Stress and Health

Chapter 15

Module 1 Stress and Stressors

How do psychologists define stress?

Stress is the physical, emotional, cognitive, and behavioral responses to events that are judged to be threatening or challenging. Stress shows up in many different ways from physical ailments to mental ailments. Everyone also responds differently to stress – even if they are the same stressors. The latter happens because of some people will perceive those stressors (stress causing events) differently – some seem them as a problem, others as a challenge, and others as an opportunity. Stressors also range from extremely dangerous (fires) to annoying (delays) to imaginary (putting off looking at a report card).

There are two kinds of stressors based on the effect they result in

– distress (an effect of unpleasant or undesirable stressor)

- eustress (an effect of positive events) this came about from Hans Selye who said it is when positive events require the body to adapt to change. Today’s definition says it is the optimal amount of stress that people need to promote health and well-being.

The idea of eustress is that we all need a little stress to motivate us. That arousal or eustress is something that we actually need to feel fulfilled.

Example: an exam is coming up so you feel stressed about it. The result is you study. This is an example of eustress. However, if the stress interferes with your ability to study or to retrieve the information at exam time then it becomes distress.

What kinds of events and situations can cause stress?

There three types of events that cause stress: Environmental, Social, and Psychological

**Environmental events** include natural catastrophes but they are a part of our everyday life. Many are negative events such as losing a job, but there are also positive events like getting married or having a baby that can also cause stress. One way to measure this was developed by Holmes and Rahe with the Social Readjustment Rating Scale. You did a teen version of this test. The researchers found that certain score ranges can be seen as good predictors of risk of illness or accidents. The SRRS was created for adults, but there is one more appropriate for college age students – College Undergraduate Stress Scale. Although not everything on either of the scales seems stressful, they are mostly due to the details that are associated with the events. For example falling asleep in class might not seem a big deal but as a result, you have to get the notes from someone else, the professor might be disappointed in you, you have to read someone else notes.

The bulk of environmental events that cause stress are actually referred to as hassles. There was actually a test created to determine how many hassles you have in your daily life. It’s similar to the SRRS but the results can help you determine immediate health and wellbeing issues such as headaches, colds, or back aches.

New research has shown also that daily hassles vary dependent on the developmental stage. For example kids ages 3-5 a daily hassle consisted of being teased, 6-10 – bad grades, 11-15- feeling pressured to use drugs, 16-22 – trouble at school or work and adults found it to be fighting among family members, and older adults cited a lack of money.

**Social Factors** – much of our daily hassles are the result of interactions with other people. The most common come from poverty and job stress. Both can lead to a plethora of issues including lack of medical care, increased rates of disabilities due to poor prenatal care, addiction issues. Those with a job still have to deal with the workload, a lack of variety or meaningfulness in work, lack of control over decision, long hours, poor physical work conditions and lack of job security

The most sever result of work stress is burnout – or negative changes in thoughts, emotions, and behavior as a result of prolonged stress or frustration. Symptoms include extreme dissatisfaction, pessimism, lowered job satisfaction, and desire to quit. Students can also suffer from burnout as a result of things such as term papers, exams, etc because they can become overwhelming. The number one solution to burnout is a strong support system at work/school.

Another type of social factor that causes stress is moving from one culture to another. This is known as acculturative stress – when you are trying to adapt to the dominant culture. One method that people use is **integration** (acculturation) where you are trying to maintain a sense of the original culture while also trying to form a positive relations with members of the dominant culture. The belief that acculturative stress related to integration is low but there might be other variables involved that were not measured properly. Others try to assimilate where they give up their old culture and completely adopt the majority culture’s ways. Think 2nd wave of immigration in U.S. History –changing names, etc. This can lead to a moderate level of stress – mostly as a result due to loss of cultural patterns and rejection by other members of your culture that don’t choose to assimilate. **Separation** is another source. This is when the minority person rejects the majority culture’s’ ways and tries to maintain the original cultural identity. They refuse to learn the language. They only socialize with others of their culture. This results in a fairly high level of stress. The greatest stress comes from people that have chosen to be **marginalized**. – where they don’t maintain contact with their original culture nor join the dominant culture. This might lead to a loss of identity and cause a feeling of alienation.

**Psychological Factors-**  Stress can come from outside factors – but a lot of time it comes from how we perceive the world around us. Pressure is often a way that we feel when must work harder, or faster, or do more. Some believe they work well under pressure but it leads to a negative impact on a person’s ability to be creative. (especially when time is applied). Another thing that impacts the level of stress is the perception of control. When people feel they don’t have any control the greater degree of stress is felt.

Frustrations are another type of psychological event that causes stress. This is when people are block from achieving a desired goal or fulfilling a perceived need. It can be external – such as being stuck in traffic (other types of external are losses, rejections, failures, delays). There are also internal frustrations or personal frustrations – this is when the goal can’t be achieved because of their own internal or personal characteristics. The seriousness of the frustration is a result of how important the goal or need actually is.

How can stress affect physiological and psychological health?

Stress, although not a physical ailment can cause physical damage, weaken the immune system, and make people more likely to develop a variety of health problems. The Autonomic Nervous System is the first aspect that is attacked. That is because this deals specifically with automatic systems in your body such as heart rate and respiration. The PNS and SNS are directly tied to stress. SNS or sympathetic nervous system is in charge of the flight or fight response system. This will prepare your body to deal with challenging things by increasing heart rate and breathing, sending energy to muscles to deal with the impending danger. The PNS – parasympathetic nervous system is what allows your body to go back to normal. If the stress lasts long enough, the SNS might shut the body down all together – nervous exhaustion.

Effects of stress on the body were studied by psychologist Hans Selye. He looked specifically at the sequence of events that people go through when dealing with stress. He called this the general adaptation syndrome. There are three steps:

* Alarm – this is how the body first reacts to the stressor and the sympathetic nervous system is activated. Adrenal glands release hormones that increase heart rate, blood pressure, and the supply of blood sugar – all leading to a burst of energy. Sometimes you start to feel nausea, fever, and even headaches as a result.
* Resistance – The SNS is working steadily now and is trying to fight off the stressor. The first symptoms of alarm weaken and some people actually begin to feel better. Noradrenaline is one of the neurotransmitters released and it is found to help people become insensitive to pain.
* Exhaustion – this is the final step. This is when all the body’s resources are gone. It can lead to the formation of stress related health issues. – weakened immune system and even death.

People go through alarm and resistance often throughout life as they adapt to life. But the exhaustion stage is not something that you go through often. His research into this stage is what helped others believe the connection between stress and certain “diseases of adaption”.

Seyle discovered that your immune system is affected by stress and that stress triggers the same response as an infection does. When you are sick, the immune system releases new enzymes and other chemicals to surround the infection. These chemicals activate certain receptor sites attached to the vagus nerve, the longest nerve that connects the body’s organs to the brain. This signals the brain that you are sick and this perpetuates the cycle prompting the immune system to kick in even more. A similar reaction takes place when your body encounters stress. This time the reaction starts in the brain vs the blood stream. The same chemical changes occur in the brain with stress that would normally be caused by the messages from the vagus nerve when you are sick. It’s almost as though your brain is being primed for the resistance stage.

This a positive response, but this only lasts for a short while. If the stress is prolonged or chronic the body’s resources begin to fail in the exhaustion stage. Studies have shown that the body releases cortisol when you are stressed and this neurotransmitter actually reduces or slows down the immune system.

There are other things at play as well. The SNS and PNS can’t work at the same time and the PNS is responsible for normal day to day functioning and “system maintenance”. Studies have shown that the heart is more at risk when levels of stress are high because the liver that is active during the PNS does not have a chance to clear out the fat and cholesterol form the blood stream so clogging can happen which might lead to a heart attack.

Stress can also play a role in the progression of cancer. Cancer cells don’t act like normal cells and they continually divide without stopping. The tumors effect the normal functioning of the healthy cells and organs that cause them to fail and eventually killing them. The problem is that stress naturally suppresses the immune system so that when the cancer cells first develop they can’t be fought off as effectively. One immune system cell is called the natural killer cell. Its job is to suppress viruses and destruction of tumor cells. Stress reduces the amount of this cell released. They have also found that adrenaline which is released during stress also interferes with a protein that normally would suppress the growth of cancer cells and tumors. The more adrenaline and noradrenaline in your system (released with stress) can cause “mistakes” to take place which can cause your body to allow cells to pile up which might allow the growth of tumors and cancer cells to grow.

Cardiac issues and cancer are not the only things effected by stress. Children living in families that have higher levels of stress are more likely to develop fevers with illness than other children. Research has shown that stress can also be a leading factor in depression and even HIV/AIDS.

**Effects on Psychological Health**

One of the most common mental health issues associated with stress is Acute Stress Disorder. This is generally the result of a severe trauma – generally things that most don’t ever deal with such as natural disasters, war, combat, death of a child). Symptoms occur within 4 weeks of the event and include anxiety, dissociative symptoms, recurring nightmares, sleep disturbances, problems in concentration, and moment sin which people seem to relive the event in reams and flashbacks for as long as 1 month following the event. When these symptoms last for more than a month it is called PTSD – post traumatic stress disorder. These symptoms might not develop until 6 months after the event and generally require some type of psychotherapy and the use of drugs to control anxiety.

Women are more likely than men to suffer from PTSD and the likelihood for it to occur increases if the event happened before the age of 15. Children who suffer from PTSD have different symptoms and effects. The hippocampus tends to be decreased in children with the disorder. This is important because the hippocampus is important for developing and storing memories.

**Module 2 – coping with stress and promoting wellness**

How do people think about stress?

Cognitive Appraisal Approach

As we’ve been learning, not everyone responds to stress the same way. One of the reasons for this is because of how we cognitively appraise or think about stress. The cognitive appraisal theory was developed by Richard Lazarus. The belief is that the way people think about and appraise a stressor will determine how stressful the stressor becomes. There are two steps in the process:

* Primary appraisal – this is the first step which is where you estimate the severity of the stressor and classify it as a threat, a challenge, or a harm or loss that has already occurred. If the stressor is a threat the response will include negative emotions, however if it is deemed a challenge it is possible to plan to meet that challenge which is more positive and less stressful. When you perceive it a challenge the coping tends to be more successful whereas if it is a threat it can increase stress levels, negative emotions and the inability to cope. So yes – how we think about it will affect how you deal with it.
* Secondary appraisal – once you identified something as dangerous then estimate the resources that you will use to address it. If the resources are perceived as adequate then the degree of stress will decrease vs if the resources are lacking.

Effects of Personality

The way that people perceive threats is directly related to people’s personality. Research has actually shown that personality traits are a major factor in overall health. For example – those that live till their 90s are relaxed, easy going, cheerful and active people.

In the 70s Meyer Friedman and Ray Rosenham wrote a book *Type a behavior and your heart* in which they made the connection between personality and health. They described two personality types

* Type A – workaholics – competitive, ambitious, hate to waste time and are easily annoyed. They are always feeling pressure and a tendency to do more than one thing at a time. They find it difficult to relax and do nothing.
* Type B – they are not that competitive or driven. They are easy going and slow to anger. They are relaxed and at peace.

One study showed type A men were 3 times more likely to develop heart disease and type A women were 4 times as likely. This is mostly linked to the emotion of hostility or long lasting feelings of conflict and anger. One 5 year longitudinal study showed that with increases in hostility came a rise in blood pressure – a leading cause of heart attacks. Another one looked at adults who had been hostile in their youth and found they were more likely to develop premature cardiovascular disease than those who did not have as much hostility as a youth.

A third personality type was identified in 1992 by Temoshok and Dreher.

* Type C – they tend to be more pleasant and try to keep the peace but find it difficult to express emotions, especially negative ones. As a result they internalize their anger and often feel loneliness and despair. Type C people’s internalization of negative emotions is what might lead them to have higher levels of cortisol which can weaken the immune system and sow recovery.

Not all Type A or Type C people are prone to cardiovascular issues. That is because they have what is called a hardy personality (Suzanne Kobasa – 1979) They differ in three ways:

* Have a deep sense of commitment to their values, beliefs, sense of identity, work, and family life.
* They feel that they are in control of their lives and what happens in them
* Tend to appraise stressful events and situations different than people who are not hardy. They things go wrong they don’t see as it as frightening and needs to be avoided, but as a challenge to be met and answered.

The belief is that commitment makes you more willing to sacrifice and deal with the hardships. Lack of control is the major factor cited in increasing stress. Once you see something as a challenge versus a hardship we are more willing to tackle it.

One way to look at the personality types is as follows:

If you give them lemons

Type A – they get made and throw the lemons back.

Type B – they make lemonade

Type C- they don’t say anything at all but fume inside

Hardy – they make lemonade, sell it, turn it into a franchise, and make millions.

Effective and Ineffective ways to deal with stress

There are several different ways that people respond to stress. Some are helpful while others are not.

Persistence – one of the first most common ways of dealing with stress. This is generally making a more intense effort or changing the style of response. Think putting a coin in the soda machine and nothing comes out. You push the button a little harder and sometimes several other buttons as well.

Aggression is the next step. This is with the intention of causing harm or destroying something. This often times is a common response, but most people don’t respond this way once they appraise the situation.

* Reasoning – this is a form of persistence
* Get around the problem
* Displaced aggression – taking it out on someone else. Getting frustrated at something at school or work and yelling at someone else when you get home. You really want to take it out on the teacher but you know you can’t so you take it out on someone else.
	+ There have been several studies down that show there is a correlation between financial difficulties and displaced aggression. There is a positive correlation between unemployment, single parenthood and increased rates of child abuse. Unemployment is also correlated to murder of women in abusive relationship
* Escape or withdrawal – sometimes this is leaving, dropping out of school, quitting a job, or ending a relationship. Some have a psychological escape through apathy – not caring, fantasy, or drug use.

Strategies for coping with stress

Coping strategies are a variety of ways that people can take to master, tolerate, reduce, or minimize the effects of stressors.

Problem focused coping – basically taking matters into your own hands and attempting to reduce the stress through your actions. For example – you have problems understanding the material in my class. As a way to deal you have a conversation with the teacher, ask to borrow a classmates notes to fill in the blanks, watch a few videos to help reinforce what is being done.

Emotion- Focused coping – this is changing the way you feel or think about the stressor. When the emotional impact is not as significant the stress is reduced. In this method you would not want to address the problem when you are still upset – but calm. Sometimes talking to others will help you with this and you will realize the problem is minor. You might also change your perspective and begin to view it as challenge not a threat. Sometimes you just have to stop worrying about it. That is not always the best solution but if there is truly nothing you can do about it then why continue to worry? Laughter is another form of emotion focused coping. One study showed that laughing actually boosts the immune system by increasing the work of the natural killer cell activity and roughly another 6 immune system cells and systems. There were some were the biological effect of laughing lasted for a full 12 hours after.

Psychological Defense Mechanisms

Sometimes when we are faced with certain dilemmas or situations our brains subconsciously goes into protect mode. Freud called the behaviors associated with these defense mechanisms. Most of them are examples of emotion focused coping mechanisms.

Denial – refusal to recognize or acknowledge a threatening situation

Repression – pushing threatening or conflicting events or situations out of conscious awareness

Rationalization- making up acceptable excuses for unacceptable behavior

Projects – placing one’s own unacceptable thoughts onto others as if the thought belongs to them and not one’s self

Reaction formation – forming an emotional reaction or attitude that is the opposite of one’s threating or unacceptable actual thoughts

Displacement – expressing feelings that would be threating if directed at the real target onto a less threatening substitute target

Regression – falling back on childlike patterns as a way of coping with stressful situations

Identification – trying to become like someone else to deal with one’s anxiety

Compensation – trying to make up for the areas in which a lack is perceived by becoming superior in some other area

Sublimation – turning socially unacceptable urges into socially acceptable behavior.

How social support affects coping

Social support system is a network of friends, family members, etc who can offer help when someone is in need. Sometimes this is advice, physical or monetary support, information, emotional support love and affection. People with good support systems are less likely to die from illnesses or injuries than those without such support.

For the most part just being able to talk to someone is the most important aspect. It makes stressors seem less threatening. Also negative emotions like loneliness don’t seem to appear when you have people around you. While positive emotions have a wealth of benefits to your physical and emotional state.

How culture affects coping?

Certain cultures don’t recognize stress as a bad thing and some don’t even know the term. In Vietnam for example, stress isn’t all that common compared to Western cultures. Sometimes this is because of how they look at mental illness – in Vietnam for instance mental health issues are the result of an imbalance between the male and female elements of a person, or by a loss of soul, evil spirits or a weakening of the nerves. So the way they deal with it is different. They might eat certain foods, go to a fortune teller or participate in certain rituals. Its important to consider culture when addressing the coping needs of those suffering from stress.

How religion affects coping.

Religion is also very effective for many when dealing with stress. Believing in a higher power can bring comfort. Those that are religious tend to have a strong support system because of their affiliation with their religious organizations. Also there are particular rites and rituals that make you feel better about personal weaknesses, failures, or feelings of inadequacy such as confessions of sins, or particular prayers

Role of Optimism

Optimists are people who always tend to look for positive outcomes. Pessimists are the opposite and they expect the worst. People who are optimists tend to live longer and have better immune systems.

There are four ways in which optimism effects your life:

1. less likely to develop learned helplessness (avoiding a goal that has been blocked in the past

2. take care of health through preventative measures because they believe their actions make a difference

3. don’t tend to suffer as much from depression or the consequences of depression – which attacks the immune system.

4. – have a more effectively functioning immune system. Maybe because they experience less psychological stress.

Studies have also shown that optimists tend to be more successful in their goals – they win more elections, get better grades, win more contests. The reason for this is that optimists believe they are in control of moods and emotional reactions to situations. They tend to participate in alternative thinking for why bad things happen. For example a bad grade is because it was extremely difficult material or they didn’t have enough time studying – not I’m stupid. They look at it as a challenge.

Steps to become an optimist thinker –

1. when a bad mood strikes, stop and think about what just went through your head

2 – recognize the negative statements. Think about the damage each statement is doing to you.

3 – argue with your negative thoughts. Replace each negative statement with a positive statement.

Some ways to promote wellness?

Wellness is the practice of behaviors and lifestyle choices that promote physical and mental health. The following are things you can do to promote wellness:

1. exercise – there are lots of good things that exercise does to help you be health. It strengthens the heart, increases natural killer cell activity to ward off viruses, reduces tiredness, reduces bad cholesterol.

2. Get involved with others – we are not isolated creatures. We have to interact with others.

3. Get some sleep – this allows the body to restore itself and provides a way of relieving stress through dreams. Sleep deprivation reduces the production of natural killers cells

4. eat healthy foods – you need protein throughout the day.

5. Have some fun

6. Manage your time – the opposite leads to stress

7 – take a deep breath – taking a moment to cope is important. You have to reconnect and stop being on autopilot. Crying also can relieve stress.