically designed to terminate these potentially fatal arrhythmias. The device works by delivering an electrical shock to the patient in order to depolarize a critical mass of the heart muscle, in effect "rebooting" the heart. This therapy is time dependent, and the odds of successful defibrillation decline rapidly after the onset of cardiopulmonary arrest.
Triggers

Heart attack rates are higher in association with intense exertion, be it psychological stress or physical exertion, especially if the exertion is more intense than the individual usually performs. Quantitatively, the period of intense exercise and subsequent recovery is associated with about a 6-fold higher myocardial infarction rate (compared with other more relaxed time frames) for people who are physically very fit. For those in poor physical condition, the rate differential is over 35-fold higher. One observed mechanism for this phenomenon is the increased arterial pulse pressure stretching and relaxation of arteries with each heart beat which, as has been observed with intravascular ultrasound, increases mechanical "shear stress" on atheromas and the likelihood of plaque rupture. Acute severe infection, such as pneumonia, can trigger myocardial infarction. A more controversial link is that between Chlamydophila pneumoniae infection and atherosclerosis. While this intracellular organism has been demonstrated in atherosclerotic plaques, evidence is inconclusive as to whether it can be considered a causative factor. Treatment with antibiotics in patients with proven atherosclerosis has not demonstrated a decreased risk of heart attacks or other coronary vascular diseases. There is an association of an increased incidence of a heart attack in the morning hours, more specifically around 9 a.m.. Some investigators have noticed that the
ability of platelets to aggregate varies according to a circadian rhythm, although they have not proven causation. Some investigators theorize that this increased incidence may be related to the circadian variation in cortisol production affecting the concentrations of various cytokines and other mediators of inflammation.

Classification

**Acute Coronary Syndrome**

- Electrocardiogram
- ST-elevation
- No ST-elevation

- Cardiac markers positive
- Cardiac markers negative

- Unstable angina

**Myocardial infarction**

- STEMI
- NSTEMI

- Q-wave MI
- non-Q-wave MI

Classification of **acute coronary syndromes**.

Acute myocardial infarction is a type of **acute coronary syndrome**, which is most frequently (but not always) a manifestation
of coronary artery disease. The acute coronary syndromes include ST segment elevation myocardial infarction (STEMI), non-ST segment elevation myocardial infarction (NSTEMI), and unstable angina (UA).

By zone

Depending on the location of the obstruction in the coronary circulation, different zones of the heart can become injured. Using the anatomical terms of location corresponding to areas perfused by major coronary arteries, one can describe anterior, inferior, lateral, apical, septal, posterior, and right-ventricular infarctions (and combinations, such as anteroinferior, anterolateral, and so on). For example, an occlusion of the left anterior descending coronary artery (LAD) will result in an anterior wall myocardial infarct. Infarcts of the lateral wall are caused by occlusion of the left circumflex coronary artery (LCx) or its oblique marginal branches (or even large diagonal branches from the LAD).

- Both inferior wall and posterior wall infarctions may be caused by occlusion of either the right coronary artery or the left circumflex artery, depending on which feeds the posterior descending artery.

- Right ventricular wall infarcts are also caused by right coronary artery occlusion.
Subendocardial vs. transmural

Another distinction is whether a MI is subendocardial, affecting only the inner third to one half of the heart muscle, or transmural, damaging (almost) the entire wall of the heart.[44] The inner part of the heart muscle is more vulnerable to oxygen shortage, because the coronary arteries run inward from the epicardium to the endocardium, and because the blood flow through the heart muscle is hindered by the heart contraction.[43]

The phrases transmural and subendocardial infarction were previously considered synonymous with Q-wave and non-Q-wave myocardial infarction respectively, based on the presence or absence of Q waves on the ECG. It has since been shown that there is no clear correlation between the presence of Q waves with a transmural infarction and the absence of Q waves with a subendocardial infarction, but Q waves are associated with larger infarctions, while the lack of Q waves is associated with smaller infarctions. The presence or absence of Q-waves also has clinical importance with improved outcomes associated with a lack of Q waves.

Cardiac markers

Cardiac markers or cardiac enzymes are proteins from cardiac tissue found in the blood. These proteins are released into the
bloodstream when damage to the heart occurs, as in the case of a myocardial infarction. Until the 1980s, the enzymes SGOT and LDH were used to assess cardiac injury. Then it was found that disproportional elevation of the MB subtype of the enzyme creatine kinase (CK) was very specific for myocardial injury. Current guidelines are generally in favor of troponin sub-units I or T, which are very specific for the heart muscle and are thought to rise before permanent injury develops. Elevated troponins in the setting of chest pain may accurately predict a high likelihood of a myocardial infarction in the near future. New markers such as glycogen phosphorylase isoenzyme BB are under investigation.

The diagnosis of myocardial infarction requires two out of three components (history, ECG, and enzymes). When damage to the heart occurs, levels of cardiac markers rise over time, which is why blood tests for them are taken over a 24-hour period. Because these enzyme levels are not elevated immediately following a heart attack, patients presenting with chest pain are generally treated with the assumption that a myocardial infarction has occurred and then evaluated for a more precise diagnosis.

Complications

Complications may occur immediately following the heart attack (in the acute phase), or may need time to develop (a chronic
problem). After an infarction, an obvious complication is a second infarction, which may occur in the domain of another atherosclerotic coronary artery, or in the same zone if there are any live cells left in the infarct.

**Congestive heart failure**

A myocardial infarction may compromise the function of the heart as a pump for the circulation, a state called heart failure. There are different types of heart failure; left- or right-sided (or bilateral) heart failure may occur depending on the affected part of the heart, and it is a low-output type of failure. If one of the heart valves is affected, this may cause dysfunction, such as mitral regurgitation in the case of left-sided coronary occlusion that disrupts the blood supply of the papillary muscles. The incidence of heart failure is particularly high in patients with diabetes and requires special management strategies.

**Myocardial rupture**

Myocardial rupture is most common three to five days after myocardial infarction, commonly of small degree, but may occur one day to three weeks later. In the modern era of early revascularization and intensive pharmacotherapy as treatment for MI, the incidence of myocardial rupture is about 1% of all MIs. This may occur in the free
walls of the ventricles, the **septum** between them, the papillary muscles, or less commonly the **atria**. Rupture occurs because of increased pressure against the weakened walls of the heart chambers due to heart muscle that cannot pump blood out effectively. The weakness may also lead to ventricular **aneurysm**, a localized dilation or ballooning of the heart chamber.

Risk factors for myocardial rupture include completion of infarction (no revascularization performed), female sex, advanced age, and a lack of a previous history of myocardial infarction. In addition, the risk of rupture is higher in individuals who are revascularized with a thrombolytic agent than with PCI. The shear stress between the infarcted segment and the surrounding normal myocardium (which may be hypercontractile in the post-infarction period) makes it a nidus for rupture.

Rupture is usually a catastrophic event that may result a life-threatening process known as **cardiac tamponade**, in which blood accumulates within the **pericardium** or heart sac, and compresses the heart to the point where it cannot pump effectively. Rupture of the intraventricular septum (the muscle separating the left and right ventricles) causes a **ventricular septal defect** with shunting of blood through the defect from the left side of the heart to the right side of the heart, which can lead to right ventricular failure as well as pulmonary overcirculation. Rupture of the papillary muscle may also
lead to acute mitral regurgitation and subsequent pulmonary edema and possibly even cardiogenic shock.

**Life-threatening arrhythmia**

Electrocardiogram showing ventricular tachycardia.

Since the electrical characteristics of the infarcted tissue change (see pathophysiology section), arrhythmias are a frequent complication. The re-entry phenomenon may cause rapid heart rates (ventricular tachycardia and even ventricular fibrillation), and ischemia in the electrical conduction system of the heart may cause a complete heart block (when the impulse from the sinoatrial node, the normal cardiac pacemaker, does not reach the heart chambers).[180][181]

**Pericarditis**

As a reaction to the damage of the heart muscle, inflammatory cells are attracted. The inflammation may reach out and affect the heart sac. This is called pericarditis. In Dressler's syndrome, this occurs several weeks after the initial event.

**Cardiogenic shock**

A complication that may occur in the acute setting soon after a myocardial infarction or in the weeks following it is cardiogenic
shock. Cardiogenic shock is defined as a hemodynamic state in which the heart cannot produce enough of a cardiac output to supply an adequate amount of oxygenated blood to the tissues of the body. While the data on performing interventions on individuals with cardiogenic shock is sparse, trial data suggests a long-term mortality benefit in undergoing revascularization if the individual is less than 75 years old and if the onset of the acute myocardial infarction is less than 36 hours and the onset of cardiogenic shock is less than 18 hours. If the patient with cardiogenic shock is not going to be revascularized, aggressive hemodynamic support is warranted, with insertion of an intra-aortic balloon pump if not contraindicated. If diagnostic coronary angiography does not reveal a culprit blockage that is the cause of the cardiogenic shock, the prognosis is poor.

**Prognosis**

The prognosis for patients with myocardial infarction varies greatly, depending on the patient, the condition itself and the given treatment. Using simple variables which are immediately available in the emergency room, patients with a higher risk of adverse outcome can be identified. For example, one study found that 0.4% of patients with a low risk profile had died after 90 days, whereas the mortality rate in high risk patients was 21.1%.
Biological basis

Neural circuitry involving the amygdala and hippocampus is thought to underlie anxiety. When confronted with unpleasant and potentially harmful stimuli such as foul odors or tastes, PET-scans show increased bloodflow in the amygdala. In these studies, the participants also reported moderate anxiety. This might indicate that anxiety is a protective mechanism designed to prevent the organism from engaging in potentially harmful behaviors.

Varieties

Existential anxiety

A 1987 advertisement for Ativan, an antianxiety medication points out how uncertain life can be. Theologian Paul Tillich characterized existential anxiety as "the state in which a being is aware of its possible nonbeing" and he listed three categories for the nonbeing and resulting anxiety: ontic (fate and death), moral (guilt and condemnation), and spiritual (emptiness and meaninglessness). According to Tillich, the last of these three types of existential anxiety is predominant in modern times while the others were predominant in earlier periods. Tillich argues that this anxiety can be accepted as part of the human condition or it can be resisted but with negative consequences. In its pathological form, spiritual anxiety may tend to
"drive the person toward the creation of certitude in systems of meaning which are supported by tradition and authority" even though such "undoubted certitude is not built on the rock of reality".

According to Viktor Frankl, author of *Man's Search for Meaning*, when faced with extreme mortal dangers the very basic of all human wishes is to find a meaning of life to combat this "trauma of nonbeing" as death is near and succumbing to it (even by suicide) seems attractive. The "father" of existentialism, Søren Kierkegaard, regarded all humans to be born into despair by default (in *The Sickness Unto Death*). Such despair was created by having a false conception of the self. He regarded the mortal self which can exist relatively, and therefore be born or die, as the false self. The true self was the relationship of self to God, rather than to any relative object. For more information see angst and existential crisis.

**Test anxiety**

Test anxiety is the uneasiness, apprehension, or nervousness felt by students who have a fear of failing an exam. Students suffering from test anxiety may experience any of the following: the association of grades with personal worth, fear of embarrassment by a teacher, fear of alienation from parents or friends, time pressures, or feeling a loss of control. Emotional, cognitive, behavioral, and
physical components can all be present in test anxiety. Sweating, dizziness, headaches, racing heartbeats, nausea, fidgeting, and drumming on a desk are all common. An optimal level of arousal is necessary to best complete a task such as an exam; however, when the anxiety or level of arousal exceeds that optimum, it results in a decline in performance. Because test anxiety hinges on fear of negative evaluation, debate exists as to whether test anxiety is itself a unique anxiety disorder or whether it is a specific type of social phobia. In 2006, approximately 49% of high school students were reportedly experiencing this condition. While the term "test anxiety" refers specifically to students, many adults share the same experience with regard to their career or profession. The fear of failing a task and being negatively evaluated for it can have a similarly negative effect on the adult.

**Stranger and social anxiety**

Anxiety when meeting or interacting with unknown people is a common stage of development in young people. For others, it may persist into adulthood and become social anxiety or social phobia. "Stranger anxiety" in small children is not a phobia. Rather it is a developmentally appropriate fear by toddlers and preschool children of those who are not parents or family members. In adults, an
excessive fear of other people is not a developmentally common stage; it is called social anxiety.

Social anxiety

Social anxiety is a term used to describe an experience of anxiety (emotional discomfort, fear, apprehension or worry) regarding social situations and being evaluated by other people. It occurs early in childhood as a normal part of the development of social functioning. People vary in how often they experience social anxiety or in which kinds of situations. It can be related to shyness or other emotional or temperamental factors, but its exact nature is still the subject of research and theory.

A psychopathological form of social anxiety is called "social anxiety disorder" or social phobia.

Nature of social anxiety

The experience is commonly described as having physiological components (e.g., sweating, blushing), cognitive/perceptual components (e.g. belief that one may be judged negatively; looking for signs of disapproval) and behavioral components (e.g. avoiding a situation).

The essence of social anxiety has been said to be an expectation of negative evaluation by others. One theory is that social anxiety
occurs when there is motivation to make a desired impression along
with doubt about having the ability to do so.

Child development

Social anxiety first occurs in infancy and is said to be a normal
and necessary emotion for effective social functioning and
developmental growth. Cognitive advances and increased pressures
in late childhood and early adolescence result in social anxiety being
experienced repeatedly. Adolescents have identified their most
common anxieties as focused on relationships with peers of the
opposite sex (or same, if homosexual), peer rejection, public
speaking, blushing, self-consciousness, and past behaviour. Most
adolescents progress through their fears and meet the developmental
demands placed on them.

Forms and degrees

Forms of social anxiety include shyness, performance anxiety,
public speaking anxiety, stage fright, timidity, etc., — all of them
may assume clinical forms, i.e., become anxiety disorders. [1]
The term is also commonly used in reference to experiences such as
embarrassment and shame. However some psychologists draw a line
among various types of social discomfort, with the criterion for
anxiety being an anticipation. For example, the anticipation of an
embarrassment is a form of social anxiety, while embarrassment itself is not.

Criteria that distinguish clinical versus nonclinical forms of social anxiety include intensity and levels of behavioral and psychosomatic disruption.

Social anxieties may also be classified according to the broadness of triggering social situations. For example, fear of eating in public has a very narrow situational scope (eating in public), while shyness may have a wide scope (a person may be shy of doing many things in various circumstances). Accordingly, the clinical forms may be distinguished into the general social phobia and specific social phobias.

Trait anxiety

Anxiety can be either a short term "state" or a long term "trait." Trait anxiety reflects a stable tendency to respond with state anxiety in the anticipation of threatening situations. It is closely related to the personality trait of neuroticism.

Psychogenic pain

Psychogenic pain, also called psychalgia, is physical pain that is caused, increased, or prolonged by mental, emotional, or behavioral factors. Headache, back pain, or stomach pain are some of
the most common types of psychogenic pain.\textsuperscript{1} It may occur, rarely, in persons with a mental disorder, but more commonly it accompanies or is induced by social rejection, broken heart, grief, love sickness, or other such emotional events. Sufferers are often stigmatized, because both medical professionals and the general public tends to think that pain from psychological source is not "real". However, specialists consider that it is no less actual or hurtful than pain from other sources. The International Association for the Study of Pain defines pain as "an unpleasant sensory and emotional experience associated with actual or potential tissue damage, or described in terms of such damage" (emphasis added). In the note accompanying that definition, the following can be found about pain that happens for psychological reasons:\textsuperscript{[5]}

Many people report pain in the absence of tissue damage or any likely pathophysiological cause; usually this happens for psychological reasons. There is usually no way to distinguish their experience from that due to tissue damage if we take the subjective report. If they regard their experience as pain and if they report it in the same ways as pain caused by tissue damage, it should be accepted as pain.

Medicine refers also to psychogenic pain or psychalgia as a form of chronic pain under the name of persistent somatoform pain disorder. Causes may be linked to stress, unexpressed emotional
conflicts, psychosocial problems, or various mental disorders. Some specialists believe that psychogenic chronic pain exists as a protective distraction to keep dangerous repressed emotions such as anger or rage unconscious. It remains controversial, however, that chronic pain might arise purely from emotional causes. Treatment may include psychotherapy, antidepressants, analgesics, and other remedies that are used for chronic pain in general.¹

Psychological trauma

Psychological trauma is a type of damage to the psyche that occurs as a result of a traumatic event. When that trauma leads to posttraumatic stress disorder, damage may involve physical changes inside the brain and to brain chemistry, which affect the person's ability to cope with stress.

A traumatic event involves a single experience, or an enduring or repeating event or events, that completely overwhelm the individual's ability to cope or integrate the ideas and emotions involved with that experience. The sense of being overwhelmed can be delayed by weeks or years, as the person struggles to cope with the immediate danger. Trauma can be caused by a wide variety of events, but there are a few common aspects. There is frequently a violation of the person's familiar ideas about the world and of their human rights, putting the person in a state of extreme confusion and
insecurity. This is also seen when people or institutions depended on for survival violate or betray the person in some unforeseen way. Psychological trauma may accompany physical trauma or exist independently of it. Typical causes of psychological trauma are sexual abuse, violence, the threat of either, or the witnessing of either, particularly in childhood. Catastrophic events such as earthquakes and volcanic eruptions, war or other mass violence can also cause psychological trauma. Long-term exposure to situations such as extreme poverty or milder forms of abuse, such as verbal abuse, can be traumatic (though verbal abuse can also potentially be traumatic as a single event).

However, different people will react differently to similar events. One person may experience an event as traumatic while another person would not suffer trauma as a result of the same event. In other words, not all people who experience a potentially traumatic event will actually become psychologically traumatized.

Symptoms of trauma

People who go through this traumatic experiences often have certain symptoms and problems afterward. How severe these symptoms are depends on the person, the type of trauma involved, and the emotional support they receive from others. This section is a general listing of possible symptoms, and is not exhaustive. Reactions
to and symptoms of trauma can be wide and varied, and differ in severity from person to person. A traumatized individual may experience one or several of them. After a traumatic experience, a person may **re-experience** the trauma mentally and physically, hence avoiding trauma reminders, also called **triggers**, as this can be uncomfortable and even painful. They may turn to **alcohol** and/or **psychoactive substances** to try to escape the feelings. Re-experiencing symptoms are a sign that the body and mind are actively struggling to cope with the traumatic experience. Triggers and cues act as reminders of the trauma, and can cause anxiety and other associated emotions. Often the person can be completely unaware of what these triggers are. In many cases this may lead a person suffering from traumatic disorders to engage in disruptive or self-destructive coping mechanisms, often without being fully aware of the nature or causes of their own actions. **Panic attacks** are an example of a psychosomatic response to such emotional triggers.

Consequently, intense feelings of anger may surface frequently, sometimes in very inappropriate or unexpected situations, as danger may always seem to be present. Upsetting memories such as images, thoughts, or **flashbacks** may haunt the person, and **nightmares** may be frequent. **Insomnia** may occur as lurking fears and insecurity keep the person vigilant and on the lookout for danger, both day and night.
Memory of the traumatic experience(s) may become accessible only via the associated emotions: factual memories that place the event(s) in temporal and spatial context may not be accessible. This can lead to the traumatic events being constantly experienced as if they were happening in the present, preventing the subject from gaining perspective on the experience(s). This can produce a pattern of prolonged periods of acute arousal punctuated by periods of physical and mental exhaustion. In time, emotional exhaustion may set in, leading to distraction, and clear thinking may be difficult or impossible. Emotional detachment, as well as dissociation or "numbing out", can frequently occur. Dissociating from the painful emotion includes numbing all emotion, and the person may seem emotionally flat, preoccupied or distant. The person can become confused in ordinary situations and have memory problems.

Some traumatized people may feel permanently damaged when trauma symptoms don't go away and they don't believe their situation will improve. This can lead to feelings of despair, loss of self-esteem, and frequently depression. If important aspects of the person's self and world understanding have been violated, the person may call their own identity into question. These symptoms can lead to stress or anxiety disorders, or even posttraumatic stress disorder, where the person experiences flashbacks and re-experiences the emotion of the trauma as if it is actually happening.
Situational trauma

Trauma is well-known in genocide, war, and violent situations. It is almost always seen in torture victims and targets of mobbing (see psychology of torture). It also occurs in natural and man-made disasters, catastrophic mishaps, and medical emergencies. Here treatment for trauma is often either not sought, or is not available. It is common, but less often identified in situations of domestic violence, child abuse, and rape. Victims in situations of child abuse, domestic violence, and neglect are often not identified correctly by caregivers and are also unlikely to receive proper treatment for ongoing trauma.

Trauma is often defined as a coping response to and a consequence of overwhelming situations. However, as an individual's sense of being "overwhelmed" is subjective, the occurrence of trauma is also subjective. There is evidence to suggest that how people cope with extremely stressful situations is associated with the amount of trauma suffered from such events.

Responses to psychological trauma

There are several behavioral responses common towards stressors including the proactive, reactive, and passive responses. Proactive responses include attempts to address and correct a stressor before it has a noticeable effect on lifestyle. Reactive
responses occur after the stress and possible trauma has occurred, and are aimed more at correcting or minimizing the damage of a stressful event. A passive response is often characterized by an emotional numbness or ignorance of a stressor. Those who are able to be proactive can often overcome stressors and are more likely to be able to cope well with unexpected situations. On the other hand, those who are more reactive will often experience more noticeable effects from an unexpected stressor. In the case of those who are passive, victims of a stressful event are more likely to suffer from long term traumatic effects and often enact no intentional coping actions. These observations may suggest that the level of trauma associated with a victim is related to such independent coping abilities.

"Betrayal trauma theory suggests that psychogenic amnesia is an adaptive response to childhood abuse. When a parent or other powerful figure violates a fundamental ethic of human relationships, victims may need to remain unaware of the trauma not to reduce suffering but rather to promote survival. Amnesia enables the child to maintain an attachment with a figure vital to survival, development, and thriving. Analysis of evolutionary pressures, mental modules, social cognitions, and developmental needs suggests that the degree to which the most fundamental human ethics are violated can influence the nature, form, and processes of
trauma and responses to trauma. There is also a distinction between trauma induced by recent situations and long-term trauma which may have been buried in the unconscious from past situations such as childhood abuse. Trauma is often overcome through healing; in some cases this can be achieved by recreating or revisiting the origin of the trauma under more psychologically safe circumstances, such as with a therapist.

Trauma in psychoanalysis

French neurologist Jean-Martin Charcot argued that psychological trauma was the origin of all instances of the mental illness known as hysteria. Charcot's "traumatic hysteria" often manifested as a paralysis that followed a physical trauma, typically years later after what Charcot described as a period of "incubation". Sigmund Freud, Charcot's student and the father of psychoanalysis, examined the concept of psychological trauma throughout his career. Jean Laplanche has given a general description of Freud's understanding of trauma, which varied significantly over the course of Freud's career: "An event in the subject's life, defined by its intensity, by the subject's incapacity to respond adequately to it and by the upheaval and long-lasting effects that it brings about in the psychical organization".