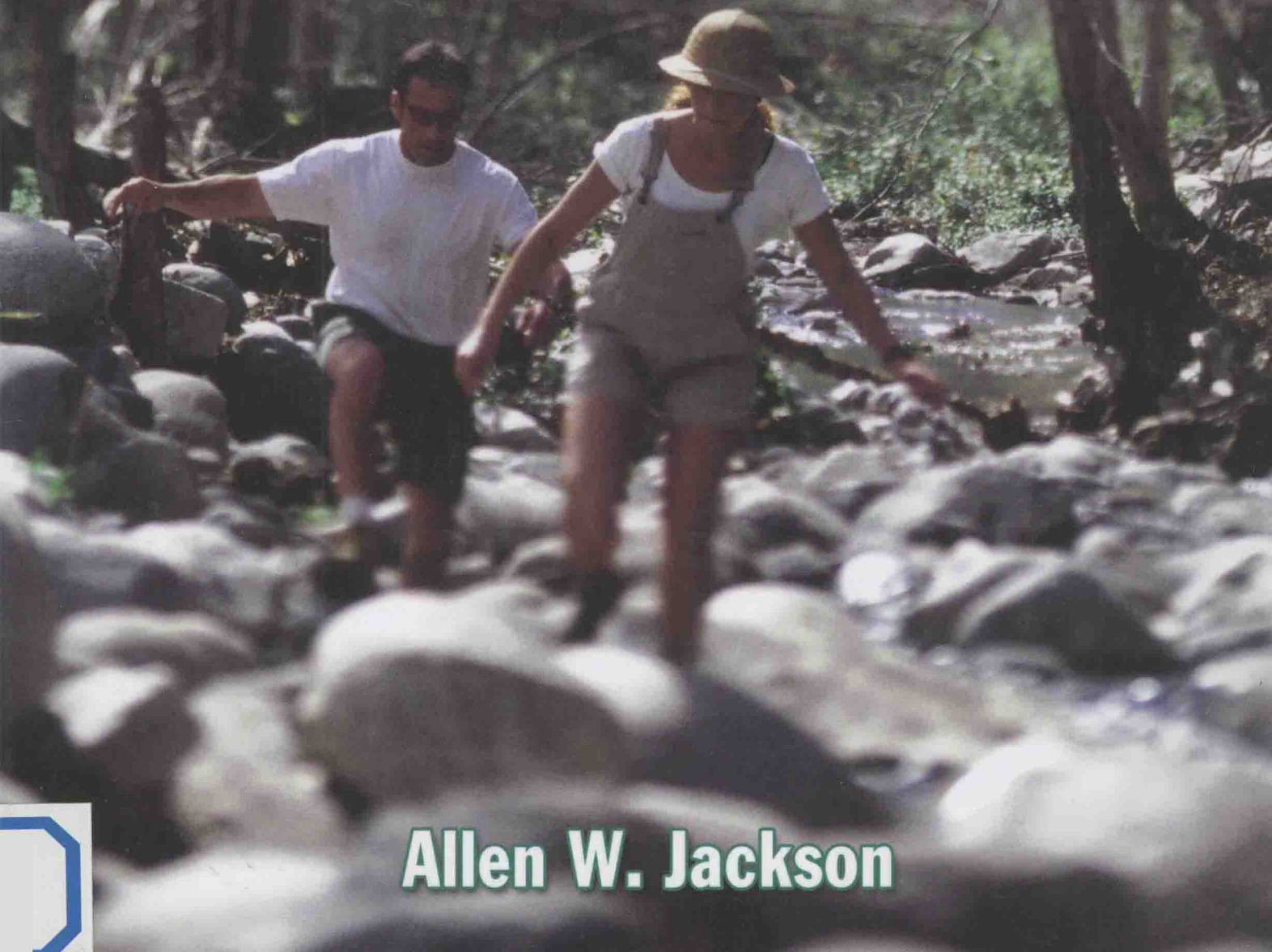


Physical Activity for Health and Fitness

Lab Manual



Allen W. Jackson



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University of North Texas



Human Kinetics

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Introduction

The United States Department of Health and Human Services has released two landmark publications, *Physical Activity and Health: A Report of the Surgeon General* and *2008 Physical Activity Guidelines for Americans*. Both of these publications emphasize that physical activity and physical fitness are strongly related to the reduction of risks of morbidity and mortality for a variety of chronic diseases, including heart disease, stroke, diabetes, some types of cancer, osteoporosis, and mental illness. Physical activity and fitness also have a positive effect on mental processes and cognitive function, which are particularly important for students. The Surgeon General's report calls for effective instructional courses in physical education at colleges and universities to encourage young adults to be physically active and develop a lifestyle that includes regular (daily) physical activity.

You are taking a course in a lecture and laboratory format to help you learn the following concepts and skills:

- Health-related benefits of physical activity and physical fitness
- Basics of exercise physiology, anatomy, psychology, biomechanics, and epidemiology that are necessary for understanding the health-related benefits of physical activity and fitness
- Discerning appropriate Internet sources of information about health and fitness

The 11 laboratory activities help you apply your cognitive learning to real life and allow you to understand your personal attitudes toward physical activity, physical fitness, nutrition, risks for chronic disease, and facets of your mental health. Each lab experience includes some hands-on activities that will be completed in your laboratory class or as homework, and online assignments bring you into contact with appropriate scientifically based health information.

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LAB EXPERIENCE 1

Physical Fitness, Goals, and Readiness to Participate

THE PURPOSES OF THIS LAB EXPERIENCE ARE TO

- increase your awareness of your physical fitness status,
- explore your goals for physical fitness, and
- determine your readiness to participate in physical activity.

Increase Your Awareness of Your Physical Fitness Status

The following two exercises (reprinted from Franks and Howley 1989) will help you determine your degree of satisfaction with different aspects of fitness.

Circle the best number for each aspect of your fitness level, using this scale:

- 4 = Very satisfied
 3 = Satisfied
 2 = Dissatisfied
 1 = Very dissatisfied

Amount of energy	4	3	2	1
Cardiovascular endurance	4	3	2	1
Blood pressure	4	3	2	1
Amount of body fat	4	3	2	1
Strength	4	3	2	1
Ability to cope with tension/stress	4	3	2	1
Ability to relax	4	3	2	1
Ability to sleep	4	3	2	1
Posture	4	3	2	1
Low back function	4	3	2	1
Physical appearance	4	3	2	1
Overall physical fitness	4	3	2	1
Level of regular medication	4	3	2	1

Reprinted, by permission, from B.D. Franks and E.T. Howley, 1989, *Fitness facts* (Champaign, IL: Human Kinetics), 4.

Things That Bother Me

List the things that bother you about yourself:

Specific physical problem _____

Appearance of particular part of body _____

Ability to play a specific sport: _____

Risk of a health problem _____

Other: _____

Explore Your Goals for Physical Fitness

This table (reprinted from Franks and Howley 1989) will help you determine your plans to change various fitness-related behaviors.

Circle your plans to change each area:

Behavior	Plan to change		
	Now	Soon	No plans
Physical activity	Now	Soon	No plans
Weight	Now	Soon	No plans
Use of drugs/medications	Now	Soon	No plans
Pattern of sleeping	Now	Soon	No plans
Use of tobacco	Now	Soon	No plans
Handling of tension/stress	Now	Soon	No plans
Diet	Now	Soon	No plans
Use of seat belts	Now	Soon	No plans
Other (list) _____	Now	Soon	No plans
_____	Now	Soon	No plans

Reprinted, by permission, from B.D. Franks and E.T. Howley, 1989, *Fitness facts* (Champaign, IL: Human Kinetics), 6.

Determine Your Readiness to Participate in Physical Activity

Complete the following questionnaire (reprinted from the Canadian Society for Exercise Physiology 2002) to help you determine your readiness to begin or intensify a physical activity program.

Physical Activity Readiness
Questionnaire - PAR-Q
(revised 2002)

PAR-Q & YOU

(A Questionnaire for People Aged 15 to 69)

Regular physical activity is fun and healthy, and increasingly more people are starting to become more active every day. Being more active is very safe for most people. However, some people should check with their doctor before they start becoming much more physically active.

If you are planning to become much more physically active than you are now, start by answering the seven questions in the box below. If you are between the ages of 15 and 69, the PAR-Q will tell you if you should check with your doctor before you start. If you are over 69 years of age, and you are not used to being very active, check with your doctor.

Common sense is your best guide when you answer these questions. Please read the questions carefully and answer each one honestly: check YES or NO.

YES	NO	
<input type="checkbox"/>	<input type="checkbox"/>	1. Has your doctor ever said that you have a heart condition <u>and</u> that you should only do physical activity recommended by a doctor?
<input type="checkbox"/>	<input type="checkbox"/>	2. Do you feel pain in your chest when you do physical activity?
<input type="checkbox"/>	<input type="checkbox"/>	3. In the past month, have you had chest pain when you were not doing physical activity?
<input type="checkbox"/>	<input type="checkbox"/>	4. Do you lose your balance because of dizziness or do you ever lose consciousness?
<input type="checkbox"/>	<input type="checkbox"/>	5. Do you have a bone or joint problem (for example, back, knee or hip) that could be made worse by a change in your physical activity?
<input type="checkbox"/>	<input type="checkbox"/>	6. Is your doctor currently prescribing drugs (for example, water pills) for your blood pressure or heart condition?
<input type="checkbox"/>	<input type="checkbox"/>	7. Do you know of <u>any other reason</u> why you should not do physical activity?

If
you
answered

YES to one or more questions

Talk with your doctor by phone or in person BEFORE you start becoming much more physically active or BEFORE you have a fitness appraisal. Tell your doctor about the PAR-Q and which questions you answered YES.

- You may be able to do any activity you want — as long as you start slowly and build up gradually. Or, you may need to restrict your activities to those which are safe for you. Talk with your doctor about the kinds of activities you wish to participate in and follow his/her advice.
- Find out which community programs are safe and helpful for you.

NO to all questions

If you answered NO honestly to all PAR-Q questions, you can be reasonably sure that you can:

- start becoming much more physically active — begin slowly and build up gradually. This is the safest and easiest way to go.
- take part in a fitness appraisal — this is an excellent way to determine your basic fitness so that you can plan the best way for you to live actively. It is also highly recommended that you have your blood pressure evaluated. If your reading is over 144/94, talk with your doctor before you start becoming much more physically active.

DELAY BECOMING MUCH MORE ACTIVE:

- if you are not feeling well because of a temporary illness such as a cold or a fever — wait until you feel better; or
- if you are or may be pregnant — talk to your doctor before you start becoming more active.

PLEASE NOTE: If your health changes so that you then answer YES to any of the above questions, tell your fitness or health professional. Ask whether you should change your physical activity plan.

Informed Use of the PAR-Q: The Canadian Society for Exercise Physiology, Health Canada, and their agents assume no liability for persons who undertake physical activity, and if in doubt after completing this questionnaire, consult your doctor prior to physical activity.

No changes permitted. You are encouraged to photocopy the PAR-Q but only if you use the entire form.

NOTE: If the PAR-Q is being given to a person before he or she participates in a physical activity program or a fitness appraisal, this section may be used for legal or administrative purposes.

"I have read, understood and completed this questionnaire. Any questions I had were answered to my full satisfaction."

NAME _____

SIGNATURE _____

SIGNATURE OF PARENT _____
or GUARDIAN (for participants under the age of majority)

DATE _____

WITNESS _____

Note: This physical activity clearance is valid for a maximum of 12 months from the date it is completed and becomes invalid if your condition changes so that you would answer YES to any of the seven questions.



...continued from other side

PAR-Q & YOU

Physical Activity Readiness
Questionnaire - PAR-Q
(revised 2002)

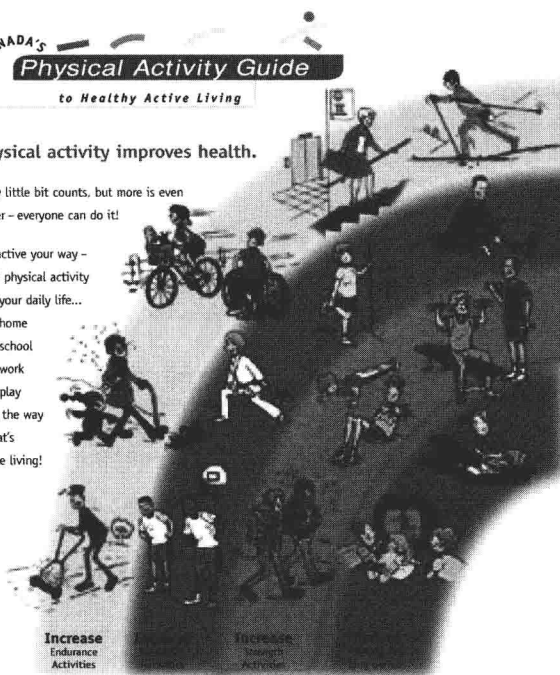


Physical activity improves health.

Every little bit counts, but more is even better – everyone can do it!

Get active your way – build physical activity into your daily life...

- at home
 - at school
 - at work
 - at play
 - on the way
- ...that's active living!



Increase
Endurance
Activities

Increase
Strength
Activities

Choose a variety of activities from these three groups:

Endurance

4-7 days a week
Continuous activities for your heart, lungs and circulatory system.

Flexibility

2-4 days a week
Activities against resistance to strengthen muscles and bones and improve posture.

Strength

2-4 days a week
Activities against resistance to strengthen muscles and bones and improve posture.

Starting slowly is very safe for most people. Not sure? Consult your health professional.

For a copy of the Guide Handbook and more information: 1-888-334-9769, or www.paguide.com

Eating well is also important. Follow Canada's Food Guide to Healthy Eating to make wise food choices.

Get Active Your Way, Every Day – For Life!

Scientists say accumulate 60 minutes of physical activity every day to stay healthy or improve your health. As you progress to moderate activities you can cut down to 30 minutes, 4 days a week. Add-up your activities in periods of at least 10 minutes each. Start slowly... and build up.

Time needed depends on effort				
Very Light Effort	Light Effort	Moderate Effort	Vigorous Effort	Maximum Effort
60 minutes	30-60 minutes	20-30 minutes		
• Strolling	• Light walking	• Brisk walking	• Aerobics	• Sprinting
• Dusting	• Volleyball	• Biking	• Jogging	• Racing
	• Easy gardening	• Raking leaves	• Hockey	
	• Stretching	• Swimming	• Basketball	
		• Dancing	• Fast swimming	
		• Water aerobics	• Fast dancing	

Range needed to stay healthy

You Can Do It – Getting started is easier than you think

Physical activity doesn't have to be very hard. Build physical activities into your daily routine.

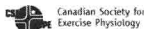
- Walk whenever you can – get off the bus early, use the stairs instead of the elevator.
- Reduce inactivity for long periods, like watching TV.
- Get up from the couch and stretch and bend for a few minutes every hour.
- Play actively with your kids.
- Choose to walk, wheel or cycle for short trips.
- Start with a 10 minute walk – gradually increase the time.
- Find out about walking and cycling paths nearby and use them.
- Observe a physical activity class to see if you want to try it.
- Try one class to start – you don't have to make a long-term commitment.
- Do the activities you are doing now, more often.

Benefits of regular activity:

- better health
- improved fitness
- better posture and balance
- better self-esteem
- weight control
- stronger muscles and bones
- feeling more energetic
- relaxation and reduced stress
- continued independent living in later life

Health risks of inactivity:

- premature death
- heart disease
- obesity
- high blood pressure
- adult-onset diabetes
- osteoporosis
- stroke
- depression
- colon cancer



Source: Canada's Physical Activity Guide to Healthy Active Living, Health Canada, 1998 <http://www.hc-sc.gc.ca/hppb/paguide/pdf/guideEng.pdf>

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FITNESS AND HEALTH PROFESSIONALS MAY BE INTERESTED IN THE INFORMATION BELOW:

The following companion forms are available for doctors' use by contacting the Canadian Society for Exercise Physiology (address below):

The **Physical Activity Readiness Medical Examination (PARmed-X)** – to be used by doctors with people who answer YES to one or more questions on the PAR-Q.

The **Physical Activity Readiness Medical Examination for Pregnancy (PARmed-X for Pregnancy)** – to be used by doctors with pregnant patients who wish to become more active.

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- Arraix, G.A., Wigle, D.T., Mao, Y. (1992). Risk Assessment of Physical Activity and Physical Fitness in the Canada Health Survey Follow-Up Study. *J. Clin. Epidemiol.* 45:4 419-428.
- Mottola, M., Wolfe, L.A. (1994). Active Living and Pregnancy, In: A. Quinney, L. Gauvin, T. Wall (eds.), **Toward Active Living: Proceedings of the International Conference on Physical Activity, Fitness and Health**. Champaign, IL: Human Kinetics.
- PAR-Q Validation Report, British Columbia Ministry of Health, 1978.
- Thomas, S., Reading, J., Shephard, R.J. (1992). Revision of the Physical Activity Readiness Questionnaire (PAR-Q). *Can. J. Sport Sci.* 17:4 338-345.

For more information, please contact the:

Canadian Society for Exercise Physiology
202-185 Somerset Street West
Ottawa, ON K2P 0J2
Tel. 1-877-651-3755 • FAX (613) 234-3565
Online: www.csep.ca

The original PAR-Q was developed by the British Columbia Ministry of Health. It has been revised by an Expert Advisory Committee of the Canadian Society for Exercise Physiology chaired by Dr. N. Gledhill (2002).

Disponible en français sous le titre «Questionnaire sur l'aptitude à l'activité physique - Q-AAP (révisé 2002)».



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Results and Conclusions

1

1. On the basis of your responses to all of the questions in this lab, list the areas of fitness and health that you need to acquire more information on and, based on what you know right now, steps you could take to improve them.
2. The PAR-Q should give you an indication whether to seek medical counseling before beginning or intensifying your exercise program. Do you need to seek medical counseling before proceeding with an exercise program?
3. From your findings in this lab, are you apparently healthy? _____
Do you agree with these findings? _____
Why or why not? _____

Internet Assignment Log 1

Log in to the course Web site. Click the Internet Assignments link, read the instructions, and visit the listed Web sites.

Complete the information requested below.

Web Addresses

1. Print clearly the Web address of the first site for this assignment.

2. Print clearly the Web address of the second site for this assignment.

3. Print clearly the Web address of the third site for this assignment.

Computer Location

Circle the computer location where you completed the assignment.

Home or personal computer Work computer UNT General Access Lab computer

Web Site Visit Time

First Web site

Date:_____ Start time:_____ Finish time:_____ Total time:_____

Second Web site

Date:_____ Start time:_____ Finish time:_____ Total time:_____

Third Web site

Date:_____ Start time:_____ Finish time:_____ Total time:_____

LAB EXPERIENCE 2

Evaluating Risks of Heart Attack

THE PURPOSE OF THIS LAB EXPERIENCE IS TO

- evaluate your risk for experiencing a heart attack.

The National Heart, Lung, and Blood Institute of the National Institutes of Health has developed a heart attack risk factor quiz. Complete the quiz, adapted here, by checking the appropriate answer for each question.

Are You at an Increased Risk of Having a Heart Attack?

Yes	No	Don't know
-----	----	------------

Do you smoke?

Is your blood pressure 140/90 mmHg or higher, OR have you been told by your doctor that your blood pressure is too high?

Has your doctor told you that your total cholesterol level is 200 mg/dL or higher or your HDL (good cholesterol) is less than 40 mg/dL?

Has your father or brother had a heart attack before age 55 OR your mother or sister had one before age 65?

Do you have diabetes OR a fasting blood sugar of 126 mg/dL or higher, OR do you need medicine to control your blood sugar?

Are you a man over 45 years of age?

Are you a woman over 55 years of age?

Do you have a body mass index (BMI) score of 25 or more?

Do you get less than a total of 30 minutes of physical activity on most days?

Has a doctor told you that you have angina (chest pains), or have you had a heart attack?

Reprinted from National Heart Lung and Blood Institute.

If you answered “yes” to any of these boxes, you’re at an increased risk of having a heart attack. If you don’t know your blood pressure or cholesterol, check with your health care provider.

Some of the risk factors for heart attack are beyond your control, but most can be modified to help you lower your risk of having either a first or a repeat heart attack. The following are factors that increase the risk of a heart attack.

Unalterable factors (you can’t change them):

- Age
- Gender
- Family history or heredity

Alterable factors (you can change them):

- Cholesterol
- Blood pressure
- Obesity
- Diabetes
- Physical inactivity
- Smoking

In the next phase of the lab, you are going to go online through the course Web site and perform an individual risk assessment to have a better understanding of your risk profile for coronary heart disease.

Online Lab Experience 2

1. Log in to the course Web site.
2. Click on the Online Lab Experiences link.
3. Follow the instructions for completing the questionnaire and getting your final results.
4. When you are finished with the questionnaire, print out your results and turn them in with your lab.

