Multnomah Education Service District
School Health Services
Mental Health Curriculum Manual
Title: The Mental Health Curriculum for School Age Children, Ages 10 to 12

Module 3: STRESS AND COPING

Module 3 Overview: This module helps students recognize the effects of stress on the brain and body, and learn positive ways to cope with stress. Students learn what happens when the brain is flooded by the stress hormone "cortisol", excreted under conditions of stress, and when the brain's natural food, "glucose", gets pulled away from the brain and sent to the muscles to physically prepare for the "fight or flight" response. Students learn that the stress response can be helpful in preparing to meet challenges and dangers, but it can also take a toll on the body and brain when stress hormones continue at high levels over time. The physical and emotional components of the "fight or flight" response are described, and the short term and long term consequences of the stress response are discussed. Students review life events that can cause stress and identify stressors in their own lives. They learn about healthy and unhealthy ways of coping with stress, and use the acronym SELF to remember to take care of themselves by getting enough sleep, exercise, leisure, and eating healthy foods. Monitoring messages from the body is identified as a helpful way to recognize when stress is having an affect on personal health and well-being. Biodots are introduced as a way for students to self-observe, record, and monitor events that affect their levels of stress.

Module 3 Objectives: After completing this module, students will be able to:

Knowledge Domain:

1. Describe what happens in the body and in the brain during the stress response.
2. Identify stress hormones that are released in the body and what these hormones do in the body during a short term and long term stress response.
3. Relate signs that the body is experiencing long term stress.
4. Identify environmental, biological, and social factors that can cause stress.
5. Identify positive and negative life events that can generate stress.
6. Record and rate personal stressors.
7. Use the acronym SELF to identify how to keep the body healthy during times of stress.
8. Identify unhealthy ways of coping with stress
9. Monitor the body's response to stress through the day using a biodot.
10. Record stressful events in a stress log and discuss them with others.

Affective Domain:

1. Appreciate the positive and negative effects of stress in everyday life.
2. Appreciate ways to protect the brain and body from long term stress.
3. Experience curiosity about how one's own body reacts to stress, and use biodots to appreciate how personal life events and moods are linked to stress.

Talking Points/ Outline for Module 3:

- What happens in the brain when you experience stress? "Stress hormones, like cortisol, can affect brain functions and the laying down new memories. Sustained stress can damage a part of the brain, called the hippocampus. When stress is perceived by our bodies, the adrenal glands release adrenaline, and if the stress continues or is severe, the adrenal glands release cortisol. When cortisol floods the brain, it makes it hard to think or remember. That's why people under high stress have problems remembering. Under stress the body also sends the brain's food, "glucose" away from the brain to the muscles in the arms, legs, and heart to get ready to fight or flee. This is very important when there is a real danger because it prepares our bodies with exceptional strength and endurance to protect us.
- Joe the Caveman: Think of the cave man who was suddenly confronted by a bear while walking through the forest! Lets put Joe the cave man in slow motion and see what happened in his body when he saw the bear jump out of the trees in front of him. His blood got sent to his muscles and legs so he could run faster, his heart beat faster to pump the blood faster, his lungs took in air faster so he could get more oxygen to send to his muscles, his pupils got bigger so he could see better. Blood went away from his stomach and his hands, so his stomach digestion stopped and he got a stomachache. His hands felt cold because the blood was going to his big muscles in his arms and legs. Without its food, the brain temporarily stopped working well.
- Modern Day Joe: So, what happens today when we feel stressed? Because sometimes we can't run away from things that stress us, or we can't fight off things or people that bother us, the stress hormones in our bodies build up. The hormones that would have been used up in a big fight or a fast running sprint just hang around and clog up our bodies. So, for example, when you take your seat to take a big exam, you can have this "fight or flight" response – but you can't fight or flee. You have to sit there and take the exam – so sometimes the stress response works against us because the stress hormones get released in our bodies, but there is no way to get rid of them. Cortisol can keep the brain from remembering, and the lack of brain food (glucose) can make it harder to think. With long lasting, low levels of stress, the body doesn't return to its normal, relaxed state, and the body gets exhausted from having stress hormones hanging around too long. After a while, the same hormones that got you ready to fight or flee cause you to have stomachaches, breathing problems, muscles that feel tense all the time, cold hands, and problems thinking and remembering. Cortisol also has an effect of blocking our body's natural germ fighters, our immune response. So when we have stress over time, we can't fight of illness as well and that's why people who are stressed are more likely to get sick or get more colds. Long term stress can affect the hippocampus. High levels of stress over a long time can shrink the cells in the hippocampus and lead to cell damage that results in depression and

loss of memory. (www.kidshealth.org - go to "Being Afraid"; Teens Health "Spotlight on Stress"; NY Times, December 24, 2002, "Health Risks of Severe Stress Come Into Focus" – extracted from a book by Bruce McEwen, 2002. "The End of Stress as We Know it".

- What kinds of things cause stress in kids? **Environmental events** we can't control – like having bad weather on the day you planned to do something fun outside, or natural disasters. **Biological factors** you can't control – like when puberty starts, or getting sick, or when your body doesn't look like you want it to. **Social circumstances** – like having an argument with a friend, starting a new school, or having chores to do at home when your friends want you to go to the movies. Introduce the "Life Event Scale" (In Goldman, M. Nikki (1994). Life Issues: Emotional Disorders. NY: Marshal Gavindish, page 51, adapted from the Thomas Holmes and Richard Rahe Adult Life Events Scale)
- Discuss Myths about Stress, i.e. it isn't true that stress is the same for everybody – different things cause stress for different people. It isn't true that stress is always bad for you – sometimes stress helps motivate us to do things and keeps us alert, and even fun things can be stressful. Stress is a normal part of life; everybody has it. Too much can cause problems for your physical and mental health. (Miller, L.H. & Smith, A.D. The Stress Solution, "6 Myths about Stress", from the APA HelpCenter: Get the Facts: Psychology at Work. www.helping.apa.org/work/stress.html.
- If you can't change the stressful things that happen to you, what can you do? You can pay attention to your body, learn to recognize when you body is showing signs of stress, and learn how to change your body's reactions to stress. It is important to pay attention to minor symptoms of stress as warning signs that your body needs some extra special attention.
- Methods to reduce stress – ask the students what they can do to prevent stress from having a negative effect on their bodies. Emphasize that while people have different preferences for how to cope with stress, there are also some things that we know will help most people cope better and stay healthy. Introduce the acronym **SELF** as a memory prompt. SELF is a way to remember to take care of yourself so you can better handle life stress. **S = Sleep**, at your age you need about 10 hours of sleep a night because you are growing; **E= Exercise**, it helps clean out the stress hormones that are hanging around in our bodies and it gives us a change in our environment which can help us relax and feel better. Getting up off the couch and getting into the fresh air and moving around can help our bodies cope with stress; **L= Leisure**, such as spending time with friends. But what if your leisure time is spent in front of the TV or the computer? Too much sitting around time in front of a TV or computer screen is hard on your body and doesn't get you enough exercise or social interaction. When leisure time involves active activities, it helps our bodies in two ways, by putting the E and L together. **F= Food**, and some foods are better for helping the body cope with stress than other foods. Foods that help your moods stay level and even include proteins, green vegetables,

fruits, grains – junk food and foods with lots of sugar can cause your moods to go up and down.

- Ask students, "What are ways of coping with stress that can cause more problems and harm your body and brain?" Discuss how use of alcohol and drugs are unhealthy ways people may learn to handle stress. Alcohol and drugs alter the way your brain works and can cause health problems for other organs in your body.
- Introduce the Bio-Dot Activity and Stress Logs
- Introduce simple breathing exercise and end on a relaxing note

Parent Letter: (Example attached)

Teacher Letter: (Example attached)

In-Class Overheads:

OH #1: Cartoon: "You look a little stressed"
Source: Illustration from Animation Station.com

OH #2 to #12: Joe the Cave Man and Joe the Modern Man
Source: DeSocio, J. (2005)

OH#13: Types of Stressors: Environment, Biological, Social
Source: Schrinsky, J. (2000)

OH#14: Myths about Stress
Source: Adapted from "Six Myths about Stress". Miller, L.H.& Smith, A.D. The Stress Solution. Retrieved from the World Wide Wed at http://helping.apa.org/work/stress3.html

OH#15: Life Event Scale (child adaptation of the Holmes and Rahe scale)
Source: Goldman, M. (1994). Life Issues: Emotional Disorders. NY: Marshal Gavindish.

OH#16: "I Hate My Hair" (what stresses kids)
Source: Adapted from http://www.coolnurse.com/stress/htm

OH#17: SELF
Source: www.kidshealth.org/kid/feeling/emotion/stress.html

OH#18: Cartoon:Calvin & Hobbs in Snow, "Somedays you should stay in bed"
Source: Bill Waterson, 2003

OH#19: Biodot Placement
Source: Biodot of Indiana, Inc., P.O. Box 2246, Indianapolis, Indiana, 46206

OH#20 & 21: Stress Log & Example
Source: Stember, L., Schrinsky, J., & Barnett, K. (2000)

OH#22: Rapid Relaxation Breath Exercise
Source: Retrieved from The Franklin Institute Online
http://www.fi.edu/brain/relieve.htm

Module Teaching Aides & Activities:
TA #1: Make a list of stressful thoughts to avoid, such as envy, dwelling on the worst that can happen, worrying about what everybody else is thinking, jumping to conclusions, putting something off until later.

TA #2: Bio-Dot Activity- Give each student a biodot and demonstrate how to apply it to the hand. Ask them to watch the color of their biodots through the day and when it is reading stress, ask them to write down in their Stress Log what is happening. Biodots can be ordered from: Biodot of Indiana, Inc., P.O. Box 2246, Indianapolis, Indiana, 46206, Toll Free: 1-800-272-2340, FAX: 1-317-635-7989, $10 per 100 or $30 for 400.

Pre and Post Test Questions for Module 3:

True or False: 1. School, family, and friendships can all be sources of stress.
True or False: 2. Exercise is good for coping with stress.
True or False: 3. Chemical changes occur in the body when someone is coping with stress.
True or False: 4. Drug and alcohol use change the way your brain works.

Module 3 Resource List:

The Human Brain in Stress. Franklin Institute. www.fi.edu.

Miller, L.H. & Smith, A.D. The Stress Solution, "6 Myths about Stress", from the APA HelpCenter: Get the Facts: Psychology at Work.
www.helping.apa.org/work/stress.html

Goldman, M. Nikki (1994). Life Issues: Emotional Disorders. NY: Marshal Gavindish, page 51, Children's Life Events Scale adapted from the Thomas Holmes and Richard Rahe Adult Life Events Scale.

www.kidshealth.org - go to "Being Afraid"; Teens Health "Spotlight on Stress"

McEwen, B. (2002). "The End of Stress as We Know it".