Health Psychology
Lab Manual
Spring 2001

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Laboratory Materials:

Relevant Readings

Understanding the Dissemination of Health Research

- How Medical Research Becomes News-HealthNews
- Solving the Diet-Disease Puzzle- Nutrition Action HealthLetter

Stress, Psychosocial Conditions and Health

- Depression & Heart Disease- Heart Watch
- Social Support: the Supreme Stress Stopper- Health & Stress
- Stress: Its Not Just All in Your Head- Ctr for the Advancement of Health (CFAH)

Chronic Disease Review

- Diseases We Can Prevent- Nutrition Action HealthLetter
- Diseases We Can't Crack- Nutrition Action HealthLetter
- Risky Business- Nutrition Action Healthletter
- Lifestyle & Longevity (Graph)- Health News

Immune Functioning

- Investigators Identify Suspect in Search for Stress-Sniffles Link-CFAH
- Caregivers' Health is Top Priority Too- Health News

Cardiovascular Health

- What's the safest blood pressure?- Heart Watch
- How Low Should Blood Pressure Go?- Health News
- Cardiovascular Reactivity Associated with Induced Anger & Depressive Affect (Poster Handout)- Brummett, Lane, Merritt, et al, 1999

Exercise and Physical Activity

- Exercise: A "High-Impact" Way to Change Your Risk Factors-Heart Advisor
- Surgeon General's Report on Physical Fitness: The Inside Story- ACSM's Health & Fitness Journal
- Take A Hike: The Benefits of Exercise- Nutrition Action Health Letter
- Physical Activity Pyramid Rebuffs Peak Experience - ACSM's Health & Fitness Journal
- How to Help Your Clients Stick with an Exercise Program: Build Self-Efficacy to Promote Adherence- ACSM's Health & Fitness Journal
- Setting the Stage for Healthy Living: Help Clients Adopt & Maintain a Health Lifestyle- ACSM's Health and Fitness Journal

Diet & Nutrition

- New Year's Resolution: 10 Steps to a Health 1998- Nutrition Action Health Letter
- Dietary Applications of the Stages of Change Model (1999). Journal of the American Dietetics Association

Body Composition, Obesity and Overweight

- Body Shape Affects Heart Risk- Heart Watch
- Guidelines Call More Americans Overweight- Harvard Health Letter
- Running on Empty: Health Consequences of Chronic Dieting- ACSM's Health and Fitness Journal
- Why We're Fat- U.S. News & World Report
- Exercise & the Fat Balancing Act- ACSM's Health and Fitness Journal

Using Library Resources and Online Searching with PsychInfo

Find and list in appropriate APA format the two (2) new encyclopedias of psychology in the library (you will have to go to the reference section to figure this out)

1. _____

2. _____

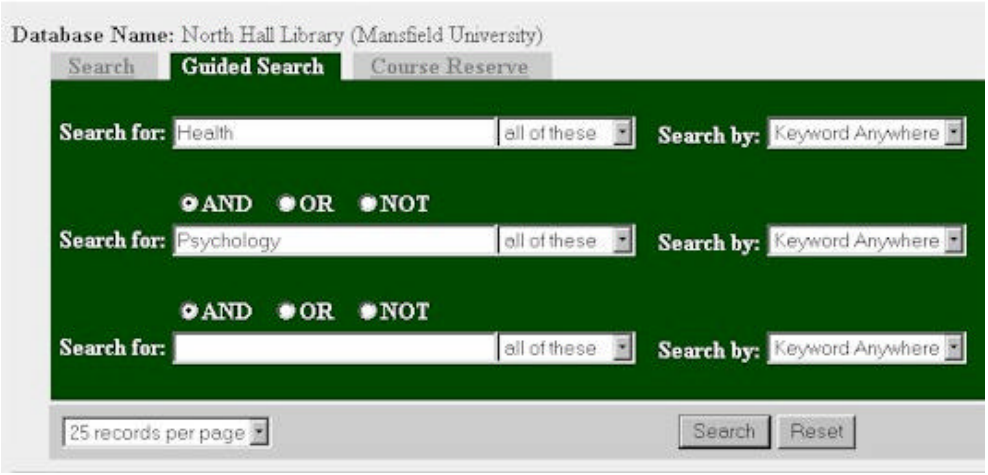
Use the provided call number to plug into Pilot's "Search" tool. Identify the corresponding book titles, authors/editors names and publication dates for the following books in MU's library. Link to PILOT search from the Health Psychology links page:

www.mnsfld.edu/~fcraig/teaching/PY455/PY355links.htm

Call Number	Title	Author (s)	Pub. Date
R726.7 .A26			
R726.7 .H439			
RC682 .W65			
RA564.85 .B445			
R726.5 .S25			
BF575.S75 L315			
RC455.4.I54 P46			

Guided Searching on Pilot (see picture on next page)

(1) Using Pilot's Guided Search Tool Plug in the words "Health" in the first box and Psychology in the second. How many hits do you get? _____.
(2) Sort these hits by descending publication date (look for 'sort' tool on hit page).. How many listed books were published in 1999? ____.
(3) Scan the listing. Find a book that interests you. List its citation using APA format in the empty box on this page.
(4) Check this book out and bring it to the next lab!



Periodical Searching:

Using Pilot identify these often cited journals in health psychology. Find the latest journal in MU's holdings and list (in APA format) the article that is most interesting to you (Yes, you must list one article no matter your level of interest!)

Call Number	Periodical Title	Earliest Journal in Holdings	
R726.5 .B4263			
Current Article (in APA format)			

Call Number	Periodical Title	Earliest Journal in Holdings	
R726.5 .H434			
Current Article (in APA format)			

Call Number	Periodical Title	Earliest Journal in Holdings	
R726.5 .I593			
Current Article (in APA format)			

Call Number	Periodical Title	Earliest Journal in Holdings	
RC49 .P8			
Current Article (in APA format)			

PsychInfo Assignment:

1. Type in the term "Depression". How many do hits do you get?_____
2. Type in the term "Women". How many do hits do you get?_____
3. Type in the term "Heart Disease". How many do hits do you get?_____
4. **NOW**… "**combine search**" all three. How many do hits do you get?_____
5. Narrow this search further by only using journal articles in English published after 1995. How many do hits do you get?_____

You do one….(continue to combine and narrow until you have between 10-40 hits)

1. Narrow your search to English journal articles and book chapters
2. First Term _____ How many do hits do you get?_____
3. Second Term _____ How many do hits do you get?_____
4. **Combine search**. How many do hits do you get?_____
5. Third Term* _____ How many do hits do you get?_____
6. **Combine search***. How many do hits do you get?_____
7. Fourth Term* _____ How many do hits do you get?_____
8. **Combine search*** . How many do hits do you get?_____

*if necessary.

Psychosocial Wellness Assessment

YOUR ASSIGNMENT: Complete each inventory and mark your score on the appropriate line. Type up 1-2 pages noting what would you say your behavioral and psychosocial strengths and weakness are? (Type this up and attach to this page).

Medical Outcomes Study SF-36 (online assessment at www.sf-36.com)

Mental Health Index T-Score____

Physical Health Index T-Score____

Beck Depression Inventory Total Score _____

Social Readjustment Rating Scale (Life Change Scale) Total Score _____

Physical Symptom Inventory Total Score _____

Coping in Stressful Situations Inventory

Task-Focused _____%tile

Emotion-Focused _____%tile

General Self-Efficacy Total Score _____

Social Support Questionnaire-6

Mean Availability Score _____

Mean Satisfaction Score _____

Buss-Durkee Hostility Inventory Total Hostility Score_____

Fill out the online 'Stress Assess' and 'Life Scan' behavioral health inventories accessible through the psychology links web page for this class. Print out a copy of the results and staple them to this form.

Heart Rate and Blood Pressure Laboratory

Heart Rate

The heart rate is the number of times the heart contracts (beats) per minute. It is expressed in the units "beats/min", "bpm", or $b*min^{-1}$. You can measure the heart rate by feeling with your fingers (not thumb) the blood pulse within any of the major arteries (radial, brachial, temporal, femoral, carotid etc.). This is called pulse palpating. Heart rate can also be measured with the electrocardiograph, a heart rate monitor ("heart watch") or a stethoscope over the chest wall.

Find your pulse over each of the following arteries and record a 15-second pulse rate

	beats/15 seconds		bpm
Radial		X 4 =	
Temporal		X 4 =	
Carotid		X 4 =	
Brachial		X 4 =	

Pair up with another individual and find the pulse rate on each other and record it.

	beats/15 seconds		bpm
Radial		X 4 =	
Temporal		X 4 =	
Carotid		X 4 =	
Brachial		X 4 =	

Blood Pressure

Blood pressure (BP) is an important measure of cardiovascular health. Given that high blood pressure (**hypertension**) is a primary risk factor for coronary heart disease, it is important to identify those with the problem and refer them to a health practitioner for consultation. It has been recommended that BP screenings begin in childhood and continue throughout life.

Blood pressure is a measure of pressure present in the arteries of the cardiovascular system. This pressure is cause by the combined effects of the volume of blood in the arteries and the **distensibility** of the arterial walls (that is, how stretch-able, like elastic, the arterial walls are). If a large volume of blood (called the **stroke volume**) is pumped into the arteries during the contraction phase of the heart (**systole**) faster than the blood leaves the in front of the stroke volume the arteries are distended, raising pressure. During the period of cardiac relaxation (**diastole**) the arterial walls exert pressure on the blood within, driving it further down the artery. Given the fact that the next contraction occurs before all the blood leaves the artery, the volume of blood in the artery and the arterial pressure never decreases to zero. The highest pressure during the cardiac cycle is the **systolic pressure** and lowest pressure (measured just before the next contraction) is called the **diastolic pressure**.

In this lab you will use a machine called a Dinamap that is designed to precisely measure blood pressure. You will obtain three resting measures of blood pressure from another person. You may want to listen with a stethoscope to the Korotkoff sounds that signal the points of systolic and diastolic pressures. The first sounds (Phase 1-Systolic pressure point) you will hear are faint but clear tapping noises that will increase in intensity then decline. This noise represents the point at which there is sufficient blood pressure to overcome the outside pressure presented by the arm cuff of the Dinamap. The last sound (Phase IV-Diastolic pressure point) before sounds disappear (Phase V) will be a smooth muffled or "soft blowing" sound. This is the point at which blood is flowing unobstructed by the outside pressure of the arm.

Instructions (more in class)

1. Cuff attached properly
2. Preparation: Rest 5 minutes, Sit up straight, no talking, moderate room temperature, uncross legs
3. Stethoscope in place over the brachial artery

Measurement of Blood Pressure

	Systolic BP	Diastolic BP
Measure 1		
Measure 2		
Measure 3		
AVERAGE		

Note: Did you notice the pressures don't stay the same. What does that tell you about making using just one a one time measure of BP to assess the level typically experience by you body?

Healthy Blood Pressures

The standard for normal healthy blood pressure is 120 mm Hg for SBP and 80 mm Hg for DBP. If SBP exceeds 140 and/or DBP exceeds 90, one is said to have **borderline hypertension**. If SBP is 160 and/or DBP is greater than 95 one is said to have hypertension. Hypertension is sometimes called the "**silent killer**", as it is symptomless without measurement equipment. Thus individuals often go untreated while the effects of high BP erodes the CV system increasing risk of heart disease. Hypertension is the leading cause of heart disease. An estimated 60 million Americans currently have hypertension or borderline hypertension. It is important to know however, that these levels are "break points" that aid in clinical diagnosis. In truth risk of heart disease rises linearly with increase in pressure (see Lab Supplemental materials)

	Systolic BP	Diastolic BP
Fit Normal	<120	<80
Normal	120-130	81-85
High Normal	131-139	85-89
Borderline Hypertension	140-159	90-99
Hypertension	160 or more	100 or more

Your Blood Pressure Risk Status: SBP_____ DBP_____

Partner's Blood Pressure Risk Status: SBP_____ DBP_____

Cardiovascular Risk Factor Lab

The assessment of "**risk factors**" for future disease is a relative new concept in science and medicine. Only in the last 50 years it became clear that not all individuals are at equal risk to develop **cardiovascular disease (CVD)**, the leading cause of death in Westernized countries (over 1 million death annually in the United States alone due to CVD). In fact if a person could be categorized into to certain groups defined by **genetic**, **social** and **behavioral conditions** (e.g. "Male", "High School Education", "Vegetarian") one could predict the relative likelihood of that person developing CVD in the future. Thus, the concept of risk factors allowed researchers to show that certain characteristics known at the time of testing put that person at "increased risk" for disease development many years in the future. However, it is important to understand that high risk does not mean one will surely develop the disease, only that one is far more likely to develop disease.

Risk factors are often discussed in terms of being **primary risk factors** or **secondary risk factors**. **Primary risk factors** are those that have been shown in scientifically controlled situation to **directly cause disease** independent of all other explanatory factors for disease development. For instance, if one has high blood pressure (hypertension) that person is far more likely to develop heart and/or renal (kidney) disease regardless how that person is classified on all other risk factors. It is important to understand that determining the existence of a **causal relationships** is not determined by one or two studies but by many studies over many years or decades *even (See Lab Supplement 1)*. **Secondary risk factors** are those scientifically determined to be **related to disease** but scientists are not satisfied to say this is factor by itself "causes" disease. This may be because scientists have been either unable to measure the risk factor under carefully controlled experimental conditions, the current lack of accumulated "direct" evidence, or that the factor simply aggravates disease-prone conditions but does not independently lead to disease.

Primary Risk Factors

- Age
- Family History of Heart Disease/Hypertension
- Hypertension
- Blood Lipids (Cholesterol)
- Diabetes
- Physical Inactivity

Secondary Risk Factors

- Sex
- Body Composition/Body Fatness
- Race
- Socioeconomic Status
- Psychosocial Stress/Personality

Risk factors are also classified by whether one can do anything about the risk factor if one has it. These two classifications are **modifiable risk factors (MRF)** and **non-modifiable risk factors (NMRF)**. For instance, the male sex tends to me more vulnerable to premature cardiovascular disease development thus men are at increased risk but cannot modify this risk factor ("non-modifiable risk factor"). On the other hand, the risk factor cigarette smoking can be changed, thus is a "modifiable risk factor". Note below that many of the modifiable factors are affected by one's behavior. For this reason MRFs are often called "Lifestyle Factors".

Modifiable risk factors for CVD include:

Cigarette Smoking
High Blood Pressure
Blood Lipid Levels (Cholesterol Levels)
Physical Inactivity
Body Composition & Body Fatness
Psychosocial Stress/Personality

Non-Modifiable risk factors for CVD include:

Age
Sex
Family History of Heart Disease/Hypertension
Race

While non-modifiable risk factors significantly and often independently contribute to disease development, lifestyle factors ave been found to have a greater effect on disease development, progression and premature death. Thus significant improvement in one's risk profile and likelihood of disease development if **unhealthy behavior**, that is **"risky behavior"** is changed.

	Factors (% contribution to premature death)			
Cause of Death	Lifestyle	Environment	Biology	Other
Heart Disease	54	9	25	12
Cancer	37	24	29	10
Motor Vehicle Accidents	69	18	1	12
Other Accidents	51	31	4	14
Stroke	50	22	21	7
Homicide	63	35	2	0
Suicide	60	35	2	3
Cirrhosis	70	9	18	3
All Cause Mortality	51	20	20	9

Souce: U.S. Center for Disease Control, July 1980, June 1984, cf. Everly, G. (1989) *Clinical guide to treatment of the human stress response*. New York: Plenum.

In this lab, with the materials provided (supplements 3 & 4) you will assess and report on the cardiovascular risk status of another person in class and outside of class. Your report should detail the primary/secondary risk factors as well as the lifestyle and NMRFs. General suggestions should be made for improving one's profile.

Measures of Fitness & Physical Activity

HEALTH STATUS QUESTIONNAIRE

Personal Physician: _____

Physician Phone (if known): _____

_____ Yes _____ No Have or had cardiovascular disease. (e.g., heart problems)

_____ Yes _____ No Has your doctor ever said you have heart trouble?**

_____ Yes _____ No Do you frequently have pains or pressure in the left or midchest area, neck, left shoulder or arm at rest or in response to exertion.

_____ Yes _____ No Do you often feel faint or have spells of severe dizziness.**

_____ Yes _____ No Have high blood pressure.

_____ Yes _____ No Has a doctor ever said your blood pressure is too high?**

_____ Yes _____ No Am over 65 and not accustomed to vigorous exercise. **

_____ Yes _____ No Smoke more than a pack of cigarettes a day.

_____ Yes _____ No Have bone or joint problems that would interfere with or be aggravated by exercise.**

_____ Yes _____ No Have been told by the physician not to exercise, or to limit the level of physical exertion.

_____ Yes _____ No Have symptoms of back pain that might limit you in flexibility, calisthenics or aerobic exercises.

_____ Yes _____ No Have a medical condition not mentioned here that might need special attention in an exercise program.

_____ Yes _____ No Taking medications for blood pressure, heart disease, diabetes or asthma. (if yes, please list:_____)

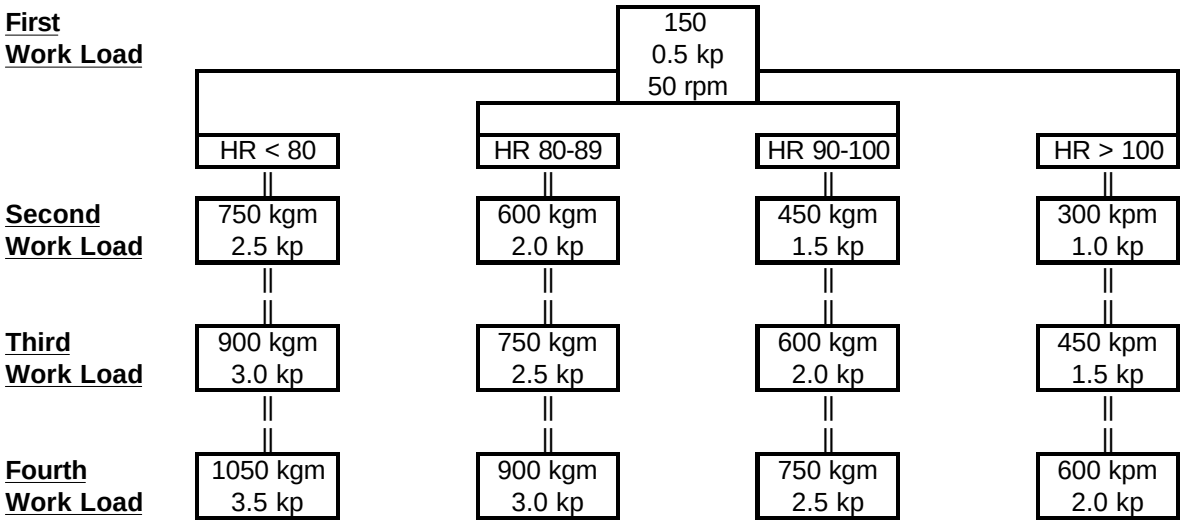
If you answered **yes** to any of the question above, please explain:

Guide to YMCA Submaximal Bicycle Ergometer Test

General Rules:

1. *Follow "YMCA Work Rate Diagram Below"*
2. *Three minutes at each work rate*
   (Add a 4th minute if HR changes > 5bpm from minute 2 to 3).
3. *Measure HR @ minute #2 & 3.*
4. *On plotting sheet, plot 3rd minute values (need 2 values over 110 bpm)*
5. *On plotting sheet, draw a line through HR values ≥ 110 bpm.*
6. *Extrapolate to age-predicted Hrmax (220-age).*
7. *Drop line to X-axis to estimate VO_2 Max.*

YMCA Work Rate Diagram



Age_____ **Est HR_{Max}**_____
(220-Age)

	Work Load (kg)	Heart Rate (bpm)
1.	***0.5***	
2.		
3.		
4.		

Est.VO2max= ___.___L/min x 1000ml)/___.___kg **=** ____.____ **ml/kg/min**

Field Tests to Estimate Maximal Aerobic Power

Maximal aerobic power describes the maximal rate that the cardiovascular system can deliver blood to the working muscles. In this way it is a good index of **cardiorespiratory fitness** in that the lungs must bring the oxygen to the blood and the heart must circulate the blood to the muscles.

Maximal aerobic power is also called **maximal oxygen uptake** or maximal oxygen consumption in that we actually measure (or estimate) the rate at which our body can take up (consume) oxygen. Maximal oxygen uptake is abbreviated as **VO_2max**. The value can be expressed in a variety of ways:

1. liters of oxygen used per minute (liters·min^{-1})
2. milliliters of oxygen per kilogram of body weight per minute ml·kg^{-1}·min^{-1})
4. **METs** (multiples of resting metabolic rate [taken to be 3.5 ml·kg^{-1}·min^{-1}])

For example: An 80 kg subject has a measured VO_2max of 3.2 liters/min. His VO_2max is 40 ml·kg^{-1}·min^{-1} (3.2 liters/min times 1000 ml/liter = 3200 ml/min ÷ 80 kg). This value is also equal to 11.4 METs (40 ml·kg^{-1}·min^{-1} ÷ 3.5 ml·kg^{-1}·min^{-1}). It is important for you to become familiar with the different methods of expressing maximal aerobic power.

One-mile walk (from Kline, et al)

You will walk <u>as fast as possible</u> around the track in lane 2 for four laps. This equals one mile You will measure the time it takes you to do this, and as soon as you stop you will take a 10 second pulse rate measurement.

Time for the mile walk: ____. Express as min and hundredths of min: _____

Heart Rate: _____ beats/10 seconds. Multiply by 6 to yield: _____ beats/min

Put the values in the following formula to obtain your VO_2max ml·kg^{-1}·min^{-1}:

VO_2max = 132.853 - .0769 (wt. lbs.) - .3877 (age, yrs.) + 6.315 (sex) - 3.2649 (time) - .1565 (HR.), where sex = 1 for male and 0 for female.

VO_2max = 132.853 - .0769 ( ) - .3877 ( ) + 6.315 ( ) - 3.2649 ( ) - .1565 ( )

VO_2max = _____ ml·kg^{-1}·min^{-1}

The Transtheoretical Model (TTM) of Behavioral Change

(Adapted from material available from University of Rhode Island-
Cancer Research and Prevention Laboratory, James O. Prochaska-Director)

In health psychology perhaps the most pressing area of research is in the area of **disease prevention** by what of behavioral change (e.g., prevent cancer in the future by stopping smoking in the present). In class we will address a number of models used to create programs to **influence health behaviors** (Health Belief Model; Theory of Reasoned Action; Theory of Planned Behavior; Social Cognitive Theory).

While each of these theories have been effective in their own right, a recent model generating a tremendous amount of excitement is one that has been able to theoretically incorporate aspects of many of these earlier theories into a comprehensive model of changing behavior. This new approach is the **Transtheoretical Model (TTM).**

The transtheoretical model is currently conceptualized in terms of several major dimensions. The core constructs, around which the other dimensions are organized, is the **stages of change (SOC)**. These represent ordered categories along a continuum of **motivational readiness** to change a problem behavior. Transitions between the stages of change are effected by a set of independent variables known as the **processes of change (POC).** The model also incorporates a series of intervening or outcome variables. These include **decisional balance** (the pros and cons of change), **self-efficacy** (confidence in the ability to change across problem situations), **situational temptations** to engage in the problem behavior, and behaviors which are specific to the problem area. Also included among these intermediate or dependent variables would be any other psychological, environmental, cultural, socioeconomic, physiological, biochemical, or even genetic variables or behavior specific to the problem being studied.

To start changing behavior within the guides of this model one must identify **what behavior needs to change** (e.g., target unhealthy behaviors) and issues that vary across individuals and organizations

Stages of Change: A "stage" is the temporal dimension that represents ***when*** particular changes occur. A "stage also represents a continuum of motivational readiness to take and sustain action.

Five stages of change have been conceptualized for a variety of problem behaviors. The five stages of change are precontemplation, contemplation, preparation, action, and maintenance. **Precontemplation** is the stage at which there is no intention to change behavior in the foreseeable future. Many individuals in this stage are unaware or underaware of their problems. **Contemplation** is the stage in which people are aware that a problem exists and are seriously thinking about overcoming it but have not yet made a commitment to take action. **Preparation** is a stage that combines intention and behavioral criteria. Individuals in this stage are intending to take action in the next month and have unsuccessfully taken action in the past year. **Action** is the stage in which individuals modify their behavior, experiences, or environment in order to

overcome their problems. Action involves the most overt behavioral changes and requires considerable commitment of time and energy. **Maintenance** is the stage in which people work to prevent relapse and consolidate the gains attained during action. For addictive behaviors this stage extends from six months to an indeterminate period past the initial action

Processes of Change: Processes of change are covert (cognitive & emotional) and overt (behavioral) activities that represent ***how*** changes occur from one stage to the next.

Processes of change is a major dimension of the transtheoretical model that enables us to understand ***how*** shifts in behavior occur. Change processes are covert (cognitive & emotional) and overt (behavioral) activities and experiences that individuals engage in when they attempt to modify problem behaviors. Each process of change is a broad category encompassing multiple techniques, methods, and interventions traditionally associated with disparate theoretical orientations (e.g., learning theory, social-cognitive theory). Numerous studies have shown that successful self-changers employ different processes at each particular stage of change. The 10 processes of change are: **consciousness raising**, **counterconditioning**, **dramatic relief**, **environmental reevaluation**, **helping relationships**, **reinforcement management**, **self-liberation**, **self-reevaluation**, **social liberation**, and **stimulus control**.

Processes of Change	**Definition / Interventions**
Consciousness Raising	Efforts by the individual to seek new information and to gain understanding and feedback about the problem behavior / observations, confrontations, interpretations, bibliotherapy.
Counter-conditioning	Substitution of alternatives for the problem behavior / relaxation, desensitization, assertion, positive self-statements.
Dramatic Relief	Experiencing and expressing feelings about the problem behavior and potential solutions / psychodrama, grieving losses, role playing.
Environmental Reevaluation	Consideration and assessment of how the problem behavior affects the physical and social environment / empathy training, documentaries.
Helping Relationships	Trusting, accepting, and utilizing the support of caring others during attempts to change the problem behavior.
Interpersonal Systems Control	Avoiding people or social situations that encourage the problem behavior / seeking people or situations that encourage healthier behavior, restructuring social relationships.
Consciousness Raising	Efforts by the individual to seek new information and to gain understanding and feed-back about the problem behavior / observations, confrontations, interpretations, bibliotherapy.
Reinforcement Management	Rewarding oneself or being rewarded by others for making changes / contingency contracts, overt and covert reinforcement, self-reward.

Self-Liberation	Choice and commitment to change the problem behavior, including belief in the ability to change / decision-making therapy, New Year's resolutions, logotherapy techniques, commitment enhancing techniques.
Self-Reevaluation	Emotional and cognitive reappraisal of values by the individual with respect to the problem behavior / value clarification, imagery, corrective emotional experience.
Social Liberation	Awareness, availability, and acceptance by the individual of alternative, problem-free lifestyles in society / empowering, policy interventions.
Stimulus Control	Control of situations and other causes which trigger the problem behavior / adding stimuli that encourage alternative behaviors, restructuring the environment, avoiding high-risk cues, fading techniques.
Substance Use	Use of prescribed or non-prescribed medications or other substances directed at appetite, metabolism, or emotions / suppressants, nicotine, alcohol.

Decisional Balance (Pros & Cons): Decisional balance involves the weighing of pros and cons of changing, and implies ***why*** changes occur.

Janis and Mann (1977) conceptualized decision-making as a decisional "balance sheet" of comparative potential gains and losses. Two decisional balance measures, the **pros** and the **cons**, have become critical constructs in the transtheoretical model. The pros and cons combine to form a decisional "balance sheet" of comparative potential gains and losses. The balance between the pros and cons varies depending on which stage of change the individual is in.

Assignment.

For this assignment you will assess:

- The stage of change on 10 health behaviors of an older adult (non-student) using the attached General Health Survey (1991).
- You will assess stage of chance, process of change, decisional balance and self-efficacy of another adult or student using the attached materials.

General Health Survey (1991)

INSTRUCTIONS:
Please read the following questions and all the possible answers carefully. Choose the best response for each question and fill in the corresponding circle.

---

1. Do you consistently use seatbelts as a driver or passenger in a car?
YES, I have been for More than 6 months.
YES, I have been, but for LESS than 6 months.
NO, but I intend to in the next 30 days.
NO, but I intend to in the next 6 months.
NO, and I do NOT intend to in the next 6 months.

2. Do you consistently avoid eating high fat foods?
YES, I have been for More than 6 months.
YES, I have been, but for LESS than 6 months.
NO, but I intend to in the next 30 days.
NO, but I intend to in the next 6 months.
NO, and I do NOT intend to in the next 6 months.

3. Have you been eating a diet high in fiber?
YES, I have been for More than 6 months.
YES, I have been, but for LESS than 6 months.
NO, but I intend to in the next 30 days.
NO, but I intend to in the next 6 months.
NO, and I do NOT intend to in the next 6 months.

4. Have you been trying to lose weight?
YES, I have been for More than 6 months.
YES, I have been, but for LESS than 6 months.
NO, but I intend to in the next 30 days.
NO, but I intend to in the next 6 months.
NO, and I do NOT intend to in the next 6 months.

5. Do you exercise three times a week for at least 20 minutes each time?
YES, I have been for More than 6 months.
YES, I have been, but for LESS than 6 months.
NO, but I intend to in the next 30 days.
NO, but I intend to in the next 6 months.
NO, and I do NOT intend to in the next 6 months.

6. Do you take precautions against exposure to the sun?
YES, I have been for More than 6 months.
YES, I have been, but for LESS than 6 months.
NO, but I intend to in the next 30 days.

NO, but I intend to in the next 6 months.
NO, and I do NOT intend to in the next 6 months.

7. Do you consistently use sunscreens when in the sun for more than 15 minutes?
YES, I have been for More than 6 months.
YES, I have been, but for LESS than 6 months.
NO, but I intend to in the next 30 days.
NO, but I intend to in the next 6 months.
NO, and I do NOT intend to in the next 6 months.

8. Have you attempted to reduce the amount of stress in your daily life?
YES, I have been for More than 6 months.
YES, I have been, but for LESS than 6 months.
NO, but I intend to in the next 30 days.
NO, but I intend to in the next 6 months.
NO, and I do NOT intend to in the next 6 months.

9. Have you quit smoking cigarettes?
YES, I quit More than 6 months ago.
YES, I quit LESS than 6 months ago.
NO, but I intend to quit in the next 30 days.
NO, but I intend to quit in the next 6 months.
NO, and I do NOT intend to quit in the next 6 months.
I was NEVER a cigarette smoker.

10. Do you examine yourself for warning signs of cancer (for example, breast, testicles, skin)?
YES, I have been for More than 6 months.
YES, I have been, but for LESS than 6 months.
NO, but I intend to in the next 30 days.
NO, but I intend to in the next 6 months.
NO, and I do NOT intend to in the next 6 months.

Scoring

For all questions:
Answer choice (A) - Maintenance Stage
Answer choice (B) - Action Stage
Answer choice (C) - Preparation Stage
Answer choice (D) - Contemplation Stage
Answer choice (E) - Precontemplation Stage

References:
Nigg, C.R., Burbank, P., Padula, C., Dufresne, R., Rossi, J. S., Velicer, W. F., Laforge, R. G. & Prochaska, J. O. (1999). Stages of change across ten health-risk behaviors for older adults. The Gerontologist, 39, 473-482.

Exercise Stages of Change - Continuous Measure

Please use the following definition of exercise when answering these questions:

"**Regular Exercise** is any *planned* physical activity (e.g., brisk walking, aerobics, jogging, bicycling, swimming, rowing, etc.) performed to increase physical fitness. Such activity should be performed *3 to 5 times* per week for *20-60 minutes* per session. Exercise does not have to be painful to be effective but should be done at a level that increases your breathing rate and causes you to break a sweat."

Please circle the number that indicates how strongly you agree or disagree with the following statements.
1 = Strongly Disagree 2 = Disagree 3 = Undecided 4 = Agree 5 = Strongly Agree

1. As far as I'm concerned, I don't need to exercise regularly.
2. I have been exercising regularly for a long time and I plan to continue.
3. I don't exercise and right now I don't care.
4. I am finally exercising regularly.
5. I have been successful at exercising regularly and I plan to continue.
6. I am satisfied with being a sedentary person.
7. I have been thinking that I might want to start exercising regularly.
8. I have started exercising regularly within the last 6 months.
9. I could exercise regularly, but I don't plan to.
10. Recently, I have started to exercise regularly.
11. I don't have the time or energy to exercise regularly right now.
12. I have started to exercise regularly, and I plan to continue.
13. I have been thinking about whether I will be able to exercise regularly.
14. I have set up a day and a time to start exercising regularly within the next few weeks.
15. I have managed to keep execising regularly through the last 6 months.
16. I have been thinking that I may want to begin exercising regularly.
17. I have lined up with a friend to start exercising regularly within the next few weeks.
18. I have completed 6 months of regular exercise.
19. I know that regular exercise is worthwhile, but I don't have time for it in the near future.
20. I have been calling friends to find someone to start exercising with in the next few weeks.
21. I think regular exercise is good, but I can't figure it into my schedule right now.
22. I really think I should work on getting started with a regular exercise program in the next 6 months.
23. I am preparing to start a regular exercise group in the next few weeks.
24. I am aware of the importance of regular exercise but I can't do it right now.

Scoring
Precontemplation (non-believers in exercise) items: 1, 3, 6, 9
Precontemplation (believers in exercise) items: 11, 19, 21, 24
Contemplation items: 7, 13, 16, 22
Preparation items: 14, 17, 20, 23
Action items: 4, 8, 10, 12
Maintenance items: 2, 5, 15, 18

References

Marcus, B.H., Selby, V.C., Niaura, R.S., & Rossi, J.S. (1992). Self-efficacy and the stages of exercise behavior change. Research Quarterly for Exercise and Sport, 63, 60-66.
Norman, G.J., Benisovich, S.V., Nigg, C.R. & Rossi, J.S., (March, 1998). Examining three exercise-staging algorithms in two samples. Poster presented at SBM. New Orleans, LA..
Reed, G.R. (1994). Measuring stage of change for exercise behavior change, URICA-E2. Unpublished Dissertation.

Exercise Processes of Change

The following experiences can affect the exercise habits of some people. Think of similar experiences you may be currently having or have had **during the past month**. Then rate how frequently the event occurs by circling the appropriate number. Please answer using the following 5-point scale:

1	2	3	4	5
Never	**Seldom**	**Occasionally**	**Often**	**Repeatedly**

Consciousness Raising

1. I read articles about exercise in an attempt to learn more about it.
2. I look for information related to exercise.
3. I find out about new methods of exercising.

Dramatic Relief

1. I get upset when I see people who would benefit from exercise but choose not to exercise.
2. I am afraid of the consequences to my health if I do not exercise.
3. I get upset when I realize that people I love would have better health if they exercised.

Environmental Reevaluation

1. I realize that if I don't exercise regularly, I may get ill and be a burden to others.
2. I think that my exercising regularly will prevent me from being a burden to the healthcare system.
3. I think that regular exercise plays a role in reducing health care costs.

Self Reevaluation

1. I feel more confident when I exercise regularly.
2. I believe that regular exercise will make me a healthier, happier person.
3. I feel better about myself when I exercise.

Social Liberation

1. I have noticed that many people know that exercise is good for them.
2. I am aware of more and more people who are making exercise a part of their lives.
3. I have noticed that famous people often advertise the fact that they exercise regularly.

Counterconditioning

1. When I feel tired, I make myself exercise anyway because I know I will feel better afterwards.
2. Instead of taking a nap after work, I exercise.
3. Instead of relaxing by watching TV or eating, I take a walk or exercise.

Helping Relationships

1. I have a friend who encourages me to exercise when I don't feel up to it.
2. I have someone who encourages me to exercise.
3. My friends encourage me to exercise.

Reinforcement Management

1. One of the rewards of regular exercise is that it improves my mood.
2. I try to think of exercise as a time to clear my mind as well as a workout for my body.
3. If I engage in regular exercise, I find that I get the benefit of having more energy.

Self Liberation

1. I tell myself that I can keep exercising if I try hard enough.
2. I make commitments to exercise.
3. I believe that I can exercise regularly.

Stimulus Control

1. I keep a set of exercise clothes conveniently located so I can exercise whenever I get the time.
2. I use my calendar to schedule my exercise time.
3. I make sure I always have a clean set of exercise clothes.

Reference

Nigg, C.R., Norman G.J., Rossi, J.S. & Benisovich, S.V. (March, 1999). Processes of exercise behavior change: Redeveloping the scale. Poster presented at SBM. San Diego, CA.

Exercise Self-Efficacy

This part looks at how confidant you are that you will exercise when other things get in the way. Read the following items and fill in the circle that best expresses how each item relates to you in your leisure time. Please answer using the following 5-point scale.

1	2	3	4	5
Not at all Confident	**Somewhat Confident**	**Moderately Confident**	**Very Confident**	**Completely Confident**

Subscales and Items

Negative Affect
- I am under a lot of stress.**
- I am depressed.
- I am anxious.

Excuse Making
- I feel I don't have the time.**
- I don't feel like it.
- I am busy.

Must Exercise Alone
- I am alone.
- I have to exercise alone.**
- My exercise partner decides not to exercise that day.

Inconvenient to Exercise
- I don't have access to exercise equipment.**
- I am traveling.
- My gym is closed.

Resistance from Others
- My friends don't want me to exercise.
- My significant other does not want me to exercise.
- I am spending time with friends or family who do not exercise.**

Bad Weather
- It's raining or snowing.**
- It's cold outside.
- The roads or sidewalks are snowy.

Note: ** Items to be used for six-item self-efficacy short assessment. (If possible we recommend using the 18-item version).

References

Benisovich, S.V., Rossi, J.S., Norman, G.J., and Nigg, C.R. (March, 1998). A multidimensional approach to exercise self-efficacy: Relationship with exercise behavior and attitudes towards exercise. Paper presented at the annual meeting of the New England Psychological Association, Boston, MA.

Benisovich, S.V., Rossi, J.S., Norman, G.J. & Nigg, C.R. (March, 1998). Development of a multidimensional measure of exercise self-efficacy. Poster presented at the Society of Behavioral Medicine (SBM). New Orleans, LA.

Marcus, B.H., Selby, V.C., Niaura, R.S., & Rossi, J.S. (1992). Self-efficacy and the stages of exercise behavior change. Research Quarterly for Exercise and Sport, 63, 60-66.

Exercise Decisional Balance

How important are the following statements in your decision to exercise or not exercise?	Not at All Important	A Little Important	Somewhat Important	Important	Extremely Important
1. I would have more energy for my family and friends if I exercise regularly.	**1**	**2**	**3**	**4**	**5**
2. Regular exercise would help me relieve tension.	**1**	**2**	**3**	**4**	**5**
3. I would feel more confident if I exercised regularly.	**1**	**2**	**3**	**4**	**5**
4. I would sleep more soundly if I exercised regularly.	**1**	**2**	**3**	**4**	**5**
5. I would feel good about myself if I kept my commitment to exercise regularly.	**1**	**2**	**3**	**4**	**5**
6. I would like my body better if I exercised regularly.	**1**	**2**	**3**	**4**	**5**
7. It would be easier for me to perform routine physical tasks if I exercise regularly.	**1**	**2**	**3**	**4**	**5**
8. I would feel less stressed if I exercised regularly.	**1**	**2**	**3**	**4**	**5**
9. I would feel more comfortable with my body if I exercised regularly.	**1**	**2**	**3**	**4**	**5**
10. Regular exercise would help me have a more positive outlook on life.	**1**	**2**	**3**	**4**	**5**
11. I think I would be too tired to do my daily work after exercising.	**1**	**2**	**3**	**4**	**5**
12. I would find it difficult to find an exercise activity that I enjoy that is not affected by bad weather.	**1**	**2**	**3**	**4**	**5**
13. I feel uncomfortable when I exercise because I get out of breath and my heart beats very fast.	**1**	**2**	**3**	**4**	**5**
14. Regular exercise would take too much of my time.	**1**	**2**	**3**	**4**	**5**
15. I would have less time for my family and friends if I exercised regularly.	**1**	**2**	**3**	**4**	**5**
16. At the end of the day, I am too exhausted to exercise.	**1**	**2**	**3**	**4**	**5**

References**:**
Marcus, B.H., Rakowski, W., Rossi, J.S. (1992). Assessing motivational readiness and decision making for exercise. Health Psychology, 11, 257-261.

Healthy Behaviors Scale

Dietary Record/Nutritional Analysis

(adapted from E. Howley, ES567- University of Tennessee, 1997)

Purpose: to keep a dietary record everything that you eat or drink over a three-day period and analyze your nutritional intake.

Background: To through assess you nutritional habits, measurement of body composition (e.g., body fat %) is not enough. A dietary evaluation is also required. This is done by analyzing your nutrient intake and comparing it to recommend standards. Two common ways of doing this are with a **24-hour dietary recall** and **a 3-day food record**.

The 24 hour recall consists of writing down everything that your have eaten in the last 24 hours. This may or may not be representative of your eating habits as people's diets will vary quite a bit from one day to the next. Also, it can be fairly difficult tot remember in detail all the food that you ate (including the margarine or mayonnaise on a sandwich, etc.) and exact amounts.

One way to avoid some of these drawbacks is to keep a food record of everything that you consume. This can be done over different lengths of time but we will use a three-day food record (with one day being a weekend day). This technique may tempt you to change your eating and drinking habits to eat more healthy foods, but the general idea is to consume what you would without altering your eating pattern.

Once your dietary record is completed, there are various ways of analyzing the compositions of your diet. Research labs have analyzed thousands of foods and the US Department of Agriculture (USDA) has compiled this information in their Agricultural Handbook 8 that contains over 4000 food items. Most nutrition textbooks (which you can find in the library over a representative sample in their appendix section. There are a number of online sources for this and other information (although it is easier and faster to use the nutritional textbooks first, then go online for the "tough to find" information). A few good online sources are:

http://www.nal.usda.gov/fnic/cgi-bin/nut_search.pl
http://www.nal.usda.gov/fnic/foodcomp/other_jmp.html

For this assignment you will do the dietary analysis by hand (primarily using a nutrition textbook as a guide, an excel spread sheet could relieve some tedious math work as well). Use a separate food record to record each day's intake. When you have completed the three day record, list each food item on the Food Analysis Sheet (one sheet per day), the total number of calories, and the number of calories from fat, carbohydrates, proteins, and alcohol. (see instructions for 3-day food record on separate page)

You will find that **fats, carbohydrates, proteins and alcoho**l will be listed in units of "grams per serving". Determine the number of grams for each. You can determine the calorie content from grams using the following breakdown:

Carbohydrates (CHO)=	4 kcal/gram
Protein =	4 kcal/ gram
Fats	9 kcals/gram
Alcohol	7 kcals/gram

The **US Dietary Goals** for health and balanced diet suggest the following distribution of caloric intake:

Carbohydrates	58% or more
Fats/Alcohol	30% or less
Protein	10-12%

Assignment:

1. Attach you dietary records and your food analysis sheet to the lab.

2. How many calories did you consume, on average, over three days?

3. A. Calculate your daily caloric expenditure. First, estimate your **resting metabolic rate** by multiplying your body weight in kilograms (pounds*.454) by 24 kcal/kg*day. Add to this total 400 kcal, 600 kcal, or 800 kcal per day depending on whether your consider you daily physical activity level to be light (low exercise), moderate (some modest exercising), or heavy (vigorous daily exercising).

   EXAMPLE: Therefore, if I am 175 pounds and exercise and am moderately physically active around campus the formula would look like this:

   [175 (.454)]*(24)+600=2507 kcal burned per day[1]

   B. What is your total calorie expenditure per day?_____

   C. Should you gain or lose weight based on your caloric intake?

   If an excess of 3500 kcal is approximately equivalent to a pound of adipose (fatty) weight, how much could you expect to gain or lose in the next month (30 days)?

4. Over 3 days what percentage of energy was derived from carbohydrates, fats, proteins and alcohol. Were you consistent with the US Dietary Guidelines?

[1] Another interesting online measurement of metabolic activity using slightly different formulas can be found at this site: *http://www.agricola.umn.edu/nutritiontools/kcalculator.cfm*.

Dietary Record

Name_____ Date_____ Day of Week_____

Food/Drink	Description: Method of Preparation	Brand Name	Amount

Express approximate measures in cups (C), teaspoons (t), tablespoons (T), grams (g), ounces (oz), pieces, etc.

Dietary Record

Name_____ Date_____ Day of Week_____

Food/Drink	Description: Method of Preparation	Brand Name	Amount

Express approximate measures in cups (C), teaspoons (t), tablespoons (T), grams (g), ounces (oz), pieces, etc.

Dietary Record

Name_____ Date_____ Day of Week_____

Food/Drink	Description: Method of Preparation	Brand Name	Amount

Express approximate measures in cups (C), teaspoons (t), tablespoons (T), grams (g), ounces (oz), pieces, etc.

Food Analysis

Food	Calories	Kcal- FAT	Kcal- CHO	Kcal- Protein	Kcal-Alcohol

Food Analysis

Food	Calories	Kcal- FAT	Kcal- CHO	Kcal- Protein	Kcal-Alcohol

Food Analysis

Food	Calories	Kcal- FAT	Kcal- CHO	Kcal- Protein	Kcal-Alcohol

Body Composition Laboratory

(adapted from E.Howley's, ES567, University of Tennessee)

Objectives:

1. To calculate the **Relative Weight** based on height, weight, and the Metropolitan Life Insurance Company's charts and relate it to health risk.
2. To calculate the **Body Mass Index** and relate it to health risk.
3. To calculate the **Waist-to-hip-ratio** and relate it to health risk.
4. To estimate **Percent body fat** from sum of skinfolds and relate it to health risk.

Relative Weight

The relative weight (RW) is the ratio of the person's body weight to the midpoint of the weight range for the medium frame individual in the Metropolitan Life Insurance Company's 1959 tables. When the ratio is equal to 1.10, the person is said to be overweight, and when it is 1.20, the person is said to be obese. For example, a man who is 6 feet tall and weighs 200 lbs. has a RW of 1.23 (200 lb. ÷ 163.5 lb.). This person is said to be 23% above normal, and is classified as obese.

Body Mass Index (Quetelet's Index)

This index is the ratio of the person's weight in kilograms to height squared, where height is expressed in meters – kg/m^2. For example, for a 70 inch tall person weighing 154 pounds:

154 lbs. ÷ 2.2 lb/kg = 70 kg. 70 in x 2.54 cm/in = 177.8 cm or 1.778 m

$70kg/[1.778m]^2 = 70kg/3.161m^2 = 22.14\ kg/m^2$

The value can be used relative to the following standards:

20-25 kg/m^2 **–** desirable for men and women
25-29.9 kg/m^2 **-** Grade 1 obesity
30-40 kg/m^2 **-** Grade 2 obesity
>40 – kg/m^2 **-** Grade 3 obesity (morbid obesity) (Nieman, 1990; p.116)

Health risk begins in the Grade 1 level, and the ACSM suggests that significant risk begins at 27.8 kg/m^2 for men and 27.3 kg/m^2 for women (Guidelines, 1991, p. 47).

Waist-to-hip-ratio

The ratio of the circumference of the waist to the circumference of the hips provides an independent indicator of health risk. Values above 0.8 and 0.9 for women and men, respectively have been implicated in an increased risk of cardiovascular and metabolic diseases.

Skin fold Sites (from Lohman and ACSM)

1. Only right ride of the body is used
2. Place thumb and index finger about 1 cm (1/2 inch) proximal to the site to be measured. Start with fingers spread and gradually bring them together to lift the fold along the correct axis with fingers spread and gradually bring them together to lift the fold along the correct axis (vertically, horizontally, or diagonally). Errors in measurement are larger for thicker skinfolds.
3. Place the caliper jaws midway between the crest and base of the fold while you continue to hold the fold. Release calipers to allow jaws to exert pressure on the fold, wait 2 seconds and take reading to the nearest .5 mm.
4. Move through the sites and return to start for a second measurement.
5. Subject is standing unless otherwise noted.

Chest	(pectoral) pick up fold about half-way between nipple and anterior axillary fold for males, and a third the distance, close to the anterior axillary fold, for females
Subscapula	diagonal (45°) fold picked up just below the inferior angle of the scapula along natural cleavage lines (place subject hand behind back to emphasize the site)
Biceps	Subject stands facing measurer, arm at side with palm held anteriorly. Vertical fold is taken on the anterior surface of the upper arm over the biceps muscle (1 cm above the mark placed on the back of the arm for the triceps) along a vertical line joining the anterior border of the acromion and antecubital fossa
Triceps	Subject stands, back to measurer. Subject bends arm to 90° angle for measurement of site. Site is midline of the posterior aspect of the arm over the triceps muscle midway between the lateral projection of the acromion process of the scapula and the inferior margin of the olecranon process of the ulna
Midaxillary	a horizontal fold is taken on the midaxillary line at the level of the xiphoid process of the sternum
Abdominal	a vertical fold 1 inch to right of the umbilicus
Supraillium	a slightly oblique fold taken to follow the natural contour of the skinfold above the iliac crest on the anterior axillary line (midaxillary line for Durnin & Womersley)
Thigh	Vertical fold taken on the midline of the anterior aspect of the thigh, midway between the inguinal crease and the proximal border of the patella
Calf	(medial calf) subject sits with knee bent at 90° with sole of foot on floor or subject can stand with the foot placed on a chair with knee bent at 90°. Vertical fold is taken on the medial calf along the long axis of the calf at the point of greatest circumference

Circumference Sites

Waist	horizontal measure taken at the level of the narrowest part of the torso with abdomen relaxed
Hips	subject is standing with left or right side facing measurer; place tape horizontally around the largest extension of the buttocks.

Body Composition Measurements

(adapted from E.Howley's, ES567, University of Tennessee)

Subject: Age: Race:

Date: Technician:

Height/Weight			Circumferences	
Shoes Off			Waist	inches
Height	in	cm	Hips	Inches
Weight	lbs	kg	Waist/Hips	
Body Mass Index				
Relative Weight				

Skinfolds Locations in millimeters (mm)					Mean (mm)
	1st Measure	2nd Measure	3rd Measure		
Chest				=	
Mid-Axillary				=	
Subscapula				=	
Biceps				=	
Triceps				=	
Abdominal				=	
Supraillum				=	
Thigh				=	
Medial Calf				=	

- **Sum of skinfold widths _____mm % Body Fat:_____+/- 5.0%**
- **Why is waist to hip ratio used to estimate health risk?**
- **What are the limitation of relative weight and BMI compared to fat estimates?**

Measuring Allostatic Load
Cardiovascular Reactivity, Peak Response, and Recovery
(Group Task)

Cardiovascular Reactivitys
The reaction of the cardiovascular system to physical and "mental stress" has been related to development and progression of cardiovascular disease (atherosclerosis, hypertension) and even increased of mortality among patients with existing coronary heart disease. This response to stress is generally termed **cardiovascular reactivity** (CVR). One method of measuring CVR is by assessing a 1-minute change in cardiovascular level (for example BP or HR) from a resting baseline to the stress condition (Stress - Rest= Reactivity level). Another approach that is speculated to be a more accurate measure of CVR is the calculation of average CV level during a stressor period (3-5 minutes) and the subtraction of that average from an average of resting CV levels ($Stress^{AVG}$ - $Rest^{AVG}$= Reactivity). For this lab, we will refer to this as **averaged cardiovascular reactivity**. The reactivity measures derived by using these approaches are sometimes called **delta scores**.

Peak Response and Recovery
Two more recent measurement approaches that also look at how our heart responds to stressful stimuli are called **peak response scores** and **recovery scores**. Each has either been linked (in the case of peak response) or are theorized to the related (recovery scores) to CVD progression and development.

Peak response (also called exaggerated response) is simply the highest CV level observed during stress regardless of whether the highest response came at the 1^{st} or 5^{th} minute. For example, if SBP levels during stress were 140, 147, 136, 143 and 141 mm Hg, then the peak response would be 147 mm Hg.

Recovery is the amount of time it takes to return to resting baseline level of CV functioning (return to homeostasis) after enduring a stressor. During the recovery period there is no stressor applied, it is a "resting period" with minimal stimuli. There is no current convention on measurement of recovery time at this point. However one may simply impose a 5-minute rest period after stress and observe the **percent recovery** relative to baseline. For example, if your average baseline SBP was 100 mm Hg, and in your 5-minute recovery scores were 120, 115, 110, 105, & 95 mm Hg, then your recovery scores would be 20% (120/100= 1.2 which is equivalent to 20% over baseline rest), 15%, 10%, 5% & -5%.

In this lab your group will administer a 15-minute protocol that consists of 5 minutes of quiet rest, 5 minutes of a mental stressor, and a 5-minute recovery period. One person will serve as the research subject, one person will prepare the research subject and record the BP and HR data, while the last person will administer the mental stressor.

Instructions:

1. Prepare subject and environment
   - Seated comfortably
   - Cuff properly attached
   - Materials (scoring sheet, stressor guide in hand)
2. Run Protocol/Record Data
3. Exchange data with group members
4. Complete lab questions

	Time (min)	MAP	SBP	DBP	HR
Rest	1				
	2				
	3				
	4				
	5				
Stress	1				
	2				
	3				
	4				
	5				
Recovery	1				
	2				
	3				
	4				
	5				

What was the averaged resting levels?

MAP	
SBP	
DBP	
HR	

What were the reactivity scores?

MAP	
SBP	
DBP	
HR	

What were the averaged reactivity scores?

MAP	
SBP	
DBP	
HR	

What were the peak responses?

MAP	
SBP	
DBP	
HR	

What were the percent recovery values?

	Minute 1	Minute 2	Minute 3	Minute 4	Minute 5
MAP					
SBP					
DBP					
HR					

Journal Article Reporting Form
(MAKE SURE YOUR ARTICLE IS STAPLED TO THIS SHEET)

Student Name_____

Article citation (report in APA Format)

Purpose,

Methods (include sample size, population sample

Findings

Evaluation and Comments:

What do the researchers believe is the most important findings of this study?

Comments

Informed Consent for Wellness Testing

Explanation

I hereby voluntarily consent to participate in this wellness test. During this test resting blood pressure and heart rate will be taken. Additionally, analyses of body composition, psychosocial characteristics, risk for development of cardiovascular disease, diet, and aerobic capacity will be made. I will perform a graduate submaximal exercise test by riding a cycle ergometer. The exercise test is the YMCA submax test that is widely used. Exercise will begin at a low level and be advanced in stages. Once two consecutive stages with a heart rate greater than 100 beats per minute are found then the test will be completed. The exercise test may be stopped at any time because of feelings of fatigue or discomfort or for any other personal reason.

Benefits to be Expected

For participating in this test, a full analysis of health and fitness level will be provided to you. In this analysis, your measures will be compared to those optimal for your age and sex group. Suggestions will be made for future health and fitness.

Risks and Discomforts

I understand that I may be experience some discomfort from the blood pressure cuff. I also understand that the risks of the exercise testing procedure may include disordered or accelerated heart beat, an abnormal blood pressure response, fainting, and shortening of breath. It is extremely unlikely for someone of my age and condition to experience a heart attack under these experimental conditions (No cases in over a million tests last year).

Freedom of Consent

I have read the information above and have had all my questions answered to my satisfaction. In addition I am aware that:

1. I am entitled to further inquiries to be answered regarding this research.
2. I am free to withdraw from this research at anytime without penalty or prejudice.
3. In the event of physical injury because of study participation, financial compensation is not available and medical treatment will not be provided free of charge.
4. My signature indicates that I have received and have carefully read this consent form.

Date:_____ Signed:_____

Date:_____ Signed:_____