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A National Investigation of Pre-Activity Health Screening Procedures in Fitness Facilities: Perspectives from American College of Sports Medicine Certified Health Fitness Specialists

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A National Investigation of Pre-Activity Health Screening Procedures in Fitness Facilities:
Perspectives from American College of Sports Medicine Certified Health Fitness Specialists

by

Aaron C. Craig

A dissertation submitted in partial fulfillment
of the requirements for the degree of
Doctor of Philosophy
with a concentration in Interdisciplinary Studies
Department of Educational and Psychological Studies
College of Education
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ABSTRACT

It is well established in the literature that the morbidity and mortality rates due to chronic diseases such as cardiovascular disease, cancer, hypertension, and diabetes in the U.S are alarmingly high. Likewise, there is ample data which demonstrates that participating in physical activity can help prevent and control many types of chronic diseases. Though the benefits outweigh the risks of participation in physical activity, the risks must be acknowledged.

Published standards and guidelines in the health fitness field have been established to address operational practices of fitness facilities, increase safety of participants and mitigate these risks. The present study was a national investigation conducted to determine adherence to published standards and guidelines for self- and professionally-guided pre-activity health screening procedures (PHSP) across various settings (i.e., Hospital/Clinical, Community, Commercial, Corporate, University, Government). Additionally, this study obtained perspectives from study participants regarding familiarity with, importance of adherence to and legal liability associated with published standards and guidelines. As the American College of Sports Medicine (ACSM) is considered the gold standard in health and fitness, only ACSM's published standards and guidelines, specifically those related to pre-activity health screening, were included in the present study.

A survey instrument was developed and validated to obtain the data for this study. The link for the web-based survey was sent from the ACSM's Certification Department to all ACSM Health Fitness Specialists (HFS) who lived in the US ($n=9,433$); a total of 1,246 (13.2%) responded to the survey. The survey instrument consisted of 54 questions including 14

participant related (i.e., Q1, Q3, Q34-Q45), 32 facility related (i.e., Q2, Q4-Q33, Q46), seven demographic related (Q47-Q53), and one open-ended question (Q54). Exclusion criteria removed any HFS who was not currently working part- or full-time in a fitness facility, which left 677 usable responses for data analysis. Special measures were taken to remove duplicate responses for any given facility which resulted in a lower number of usable responses (n=656) for those 32 questions.

As hypothesized, the Hospital/Clinical setting had significantly ($p<.006$) higher percentages of fitness facilities (93%) which require new participants to complete a pre-activity screening device than all other settings (i.e., University (56%), Community (54%), Commercial(40%), and Government (67%)). Additionally, the Hospital/Clinical setting was also found to be significantly higher than Corporate relative to this same variable. Regarding the second research hypothesis, the Corporate setting was found to have significantly ($p<.006$) higher percentages (78%) of fitness facilities which require new participants to complete a pre-activity screening device than the Community setting.

Twenty-six percent of respondents indicated they their facility conducted self-guided, 43% professionally guided, and 31% offered both self- and professionally-guided PHSP. High percentages of fitness facilities (73%) required new participants to complete a pre-activity screening device with 47% and 87% of these facilities requiring medical clearance for at-risk new participants for self- and professionally-guided screening procedures, respectively. At-risk was defined in the study as someone with known disease (e.g., cardiac, pulmonary or metabolic) or with signs/symptoms and/or risk factors associated with cardiac, pulmonary, or metabolic disease. Also, participants with other medical conditions (e.g., pregnancy, orthopedic injury) may be considered at- risk. The majority (86%) of facilities offered personal training and nearly

all of these (99.6%) required clients of personal trainers to complete a pre-activity screening device. Additionally, 84% of these facilities required medical clearance for at-risk clients. Data regarding other aspects of PHSP for facilities were also obtained such as frequency of completion for participants, privacy, confidentiality, and security of information obtained, participant refusal to complete, and waivers for guests.

Regarding their familiarity, 69% of respondents indicated that they were very familiar with the ACSM's *Guidelines for Exercise Testing and Prescription* (ACSM's *GETP*); however only 52% indicated they used the ACSM's *GETP* for development and implementation of their facility's PHSP. Of these facilities, the results regarding the inclusion of the *GETP* criteria on their screening device were: (a) 96%, 91%, 87% for known CV, pulmonary and metabolic disease, respectively, (b) 44-95% for each of the nine signs/symptoms with dizziness/syncope the highest (95%) and intermittent claudication the lowest (44%), and (c) 64%- 99% for each of the nine CV risk factors with smoking the highest (99%) and high-density lipoprotein the lowest (64%).

Although 52% of respondents reported more than adequate academic preparation, 70% reported being very confident in conducting professionally-guided pre-activity health screening procedures and that adherence to published standards and guidelines was very important. However, only 28% of respondents reported more than adequate academic preparation regarding legal implications involving PHSP. Other data from the HFSs regarding PHSP were also obtained such as their perspectives of the importance to management to adhere to and familiarity with published standards and guidelines as well as their knowledge of legal issues related to PHSP. In the open-ended question, respondents provided comments and challenges ($n=509$) that they encountered while conducting PHSP. These data were analyzed, coded and

then categorized into three major themes: 1) medical clearance related issues, 2) administrative/procedural related issues, 3) member related issues.

Compared to previous research, adherence to published standards and guidelines, as evidenced by the percentage of facilities which require new participants and clients of personal trainers to complete a pre-activity screening device, seems to be generally increasing. Additionally, relative to the requirement of medical clearance for personal training clients also seems to demonstrate an upward trend. However, the requirement of medical clearance for at-risk new participants remains about the same as previous studies (ranging from 49%-82% of the facilities) and the current study (47% for self-guided and 87% for professionally-guided). For facilities that were not conducting PHSP (27%), the major reasons why were reinforced by the comments to the open-ended question and were similar to those found in a previous study that investigated the same.

The findings from this study indicated that there are areas that may need to be addressed within the profession to help increase adherence to published standards and guidelines especially in Community, Commercial, University, and Government settings. For example, these facilities might need a more simplified approach and additional guidance from the ACSM for more effectively and efficiently conducting PHSP. Additionally, academic programs could contribute by more comprehensively integrating PHSP into courses and practical learning opportunities for students. Given the importance of conducting PHSP, future research in PHSP focused on issues specific to individual settings may help establish the framework and provide direction for stakeholders to address this relevant issue in the field.

CHAPTER ONE: INTRODUCTION

This chapter includes the following sections (a) Background, (b) Purposes, (c) Research Hypotheses, (d) Methods, (e) Significance, (f) Assumptions, (g) Limitations, (h) Definition of Terms, and (i) Summary

Background

It is well established in the literature that the morbidity and mortality rates due to chronic diseases such as cardiovascular disease, cancer, hypertension, and diabetes in the U.S are alarmingly high. Likewise, there is ample data which demonstrates that participating in physical activity can help prevent and control many types of chronic diseases. However, the most recent statistics indicate that the majority of Americans are not meeting the guidelines for either aerobic or muscle strengthening activity (*Physical Activity Guidelines Advisory Committee Report, 2008*). To address this disparity, multiple initiatives have been implemented over the years such as *Healthy People 2020* and Exercise is Medicine®.

As the benefits of participating in physical activity are well researched and documented and awareness of national initiatives remains, it is hoped that this evidence translates into increased participation in physical activity by Americans. Meanwhile, a tremendous amount of growth in the number and type of fitness facilities has taken place, specifically in the commercial setting (“U.S. Health Club Membership Exceeds 50 Million,” 2011). Likewise, a proliferation of fitness facilities in other settings has also taken place such as government, community,

corporate, academic, and retirement settings (Eickhoff-Shemek, Herbert, & Connaughton, 2009).

While the health benefits associated with physical activity are significant, it is also important to acknowledge the injury risks involved with physical activity. For example, all types of injuries (i.e., major, minor, life threatening) can happen ranging from musculoskeletal to cardiac events. Based on data from Consumer Products Safety Commission's (CPSC) the National Electronic Injury Surveillance System (NEISS), the estimated number of injuries related to exercise and exercise equipment has progressively increased over recent years ("National Electronic Surveillance System Data Highlights," 2010-2012).

To help minimize injuries, many standards of practice published by professional organizations exist that include both standards (requirements) and guidelines (recommendations) for fitness facilities to follow. These published standards of practice are designed to enhance the safety of participants by addressing operational procedures such as pre-activity health screening, exercise equipment maintenance, and emergency action plans.

Because this study focused on pre-activity health screening procedures (PHSP), only those standards of practice involving pre-activity health screening were included. In addition, because the population for this study were be professionals who are certified American College of Sports Medicine (ACSM) Health Fitness Specialists (HFSs), only ACSM standards of practice that include pre-activity health screening were selected for this investigation. These include: the ACSM's *Guidelines for Exercise Testing and Prescription*, the ACSM's *Health/Fitness Facility Standards and Guidelines*, and AHA/ACSM *Joint Position Statement – Recommendations for Cardiovascular Screening, Staffing, and Emergency Policies at Health/Fitness Facilities*, all of which are

described in detail in Chapter 2 (*Balady et al., 1998; Pescatello et al., 2014; Tharrett & Peterson, 2012*). The purposes of pre-activity health screening include the following:

- Identification of individuals with medical contraindications that require exclusion from exercise programs until those conditions have been abated or controlled.
- Recognition of individuals with clinically significant disease(s) or conditions who should participate in a medically supervised exercise program.
- Detection of individuals who should undergo a medical evaluation and/or exercise testing as a part of the participation health screening process before initiating an exercise program or increase the frequency and intensity of their current program (Pescatello, et al., 2014, pp. 22-23).

It is imperative for health/fitness professionals to be knowledgeable of and adhere to published standards of practice. If an injury occurs in a fitness facility and it is due to the failure to follow published safety standards of practice, it can lead to costly negligence claims or lawsuits against the fitness professional and his/her employer. The legal significance of published standards of practice and case law examples where the plaintiff (injured party) filed a negligence lawsuit against the health/fitness professional and/or fitness facility claiming there was a failure to carry out PHSP are presented in Chapter 2.

The present study was a national investigation of fitness facilities which helped determine, among other things, adherence to ACSM PHSP (e.g., are facilities requiring new participants to complete a pre-activity health screening device when they join a facility), the type of PHSP that are being conducted (e.g., self-guided or professionally-guided), and obtain perspectives/opinions regarding other relevant issues involving PHSP among ACSM certified HFSs. In the context of this study, “self-guided screening” is “initiated by the individual with

little or no input or supervision from an exercise or health fitness professional” (Thompson, 2010, p. 19) while “professionally-guided screening” is “conducted by... appropriately trained personnel who possess academic training and practical/clinical knowledge, skills, and abilities” (p. 22) commensurate with that of the ACSM HFS or higher level clinical certifications.

Purposes

Although previous studies have investigated adherence of PHSP that reflect published standards of practice among fitness facilities, they are dated and somewhat limited in their scope. These studies which are described in Chapter 2 have generally shown a less than satisfactory adherence to PHSP among fitness facilities. The present study not only provides current data regarding adherence to published standards of practice, but also investigated many other issues related to PHSP as reflected in the following list of purposes. Additionally, this study provides a more in-depth perspective and understanding than previous research. The purposes of this study were to investigate the following factors related to PHSP in the fitness facilities through the perspectives of American College of Sports Medicine (ACSM) Certified Health Fitness Specialists (HFSs):

1. The requirement of new participants and clients of personal trainers to complete a pre-activity health screening device and rationale for facilities that do not require completion of a pre-activity health screening device.
2. The requirement of new participants and clients of personal trainers who are classified as “at risk” to obtain medical clearance. A participant “at risk,” in the context of this study, is one with known disease (e.g., cardiac, pulmonary or metabolic) or with signs/symptoms and/or risk factors associated with cardiac, pulmonary, or metabolic

disease. Participants with other medical conditions (e.g., pregnancy, orthopedic injury) may also be considered “at risk.”

3. The type of PHSP conducted (self-guided or professionally-guided) for new participants
4. Adherence to PHSP as established by the ACSM’s *GETP*
5. HFS’s familiarity with and importance of adhering to published pre-activity health screening standards and guidelines
6. HFS’s perceived benefits of PHSP
7. HFS’s confidence and background preparation in conducting PHSP
8. Management’s familiarity with and importance of adhering to published pre-activity health screening standards and guidelines
9. Importance of adherence to published pre-activity health screening standards and guidelines among the management
10. Legal liability issues associated with PHSP

As stated above, previous research has investigated adherence to pre-activity screening procedures among fitness facilities. A couple of these studies (Eickhoff-Shemek & Deja, 2002b; Springer, Eickhoff-Shemek, & Zuberbuehler, 2009a) investigated differences in adherence to pre-activity screening procedures among different types of facilities. These studies found that there was a significantly higher adherence rate with regard to requiring new participants to complete a pre-activity screening device in corporate and clinical settings than in other settings. Based on these findings, the following hypotheses were formed for the present study.

Research Hypotheses

The research hypotheses of the study were as follows:

H1: The percentage of fitness facilities which require new participants to complete a pre-activity screening device will be significantly higher in the Hospital/Clinical setting than in University/ College, Community, Commercial, and Government settings.

H₀1: There is no significant difference in the percentage of fitness facilities which require new participants to complete a pre-activity screening device in Hospital/Clinical, University/ College, Community, Commercial, and Government settings.

H2: The percentage of fitness facilities which require new participants to complete a pre-activity screening device will be significantly higher in the Corporate setting than in University/ College, Community, Commercial, and Government settings.

H₀2: There is no significant difference in percentage of fitness facilities at which clients of personal trainers are required to have clients complete a pre-activity screening device in University/ College, Community, Commercial, Corporate, and Government settings.

H3: The percentage of fitness facilities at which clients of personal trainers are required to complete a pre-activity screening device will be significantly higher in the Hospital/Clinical setting than in University/ College, Community, Commercial, and Government settings.

H₀3: There is no significant difference in the percentage of fitness facilities at which clients of personal trainers are required to complete a pre-activity screening device in Hospital/Clinical, University/ College, Community, Commercial, and Government settings.

H4: The percentage of fitness facilities at which clients of personal trainers are required to complete a pre-activity screening device will be significantly higher in the Corporate setting than in University/ College, Community, Commercial, and Government settings.

H₀4: There is no significant difference in the percentage of fitness facilities at which clients of personal trainers are required to have clients complete a pre-activity screening device in Corporate, University/ College, Community, Commercial, and Government settings.

Methods

To satisfy the purposes and hypotheses of this study, a web-based survey instrument was developed. This survey was e-mailed to 9,433 certified ACSM HFSs in the U.S. The ACSM national certification office is the cooperating agency (Gliner & Morgan, 2000) which sent out the e-mails to the population sample. Extensive pre-pilot and pilot studies were conducted to test the design of the study and establish the validity of the instrument. The study procedures, involved in the pre-pilot and pilot studies as well as the resulting changes to the survey instrument, are described in depth in Chapter 3 along with many other details regarding the methodology. USF Institutional Review Board (IRB) approval was obtained prior to the commencement of the pilot and dissertation studies. After the proposal defense, committee suggestions and changes made to the survey instrument were submitted as an amendment for IRB approval prior to the commencement of the present study.

Significance

The present study is comprehensive in its design, different in its approach compared to previous studies, and contributes current, relevant knowledge to the health/fitness profession and body of literature. Additionally, this study is unique in that it investigated pre-activity health screening procedures used in fitness facilities from the perspectives of highly qualified fitness professionals, i.e., certified ACSM HFSs, which no previous study has done. It also investigated variables that have not been investigated before such as:

- Familiarity with ACSM published standards and guidelines
- Importance of adherence to published standards and guidelines
- Perceived benefits of PHSP
- Academic preparation for and confidence in conducting PHSP
- Management's familiarity with published standards and guidelines
- Importance to management of adherence to published standards and guidelines
- Legal liability issues associated with PHSP

These new data will contribute invaluable information regarding various aspects of PHSP to the many stakeholders in the profession. Additionally, the data from this robust study could provide guidance in the development and implementation of future standards and guidelines.

In conclusion, there are many voids within the literature regarding PHSP which this study addressed that are relevant and quite timely for the profession. In fact, ACSM convened a group of leading exercise professionals for the first time at the ACSM headquarters for a two day meeting -- ACSM Scientific Roundtable: Guidelines for Pre-exercise Health Risk Assessment -- to address the many issues related to this topic and to provide guidance to the writing team of Chapter 2 (Preparticipation Health Screening) for the next (10th) edition of the ACSM's *GETP* to be published in 2017 which is the most widely used book in the exercise science field worldwide. The outcomes of the present study will provide answers to many of the questions and issues raised at this meeting (Eickhoff-Shemek, personal communication, June 23, 2014).

Assumptions

The assumptions for this study are listed below:

- Individuals in the population sample had access to a computer with a current Internet service provider and updated web browser which is compatible with the web-based survey platform.
- Individuals in the population sample had an e-mail address which has previously been provided to the ACSM's National Office.
- Individuals in the population sample received the E-mail correspondence from the ACSM's National Office and had the computer literacy required to access the survey instrument.
- Individuals in the population sample completed the survey instrument accurately and completely.
- Survey instrument accurately assessed/measured the established variables throughout

Limitations

There are several limitations within this study that are discussed and addressed below. Inherent in the design of survey research are four common sources of error: coverage, sampling, measurement, and nonresponse (Dillman, 2007). Coverage error results when all members of the survey population do not have equal or known chance of being included in the sample. This potential limitation is fixed in that the ACSM's national office owns and maintains currency of the list of all individuals who possess the HFS credential. It is believed that each individual on the list was included per the inclusion criteria of the study.

Sampling error occurs when only a subset of a population is surveyed. To address the potential of sampling error, the entire population of ACSM HFSs was included in the sample in

lieu of random selection. Therefore the precision of estimations for the population were not compromised.

Measurement error results from faulty question wording and poor questionnaire construction. To mitigate the likelihood of inaccurate or unusable responses, the survey instrument evolved over time into multiple versions even before it was pre-pilot and piloted tested. As a result of this thorough process, numerous changes were made to improve the content, format, and question order of the instrument. It is believed that these enhancements resulted in a sound survey instrument with demonstrated evidence of face and content validity.

Nonresponse error occurs when a significant number of the population do not respond to the survey and have different characteristics from those who do respond, when these characteristic are relevant to the study. To minimize the nonresponse error, there was a financial incentive integrated into the study design whereby participants who completed the survey may enter a drawing.

Regarding response effects, there are several that were acknowledged as they had the potential to impact the responses to the survey instrument for the present study (Presser et al., 2004). First, the order of questions on the survey instrument may produce context effects whereby questions asked previously influence response to later questions. Second, there are inherent limitations involved with the mode of administration of the survey instrument (i.e., self-report). Lastly, social desirability, or pressure to conform, may come into play given the nature of this study resulting in an overrepresentation of popular opinions and practices (e.g., adherence with published standards and guidelines) and an underrepresentation of unpopular or deviant attitudes and behaviors (Presser et al., 2004).

Definitions of Terms

The following definitions operationalize terms used throughout this study.

From the ACSM's Guidelines for Exercise Testing and Prescription, 9th ed.:

Health fitness professional – an individual who possesses a minimum of a bachelor's degree in an exercise science area, and has the knowledge and skills in the following domains: (a) Health and Fitness Assessment, (b) Exercise Prescription and Implementation, (c) Exercise Counseling and Behavioral Strategies, (d) Legal/Professional, and (e) Management.

- Risk classification – a process by which individuals are classified into one of the three risk categories (i.e., low, moderate, high) based upon the presence or absence of 1) cardiovascular, pulmonary, and/or metabolic disease, 2) signs or symptoms, and 3) CVD risk factors.
- Low risk – Classification of an individual who is asymptomatic and has less than 2 CVD risk factors.
- Moderate risk – Classification of an individual who is asymptomatic and has 2 or more risk factors.
- High risk – Classification of an individual who has known disease and/or is symptomatic.

From the ACSM's Guidelines for Exercise Testing and Prescription, 8th ed.:

Self-guided Screening – Screening is conducted by participants with little or no direction or supervision from an exercise or health fitness professional. For example, they might complete a self-administered device such as the PAR-Q and based on their responses they might be alerted to consult their physician before participation in physical activity.

Professionally guided screening – Screening is conducted by an appropriately trained health fitness professional that possesses a certification equivalent to the ACSM HFS or higher. This screening involves a more advanced process than self-guided that includes (a) the review of a detailed health/medical history form in order to determine risk classification and (b) depending on risk classification (and/or other existing medical conditions) obtaining medical clearance.

Additional definitions:

- At Risk – For purposes of this survey an “at risk” participant is defined as someone with known disease (e.g., cardiac, pulmonary or metabolic) or with signs/symptoms and/or risk factors associated with cardiac, pulmonary, or metabolic disease. Participants with other medical conditions (e.g., pregnancy, orthopedic injury) may also be considered “at risk.”
- Fitness Facility – any fitness facility that offers health and fitness programs and services.
- New Participants – individuals who, for the first time, have decided to participate in your program and services or join as a member.
- Guests – Individuals who pay a “guest fee” to use your facility one-time, or on a pay-as-you go basis, or are the guest of the facility or another member.

Summary

This chapter provided an overview of this study. It described the importance of fitness facilities to adhere to pre-activity health screening procedures published by professional organizations such as the ACSM. It also summarized studies that previously investigated adherence to these procedures and how the present study addressed some of the voids in the

literature. Additionally, this chapter included the research hypotheses along with a brief description of the methods and significance of the study, the limitations and assumptions of the study, and definitions used throughout the study.

CHAPTER TWO: LITERATURE REVIEW

This chapter includes the following sections (a) Cardiovascular Disease and National Initiatives, (b) Benefits of Physical Activity, (c) Risks Associated with Physical Activity, (d) Published Standards of Practice: Pre-activity Health Screening, (e) Legal Issues Associated with Published Standards of Practice, (f) Research Investigating Pre-Activity Health Screening Procedures (g) Linking Review of Literature with Purpose of Present Study and (h) Summary.

Cardiovascular Disease and National Initiatives

According to the a 2014 AHA report, death rates attributable to cardiovascular disease (CVD) declined 31% from 2000 to 2010, but CVD still accounted for approximately one in three deaths in the United States in 2010 (Go et al., 2014). These same data also showed from 2007 to 2010, 33% of US adults 20 years of age and older have hypertension and the prevalence of diabetes mellitus (57.4 %) is also increasing in parallel with the prevalence of overweight and obesity (68.2%). A major risk factor for CVD is physical inactivity and according to this 2014 AHA report, nearly 80% of adults in the U.S. are not meeting the *2008 Physical Activity Guidelines for Americans* for either aerobic or muscle strengthening activity. An overview of these guidelines is provided below. In an effort to increase participation in physical activity and raise awareness of the benefits of physical activity, multiple initiatives have taken place including *Healthy People 2020* and *Exercise is Medicine*[®].

The federal government began the Healthy People initiatives in 1979 and since that time, these initiatives have established objectives every ten years for improving the health of all

Americans. The most recent initiative, *Healthy People 2020*, envisions a society in which all people live longer, healthier lives and is based on the accomplishments of the four previous Healthy People initiatives ("HealthyPeople.gov," 2014a; "HealthyPeople.gov," 2014b). The overarching goals of *Healthy People 2020* are to:

- Attain high-quality, longer lives free of preventable disease, disability, injury, and premature death.
- Achieve health equity, eliminate disparities, and improve the health of all groups.
- Create social and physical environments that promote good health for all.
- Promote quality of life, healthy development, and healthy behaviors across all life stages.

Specific *Healthy People 2020* objectives to increase the proportion of adults who meet the Federal physical activity guidelines for aerobic physical activity and for muscle-strengthening activity include:

- Increase the proportion of adults who engage in aerobic physical activity of at least moderate intensity for at least 150 minutes/week, or 75 minutes/week of vigorous intensity, or an equivalent combination
- Increase the proportion of adults who engage in aerobic physical activity of at least moderate intensity for more than 300 minutes/week, or more than 150 minutes/week of vigorous intensity, or an equivalent combination
- Increase the proportion of adults who perform muscle-strengthening activities on 2 or more days of the week
- Increase the proportion of adults who meet the objectives for aerobic physical activity and for muscle-strengthening activity

Another initiative, originated and coordinated by the ACSM, is a multi-organizational initiative called Exercise Is Medicine® (EIM). This global initiative strives to change the disease prevention and medical paradigm in such a way that physical activity and exercise are integral components of the treatment plans for patients. More specifically, it is the vision of EIM that health care providers consider physical activity a vital sign that is assessed in every patient visit. Further, based upon the health needs, providers counsel and then effectively refer patients to address their physical activity needs ("American College of Sports Medicine," 2008). The three principles that guide EIM are:

- Exercise and physical activity are important to health and the prevention and treatment of many chronic diseases.
- More should be done to address physical activity and exercise in health care settings.
- Multi-organizational efforts to ring a greater focus on physical activity and exercise in health care settings are encouraged.

Regarding raising awareness of and participation in physical activity, the federal government issued its first ever comprehensive guidelines on physical activity. The *2008 Physical Activity Guidelines for Americans* was intended to be a primary source on the quantity, mode, and intensity of physical activity necessary for Americans to achieve health benefits across the life span. The key guidelines for adults include the following:

- Do at least 150 minutes (2 hours and 30 minutes) a week of moderate-intensity, or 75 minutes (1 hour and 15 minutes) a week of vigorous-intensity aerobic physical activity, or an equivalent combination of moderate- and vigorous-intensity aerobic activity. Aerobic activity should be performed in episodes of at least 10 minutes, and preferably, it should be spread throughout the week

- For additional and more extensive health benefits... increase their aerobic physical activity to 300 minutes (5 hours) a week of moderate-intensity, or 150 minutes a week of vigorous-intensity aerobic physical activity, or an equivalent combination of moderate- and vigorous-intensity activity.
- Do muscle-strengthening activities that are moderate or high intensity and involve all major muscle groups on 2 or more days a week, as these activities provide additional health benefits (*Physical Activity Guidelines Advisory Committee Report, 2008*).

Benefits of Physical Activity

The health benefits associated with regular physical activity are well documented and are seen among individuals of various ages, ethnicities, ability levels, and chronic disease states. Specifically for adults and older adults, there is strong evidence which demonstrates that participation in regular physical activity lowers the risk of early death, stroke, coronary heart disease, high blood pressure, type II diabetes, metabolic syndrome, as well as colon and breast cancer ("Physical Activity Guidelines Advisory Committee Report," 2008). Additionally, adults and older adults participating in regular physical activity will experience improved cardiorespiratory and muscular fitness, prevention of weight gain and falls, and reduced depression (Pescatello et al., 2014).

These benefits are largely compelling and the increased awareness of which may have contributed to the growth in the number of fitness facilities in various settings as well as the participation at those facilities; especially by older adults. The results from the International Health, Racquet & Sportsclub Association annual health club membership survey showed that health club membership increased by 10.8% to \$50.2 million while revenues increased by 4% to \$20.3 billion from 2009 to 2010. The results of this survey also indicated that the number of

health club locations in 2010 ($n=29,890$) was slightly higher than those in operation in 2009. Regarding the number of consumers (i.e., members and non-member users/visitors), a 10.4% increase took place from 2009 to 2010; a total of 58 million consumers (“U.S. Health Club Membership Exceeds 50 Million,” 2011). In accordance with these statistics, IHRSA’s 2012 Top Health Club Trends identified “more people working out in clubs” and “specific programming and certifications for baby boomers” as the top two trends, respectively, in 2013 (“IHRSA Announces Annual List of Health Club Trends for 2012,” 2012). There is also a notable increase in health/fitness facilities taking place in settings other than commercial, such as government, corporate, clinical, academic, community, and retirement settings (Eickhoff-Shemek et al., 2009).

Risks Associated with Physical Activity

Just as there are health benefits as a result of participation in physical activity, there are also inherent risks. According to the *2008 Physical Activity Guidelines for Americans*, the health benefits outweigh the risks of adverse events for nearly everyone. Although this statement seems mostly optimistic, it is important to acknowledge the risks involved with participating in physical activity and exercise. For apparently healthy individuals performing moderate intensity physical activity, the risk of sudden cardiac arrest or myocardial infarction (MI) is very low (Vuori, 1986; Wang et al., 2010). However among middle-aged and older adults, the risk of sudden cardiac death or acute MI is higher than in younger individuals (Pescatello et al., 2014). Although increased risks do exist with vigorous intensity exercise, individuals who participate in moderate- or vigorous-intensity have significantly lower risk of CVD than do sedentary individuals (*Physical Activity Guidelines Advisory Committee Report, 2008*).

Based on the data highlights provided by the Consumer Products Safety Commission’s (CPSC) National Electronic Injury Surveillance System (NEISS), the estimated number of injuries

related to exercise and exercise equipment has progressively increased over the years (“National Electronic Surveillance System,” 2010, 2011, 2012). The data appearing in Table 2.1 reflect national estimates based on data obtained from 96 U.S. hospital emergency room departments, including children’s hospitals. Of the estimated total of injuries in 2012, about 7% (n=31,844) resulted in hospitalization or dead on arrival (DOA) pronouncements. There were no data available to quantify or differentiate the number of hospitalizations or DOAs.

Table 2.1 CPSC’s National Electronic Injury Surveillance System Estimated Number of Injuries

	2010	2011	2012
Exercise, Exercise Equipment	382,970	410,024	459,978

As the nation’s focus continues around increasing participation in physical activity, it is likely that the prevalence of injuries will only parallel this upward trend. The Centers for Disease Control and Prevention reported in their 2009-2018 Injury Research Agenda that nearly 11,000 persons are treated daily in emergency rooms for injuries sustained during sports, recreation, and exercise. Also, according to this Agenda, injuries are the primary reason people stop participating in physical activity. Therefore, the Injury Center’s research (Tier 1) priority for sports, recreation, and exercise safety is to “Examine strategies to increase dissemination and adoption of effective interventions to prevent sports-, recreation-, and exercise-related injuries (CDC Injury Research Agenda, 2009-2018, p. 58)

According to Eickhoff-Shemek (2013), the risks associated with physical activity and exercise can result in injuries which may be considered minor (e.g. strained muscle), major (e.g., broken bones) or life threatening (e.g., cardiac arrest). Kohl and Murray (2012) classify injury

risks of physical activity into two categories - musculoskeletal injury and exertion-related cardiac arrest/death, e.g., acute myocardial infarction (AMI) and sudden cardiac death (SCD). They define a physical activity-related musculoskeletal injury as an injury involving an acute or chronic disorder in a muscle, bone, joint, or connective tissue.

There are a plethora of studies that have extensively investigated risk factors related to cardiovascular events and musculoskeletal injuries. Although the data exist, it is difficult to compare the data related to musculoskeletal injuries or ascertain an accurate representation of the prevalence of exercise-related injury. Kohl and Murray (2012) suggest that this complication exists because the operational definition of an exercise- or physical activity- related injury across the literature varies relative to the severity, duration, or treatment required. However, irrespective of the type and seriousness of injuries, they can all lead to and result in costly litigation against health/fitness facilities (Eickhoff-Shemek et al., 2009). Table 2.2 presents various types of injuries that have occurred in health/fitness facilities and resulted in lawsuits.

Although the risks for life threatening, cardiovascular events during physical activity and exercise are remote, they do occur and often lead to litigation against health/fitness facilities. Abbott (2013) describes eight cardiac litigation cases in which he was retained as the expert witness. In each of these cases, death or brain death could have been avoided had there been proper precautionary measures and an effective response employed by the staff of the health/fitness facilities. The highest priority of any health/fitness facility must be health and safety of its membership (Abbott, 2013). To accomplish this, facilities should prioritize the development and implementation of comprehensive emergency response plans, provide thorough orientations, and employ qualified staff who design and supervise safe and effective

programs. Additionally, to help lower risks, injuries, and subsequent litigation, a pre-activity health screening process should be implemented at all health/fitness facilities.

Table 2.2 Types of Injuries Leading to Negligence Lawsuits Against Fitness Professionals and Facilities

Type of Injury	Negligence lawsuit
Stroke resulting in death	<i>Capati v. Crunch Fitness International, Inc., et al.</i>
Fractured ankle requiring surgical insertion pins	<i>Santa v. Women’s Workout and Weight Loss Centers, Inc.</i>
Acute renal failure due to rhabdomyolysis	<i>Guthrie v. Crouser</i>
Serious neck injury requiring five-level	<i>Sandford v. Vision Quest Sport and Fitness</i>
Heart attack	<i>Rostai v Neste Enterprises</i>
Severe head injury resulting in death	<i>Xu v. Gay</i>
Fractured ankle and crushed foot	<i>Thomas v. Sport City, Inc.</i>
Serious and permanent injuries to mouth and lips	<i>Alack v. Vic Tanny International of Missouri, Inc.</i>
Serious neck and back pain	<i>Goynias v. Spa Health Clubs, Inc.</i>
Heart attach resulting in death	<i>Hicks v. Bally Total Fitness Corp.</i>

Reprinted from Eickhoff-Shemek, 2013, p. 505

Pre-activity health screenings should help detect both cardiovascular and musculoskeletal risks. For example, if a participant has osteoporosis or recently had hip replacement surgery, the health/fitness professional should screen for these potential risks to help ensure a safe and effective program design. As recommended by Ory et al. (2005) and Resnick, Ory, Coday, and Riebe (2005), screening for musculoskeletal disorders should occur along with screening for cardiovascular risks. However, most standards and guidelines published by professional organizations focus on the risk of cardiovascular related risks – as described below.

According to the *ACSM's Guidelines for Exercise Testing and Prescription* (Pescatello, et al., 2014), the purposes of preparticipation health screening include the following:

- Identification of individuals with medical contraindications that require exclusion from exercise programs until those conditions have been abated or controlled.
- Recognition of individuals with clinically significant disease(s) or conditions who should participate in a medically supervised exercise program.
- Detection of individuals who should undergo a medical evaluation and/or exercise testing as a part of the participation health screening process before initiating an exercise program or increase the frequency and intensity of their current program (pp. 22-23).

Published Standards of Practice: Pre-Activity Health Screening

Standards of practice are developed and published by organizations, associations, and societies across numerous professions ranging from allied health and case management to banking and public broadcasting. Typically, these standards provide guidance and establish expectations relative to best practices in a given field or particular profession. Within the health/fitness profession over the past three decades, numerous standards, recommendations, and guidelines have been developed and published by organizations such as the American College of Sports Medicine (ACSM), the National Strength and Conditioning Association (NSCA), the Medical Fitness Association (MFA), the American Heart Association (AHA), and the Aerobics and Fitness Association of America (AFAA). Because this study investigated only those published by ACSM, a description of those involving PHSP is provided: (a) the *ACSM's Guidelines for Exercise Testing and Prescription*, (b) *ACSM's Health/Fitness Facility Standards and Guidelines*, and (c) *AHA/ACSM Joint Position Statement – Recommendations for Cardiovascular*

Screening, Staffing, and Emergency Policies at Health/Fitness Facilities (Balady et al., 1998; Pescatello et al., 2014; Tharrett & Peterson, 2012).

ACSM's Guidelines for Exercise Testing and Prescription

The *ACSM's Guidelines for Exercise Testing and Prescription (ACSM's GETP)* devotes an entire chapter to preparticipation health screening (Pescatello et al., 2014). In this chapter, the purposes and important components of the process of preparticipation health screening are addressed as described above including self-guided methods using tools like the PAR-Q and You as well as professionally-guided methods that involve a more in-depth process of risk classification and follow-up. Additionally, this chapter primarily provides guidance regarding (a) the classification of individuals into low, moderate, and high risk categories, and (b) the recommendations (e.g., medical exam, exercise testing) based on an individual's risk category.

As shown in Figure 2.1, certain criteria are used to determine the risk classification of an individual: (a) known disease, (b) major signs or symptoms suggestive of disease, and (c) number of cardiovascular disease risk factors. Once an individual's risk level is determined using the criteria in Figure 2.1, recommendations regarding the need for a medical exam, exercise testing, and medical supervision of either submaximal (submax) or maximal (max) exercise testing prior to participation in either moderate or vigorous exercise are provided in Figure 2.2. Moderate exercise is defined as 64 - <76 percent of maximal heart rate and vigorous exercise is defined as 76 - <96 percent of maximal heart rate (Pescatello, et al. 2014, p. 165).

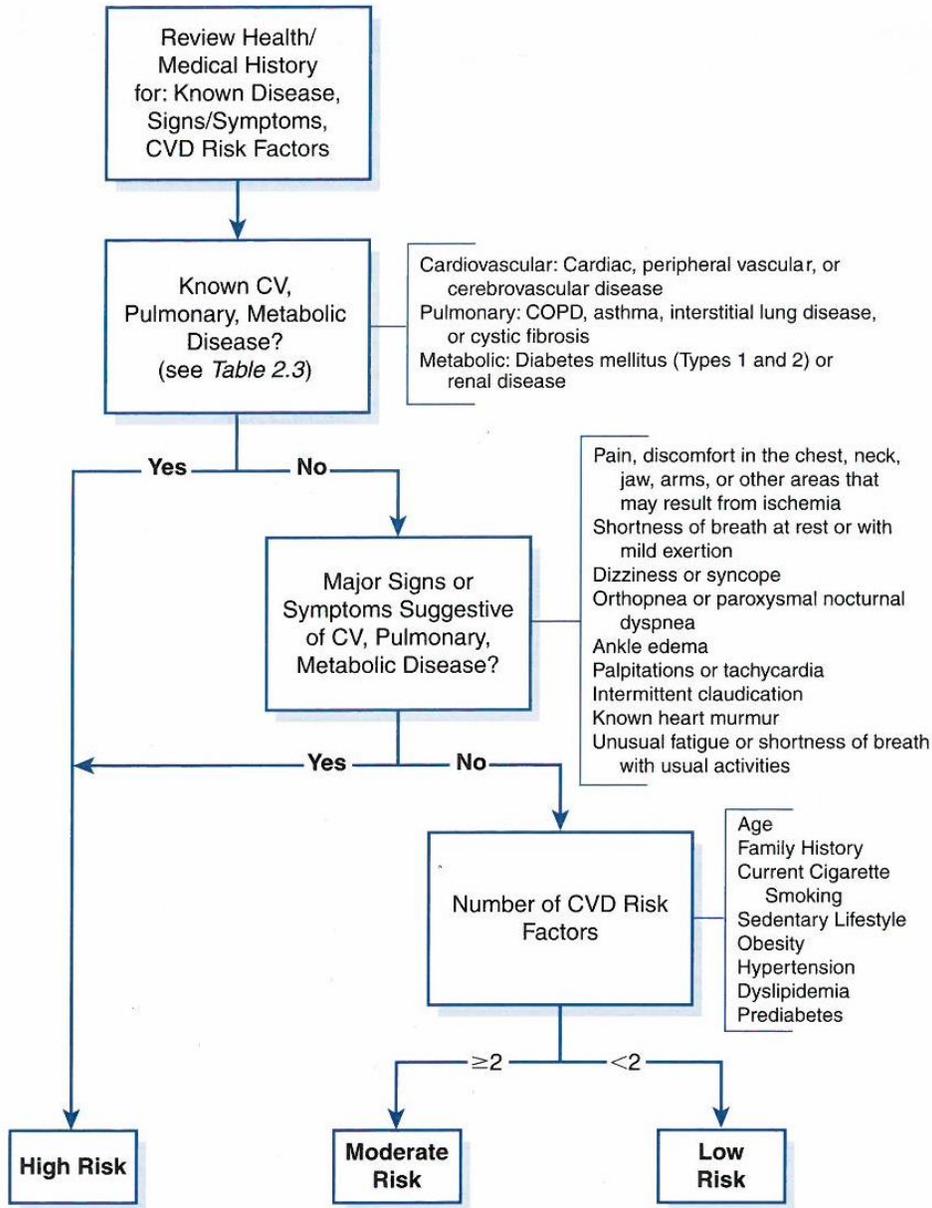
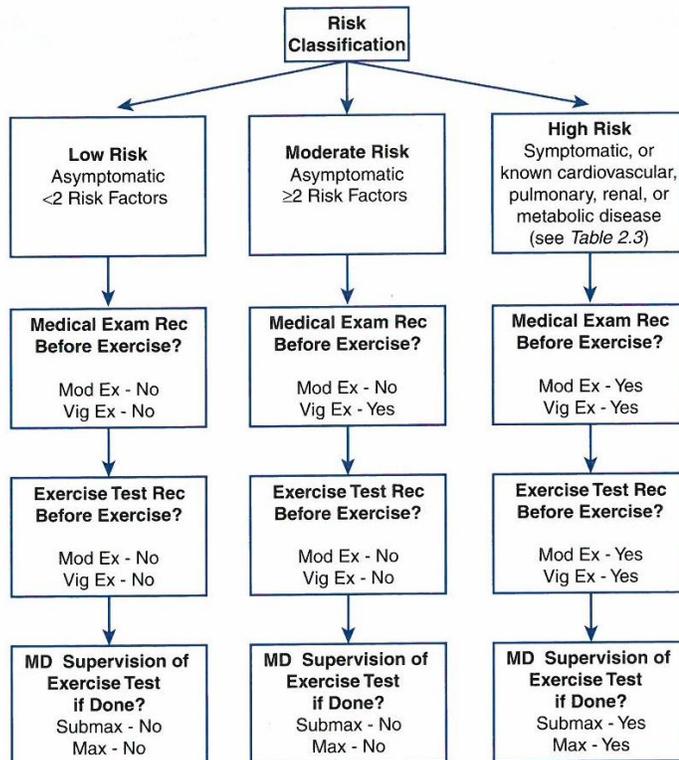


Figure 2.1 Logic model for classification of risk, CV, cardiovascular, CVD, cardiovascular disease.

Reprinted from Pescatello et al., 2014, p.26



Mod Ex: Moderate intensity exercise; 40%–<60% $\dot{V}O_2R$; 3–<6 METs
“An intensity that causes noticeable increases in HR and breathing.”

Vig Ex: Vigorous intensity exercise; ≥60% $\dot{V}O_2R$; ≥6 METs
“An intensity that causes substantial increases in HR and breathing.”

Not Rec: Reflects the notion a medical examination, exercise test, and physician supervision of exercise testing are not recommended in the preparticipation screening; however, they may be considered when there are concerns about risk, more information is needed for the Ex Rx, and/or are requested by the patient or client.

Rec: Reflects the notion a medical examination, exercise test, and physician supervision are recommended in the preparticipation health screening process.

Figure 2.2 Medical examination, exercise testing, and supervision of exercise testing preparticipation recommendations based on classification of risk. ExRx, exercise prescription; HR, heart rate; METs metabolic equivalents; $\dot{V}O_2R$, oxygen uptake reserve.
Reprinted from Pescatello et al., 2014, p. 28

ACSM’s Health/Fitness Facility Standards and Guidelines

These standards and guidelines were first published in 1992. Since this time, there have been updates and changes resulting in several editions of this text. The current edition (4th edition) of the *ACSM’s Health/Fitness Facility Standards and Guidelines (ACSM’s Standards)* presents five standards and two guidelines specific to pre-activity health screening tools and procedures

(Tharrett & Peterson, 2012). The definition of standard and guidelines offered in this publication are provided below followed by the actual standards and guidelines for pre-activity health screening.

Standards – These are base performance criteria or minimum requirements that ACSM believes each health/fitness facility must meet to provide a relatively safe environment in which physical activities and programs can be conducted. These standards are not intended to give rise to a duty of care or to establish a standard of care; rather, they are performance criteria derived from a consensus of both ACSM leaders and leaders from the health/fitness facility industry. The standards are not intended to be restrictive or to supersede international, national, regional, or local laws and regulations. They are intended to be qualitative in nature. Finally, as base performance criteria, these standards are steps designed to promote quality. They are intended to accommodate reasonable variations, based on local conditions and circumstances.

Guidelines – These are recommendation that ACSM believes health and fitness operators should consider using to improve the quality of experience they provide to users. Such guidelines are not standards, nor are they applicable in every situation or circumstance; rather, they are tools that ACSM believes should be considered for adoption by health and fitness operators (Tharrett & Peterson, 2012, p. x).

Standards for pre-activity screening, 4th ed.

- I. Facility operators shall offer a general pre-activity screening tool (e.g., Par-Q) and/or specific pre-activity screening tool (e.g., health risk appraisal [HRA], health history questionnaire [HHQ]) to all new members and prospective users.

2. General pre-activity screening tools (e.g., Par-Q) shall provide an authenticated means for new members, and/or users to identify whether a level of risk exists that indicates that they should seek consultation from a qualified healthcare professional prior to engaging in a program of physical activity.
3. All specific pre-activity screening tools (e.g., HRA, HHQ) shall be reviewed and interpreted by qualified staff (e.g., a qualified health/fitness professional or healthcare professional), and the results of the review and interpretation shall be retained on file by the facility for a period of at least one year from the time the tool was reviewed and interpreted.
4. If a facility operator becomes aware that a member, user, or prospective user has a known cardiovascular, metabolic, or pulmonary disease, or two or more major cardiovascular disease risk factors, or any other self-disclosed medical concern, that individual shall be advised to consult with a qualified healthcare provider before beginning a physical activity program.
5. Facilities shall provide a means for communicating to existing members (e.g., those who have been members for greater than 90 days) the value of completing a general and/or specific pre-activity screening tool on a regular basis (e.g., preferably once annually) during the course of their membership. Such communication can be done through a variety of mechanisms, including but not limited to a statement incorporated into the membership agreement of the facility, a statement on the new-member pre-activity screening form, and a statement on the website (pp. 2-5).

Guidelines for pre-activity screening, 4th ed.

1. Prospective members and/or users who fail to complete the pre-activity screening procedures on request should be permitted to sign a waiver or release that allows them to participate in the program offerings at the facility. In those instances where such members and/or users refuse to sign a release or waiver, they should be excluded from participation to the extent permitted by law.
2. All members or users who have been identified (either through a pre-activity screening or by self-disclosure to a qualified healthcare and/or health/fitness professional on staff) as having cardiovascular, metabolic, or pulmonary disease symptoms or any other potentially serious medical concern (e.g., orthopedic problems) and who subsequently fail to get consultation should be permitted to sign a waiver or release that allows them to participate in the facility's program offerings. In those situations where such members or users refuse to sign a waiver or release, they should be excluded from participation to the extent permitted by law (pp. 6-7).

Two of the studies described later in this chapter (Eickhoff-Shemek & Deja, 2002a, 2002b), investigated adherence among fitness facilities to the pre-activity screening requirements published in the second edition of this book (Tharrett & Peterson, 1997). In this edition, there was one standard and four guidelines directly related to pre-activity screening; they are listed below.

Standards for pre-activity screening, 2nd ed.

1. A facility must offer each adult member a pre-activity screening that is appropriate to the physical activities to be performed by the member (Tharrett & Peterson, 1997, p. 6).

Guidelines for pre-activity screening, 2nd ed.

1. A screening procedure given to an individual before that person engages in a physical activity program should incorporate either a general screening device (e.g., PAR-Q and You) or a specific screening device (e.g., the Health History Questionnaire).
2. When an individual who has completed a pre-activity screening instrument, fitness test, or health promotion evaluation is identified as having a condition or risk factor that could be adversely aggravated by physical activity, that person should be advised in writing or verbally to see a physician before engaging in physical activity. For clarification of coronary risk factors, facility staff members should refer to the fifth edition of the *ACSM's Guidelines for Exercise Testing and Prescription* and the American Heart Association's *Exercise Standards: A Statement for Health Professionals*.
3. As part of its efforts to prescreen users, to conduct fitness evaluation protocols, and to prescribe physical activity, health/fitness facilities should encourage all users to complete an informed consent form. An informed consent form is generally designed to advise all users of the benefits and risks of participation, testing, and physical activity and to advise users that their participation is voluntary in nature.
4. Individuals who decide not to participate in pre-activity screening prior to engaging in programmed physical activity should be required to complete and sign an assumption of risk or prospective release or waiver of claims form (or other form legally recognized as such within the jurisdiction of the facility), by the terms of which the individual assumes all risks of participation (Tharrett & Peterson, 1997, pp. 27-28).

AHA/ACSM Joint Position Statement: Recommendations for Cardiovascular Screening, Staffing, and Emergency Policies at Health/Fitness Facilities

The *AHA/ACSM Joint Position Statement: Recommendations for Cardiovascular Screening, Staffing, and Emergency Policies at Health/Fitness Facilities (AHA/ACSM's Joint PS)* contains several recommendations regarding pre-activity health screening and medical clearance (Balady et al., 1998) and is often referred to by several of the above mentioned organizations. It states that “All facilities offering exercise equipment should conduct cardiovascular screening of all new members and/or prospective users.” (Balady et al., 1998, p. 2284). To identify high-risk individuals for cardiovascular disease risk factors, two practical tools are suggested as cost-effective approaches prior to exercise versus clinical or diagnostic testing: The PAR-Q and the AHA/ACSM's Health/Fitness Facility Preparticipation Screening Questionnaire which are included in Appendix A. The PAR-Q informs participants to talk with their doctor prior to increasing their physical activity if they answer “yes” to one or more of the seven questions. The AHA/ACSM's questionnaire, which is more detailed than the PAR-Q, informs participants whether they should consult their healthcare provider prior to engaging in exercise and directs them to the type of facility that would be most appropriate (e.g., facility with medically qualified staff or a facility with professionally qualified staff) based on their responses to this self-guided form.

The *AHA/ACSM's Joint PS* indicates that health/fitness facilities which use “health appraisal questionnaires,” should have qualified staff interpret results and make decisions regarding the need for medical evaluation (Balady et al., 1998). It is recommended that each facility should determine its most cost-effective way to conduct and document these preparticipation screening procedures. Specific examples of health appraisal questionnaires are not provided

within the statement, but it is likely referring to screening tools such as a health risk appraisal (HRA) or a health history questionnaire (HHQ) as described in the *ACSM's Standards*.

Additionally, it is recommended that all prospective participants be educated regarding the importance of obtaining (and the potential risks of not obtaining) a health appraisal and if indicated, medical evaluation/recommendation prior to participation in exercise testing/training.

The *AHA/ACSM's Joint PS* further states “Because of safety concerns, persons with known cardiovascular disease who do not obtain recommended medical evaluations and those who fail to complete the health appraisal questionnaire upon request may be excluded from participation in a health/fitness facility exercise program to the extent permitted by law” (Balady, et al., 1998, p. 2285). According to Eickhoff-Shemek et al. (2009), this statement does not refer to a particular law, but it is likely referring to the Americans with Disabilities Act (or other similar laws) which prohibits any discrimination against persons with disabilities with regard to programs and services offered by places of public accommodation.

Additionally, the *AHA/ACSM's Joint PS* states “Persons without symptoms or a known history of cardiovascular disease who do not obtain the recommended medical evaluation after completing a health appraisal should be required to sign an assumption of risk or release/waiver” (Balady et al., 1998, p. 2285). Furthermore, those who do not sign an assumption of risk or release/waiver upon request may be excluded from participation to the extent permitted by law, but those who do sign the release/waiver may be permitted to participate; however they should be “encouraged to participate in only moderate- or lower-intensity physical activities and counseled about the warning symptoms and signs of an impending cardiovascular event” (Balady et al., 1998, pp. 2285-2286).

Finally, according to the *AHA/ACSM's Joint PS*, the screening results can be used to place individuals into one of six risk categories, prescribe exercise intensity, and recommend the appropriate facility (Levels 1 – 5). The six risk categories include apparently healthy (Risk Class A-1, A-2, A-3) and known cardiovascular disease – low risk (Risk Class B), moderate risk (Risk Class C), and high risk (Risk Class D).

In review, among the three ACSM publications regarding PHSP, there are some commonalities as well as differences. In situations where differences or inconsistencies exist among published standards and guidelines, it is recommended that health/fitness professionals “follow those that are the most authoritative or safety-oriented in their approach” (Eickhoff-Shemek et al., 2009, p. 53). As presented next, expert witnesses rely on such publications when they educate the court regarding the duty or standard of care that health/fitness professionals owe to their participants.

Legal Issues Associated with Published Standards of Practice

An explanation of how the failure to follow published standards of practice can lead to negligence is described below. However, a basic overview of negligence will first be provided. Negligence is the failure to do something (inaction or omission) that a reasonable, prudent professional would have done under the same or similar circumstances or doing something that a reasonable, prudent professional would not have done (improper action or commission) (Dougherty, Goldberger, & Carpenter, 2007). In a negligence lawsuit, the plaintiff (injured party) must prove the following four elements of negligence:

- I. A legal duty – arises from the inherent relationship that is formed between health/fitness professionals and their participants and requires professionals to

protect their participants from exposures to unreasonable risks of harm, i.e., foreseeable risks such as health risks and injury risks as described above.

2. Breach of duty – occurs when the defendant (e.g., the health/fitness professional) did not carry out his/her legal duties according to the professional standard of care, i.e., the conduct of the professional (inaction or improper action) is compared with that of a reasonable, prudent professional and/or with published standards of practice.
3. Proximate cause – refers to the fact that the breach of duty was the “cause” of the injury/harm. The plaintiff must show the link between the negligent conduct of the professional and his/her injury. Many injuries in fitness programs/facilities are due to causes other than negligent conduct and in these situations, the plaintiff will not be able to recover any damages.
4. Injury/harm and damages – refers to a legally recognizable injury or harm (physical or emotional) that the plaintiff suffered and can recover monetary damages, e.g., actual damages (medical costs, lost wages) and general damages (pain and suffering, loss of consortium) (Eickhoff-Shemek et al., 2009)

To determine the legal duty (or professional standard of care) owed to the plaintiff, courts often rely upon the testimony of expert witnesses. To support their own opinions, expert witnesses often introduce standards of practice (e.g., standards, guidelines, position papers) published by highly regarded professional organizations such as ACSM to help provide evidence of the duty owed to the plaintiff. As shown in Figure 2.3, if the defendant’s conduct is inconsistent with the published standards of practice it can lead to a breach of duty. However, if the defendant’s conduct is consistent with the published standards of practice, it will likely

lead to no breach of duty. If the plaintiff cannot prove there was a breach of duty, a negligence lawsuit cannot prevail as all four elements must be proven.

The legal significance and the admissibility of published standards of practice (as evidence of duty or the professional standard of care) are best demonstrated from the court rulings in *Elledge v. Richland/Lexington School District Five* (2000 and 2002). In *Elledge* (2000), the South Carolina appellate court stated the following regarding published standards of practice as evidence of duty or the professional standard of care:

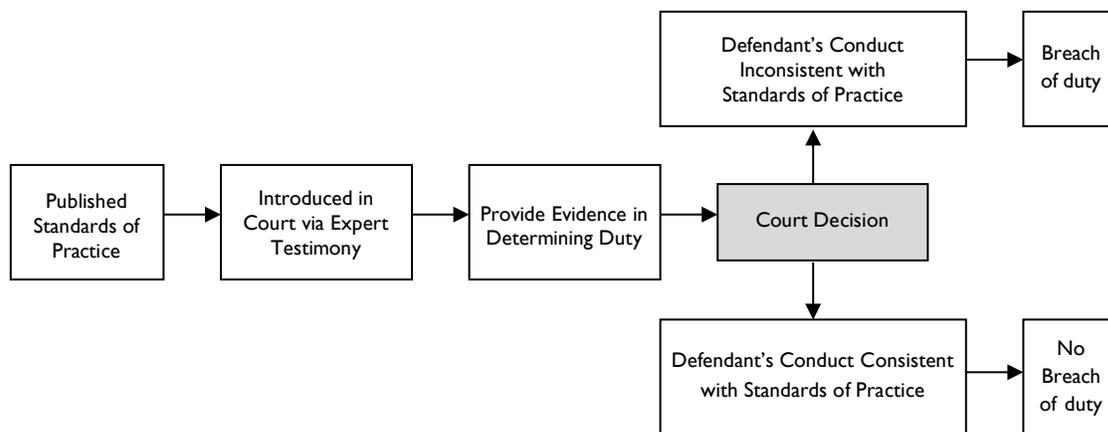


Figure 2.3 Example of the Potential Legal Impact of Published Standards of Practice
Reprinted from Eickhoff-Shemek, 2013, p. 289

Safety standards promulgated by government or industry organizations in particular are relevant to the standard of care for negligence...Courts have become increasingly appreciative of the value of national safety codes and other guidelines issued by governmental and voluntary associations to assist in applying the standard of care in negligence cases...A safety code ordinarily represents a consensus of opinion carrying the approval of a significant segment of an industry, and it is not introduced as substantive law but most often as illustrative evidence of safety practices or rules

generally prevailing in the industry that provides support for expert testimony concerning the proper standard of care. (pp. 477-478).

In *Elledge* (2002), the South Carolina Supreme Court, upholding the appellate court's ruling, added the following regarding the admissibility of published standards of practice: "The general rule is that evidence of industry safety standards is admissible to establish the standard of care in a negligence case" (p. 795).

Legal cases – published standards of practice introduced as evidence of duty

Many negligence cases exist where expert witnesses have introduced published standards of practice as evidence of the duty owed to the plaintiff in fitness or similar settings (Eickhoff-Shemek et al., 2009). Two well-known expert witnesses, each with more than 30 years of experience as an expert witness, state that they "have used these publications...to communicate with courts and juries as to what is appropriate for fitness facility operation and equipment design and maintenance" in numerous opinions (Voris & Rabinoff, 2011, p. 21). Given the potential legal impact of published standards of practice, health/fitness professionals need to realize the importance of implementing them into their daily practices. The following two case examples demonstrate how standards of practice published by ACSM played a significant role in determining duty. In the first case, an expert witness introduced standards of practice published by ACSM as evidence of the professional standard of care or duty of the defendants. In the second case, the court referred to the ACSM's *GETP* without the testimony of an expert witness.

L.A. Fitness International, LLC v. Julianna Tringali Mayer (2008)

In this case, Alessio Tringali died from a cardiac arrest he suffered while using a stepping machine at L.A. Fitness. The estate of Mr. Tringali filed a wrongful death action against the

fitness facility claiming that the facility failed to: (1) properly screen the deceased's health condition at or about the time he joined the health club, (2) administer cardiopulmonary resuscitation (CPR) to him; (3) have an automatic external defibrillator (AED) on its premises and to use it on the deceased, and (4) properly train its employees and agents for handling medical emergencies. Expert witness, Dr. Anthony Abbott, for the plaintiff testified that

L.A. Fitness violated the industry's standards of care by failing to have a written emergency plan and to employ qualified personnel for handling emergencies. He said that the standards promulgated by the industry's authorities, including the International Health and Racquet Sportsclub Association (IHRSA) and the American College of Sports Medicine, are directed at responding to cardiopulmonary emergencies because 'when people exercise there's a radically increased chance of having a cardiovascular incident because of the increased stress that comes with exercise.' Abbott testified that L.A. Fitness' plan was inadequate; an emergency plan 'is designed to assign various roles to individuals and how they carry those roles out.' In addition to a written emergency plan, in 2003 IHRSA required facilities to have qualified persons on duty. In Abbott's opinion, L.A. Fitness did not have a CPR-qualified person on duty when Tringali was injured (p. 554).

In his testimony, Dr. Abbott did not indicate specifically to which standards he was referring, but it was likely the ACSM's *Standards*. As stated above, this publication has several standards and guidelines for pre-activity health screening, but also includes several standards and guidelines regarding emergency action plans.

The trial court awarded the plaintiff \$619,650 in damages. However, the appellate court reversed this decision questioning the nature and extent of duty owed to the decedent.

Because there were no laws (statutes) requiring performing CPR or using an AED in fitness facilities in the state of Florida, the appellate court concluded that the duty owed to a patron of a fitness facility was no different than that of any business owner which is to summon medical assistance (e.g., activate EMS) within a reasonable time. Health/fitness professionals should not rely on this ruling because it only applies to the jurisdiction where this case was held. In addition, many other courts have ruled differently regarding the duty owed to injured fitness participants and often utilize the evidence provided by expert testimony when determining duty.

Covenant Health System v. Barnett (2011)

During a “free heart screening” sponsored by Covenant Health System, the plaintiff (Barnett) was told to step up and down on a step (14 inches high) for 3 minutes in pace with the beat of a metronome. About 2 minutes into the test, already fatigued, Barnett lost her balance and fell, shattering her left wrist. No employees were around to observe/spot her performance or to catch her when she fell or, at least, break her fall. In her negligence lawsuit, she claimed that Covenant failed to have anyone available to (1) observe/supervise her as she performed the test, and (2) stop the test when she became fatigued, and (3) be close enough to prevent her fall or to have broken her fall.

In its analysis of this case, the court, without the testimony of an expert witness, referred to the ACSM’s *GETP*. The court stated these guidelines (protocol) call for:

...evaluation of the participant for risk factors commonly associated with coronary artery disease. According to the protocol, clearance for participation in the exercise testing rests largely in the evaluator's discretion. For example, the guidelines require the evaluator to determine the presence of ‘absolute’ and ‘relative contraindications’ to exercise testing,

some of which are specified in two lists of medical terms. The guidelines also call for termination of the step test if the participant asks to stop, or on the occurrence of such events as angina or angina-like symptoms; a significant drop or an excessive rise in blood pressure; light-headedness, confusion, ataxia, pallor, cyanosis, nausea, or cold and clammy skin; failure of heart rate to increase with increased exercise intensity; physical or verbal manifestations of severe fatigue; and unusual or severe shortness of breath (p. 232).

The court ruled that Covenant's failure to watch and attend Barnett performing the step test breached the standard of care applicable to health care providers conducting such tests as established by the ACSM's *GETP*. The court ruled the case be remanded (sent back to trial) for further proceedings.

Legal cases – failure to conduct pre-activity health screening as a negligence claim

As presented thus far in this section on legal issues, health/fitness professionals need to be aware of and implement standards of practice published by professional organizations to meet the professional standard of care and thus help prevent any breaches of duty that can lead to costly negligence lawsuits. Three different standards of practice published by ACSM involving PHSP were listed and described in the section above (Balady et al., 1998; Pescatello et al., 2014; Tharrett & Peterson, 1997). In addition to appreciating the legal impact of these published standards of practice, it is also important for health/fitness professionals to understand that negligence claims involving the failure to conduct pre-activity health screening can also occur without experts introducing them as evidence of duty. The plaintiffs in the following cases claimed the defendants failed to carry out PHSP. In these cases, there was no reference to published standards by expert witnesses:

Chai v. Sport & Fitness Clubs of America, Inc. (2000)

The plaintiff suffered a cardiopulmonary arrest while exercising at the defendant's club and consequently was left in a vegetative state. There were over 10 allegations of negligence mostly dealing with the failure to carry out emergency action procedures but the following allegation specifically addresses the failure to conduct pre-activity health screening: "Negligently failed to require prescreening of members, including . . . [the member], to assess his fitness and health, prior to his use of the Defendant's exercise facilities" (p. 56). The jury ruled in favor of the defendant in this case, but the plaintiff received \$2.25 million from a pre-verdict settlement. If the ruling had been in favor of the plaintiff, \$7 million in damages would have been awarded to plaintiff.

Rostai v. Neste Enterprises (2006)

During his first personal fitness training session, Rostai (46 years old, overweight and inactive) allegedly suffered a heart attack toward the end of his 60-minute session. Rostai claimed that the trainer knew he was not physically fit and overweight but aggressively trained him in his first workout although he complained several times during the workout he needed a break. In his negligence lawsuit, Rostai claimed that the defendants (the trainer and the club): (1) failed to assess his health and physical condition, in particular, his cardiac risk factors prior to exercise, (2) aggressively challenged him to perform beyond his level of physical ability and fitness even after observing him exhibiting certain signs/symptoms, (3) denied his several requests for a break throughout the session, and (4) interpreted the plaintiff's complaints (shortness of breath, profuse sweating) as usual signs of exertion versus signs of a heart attack.

The court ruled in favor of the defendants stating that Rostai "assumed the risks" even though the court acknowledged that the trainer was negligent, *i.e.*, did not assess plaintiff's level

of fitness and may have interpreted the plaintiff's complaints as usual signs of physical exertion versus signs/symptoms of a heart attack. The court also indicated that there was no evidence of *intentional* or *reckless* conduct on the part of the trainer, and therefore the plaintiff assumed the risks. Health/fitness professionals should not rely on this court's ruling because the assumption of risk defense generally only protects defendants from injuries due to inherent risks (those inseparable from the activity), not negligent conduct.

Proffitt v. Global Fitness Holdings, LLC, et al. (2013)

In his first workout, Proffitt's personal fitness trainer had him perform numerous bouts of strenuous exercises and directed him to continue the exercises even after signs/symptoms of overexertion and requests by Proffitt to stop. For many hours after the session, Proffitt experienced extreme pain and fatigue and after 38 hours he noticed his urine was dark brown. He went to the emergency room where he was diagnosed with rhabdomyolysis and was hospitalized for 8 days. His injuries resulted in a 30% loss of muscle tissue in both quadriceps. Proffitt filed a negligence lawsuit against the trainer and the facility claiming the personal trainer failed to: (1) assess the health/fitness status of the client, (2) provide an exercise program within the client's safe fitness capacity, and (3) respond to the client's complaints of fatigue during the training session. The case was settled for \$75,000 which included medical expenses of \$20,000 and lost wages of \$6,000.

As demonstrated from the above discussion and accompanying case law, the failure to conduct PHSP can lead to negligence. Expert witnesses often rely on standards of practice published by professional organizations as evidence of duty or the standard of care. If the facts show that the defendant(s) did not adhere to the standards, it will be easy for the plaintiff to show a breach of duty. However, standards and guidelines such as those published by ACSM

that require or recommend that pre-activity health screening be conducted are not necessarily needed in order for plaintiffs to make claims that the defendants breached their duty.

Therefore, it is essential that health/fitness professionals conduct pre-activity health screening to help minimize claims of negligence.

Research Investigating Pre-Activity Health Screening Procedures

Although there is not extensive literature regarding this topic, there are multiple studies which were conducted from 1997 to 2009. Many of these studies are national studies which examined pre-activity health screening practices among health/fitness facilities in various settings. Several of the studies are focused within a given state or on one particular health/fitness facility setting versus a national investigation involving all types of settings. These studies investigated a variety of factors related to PHSP including adherence to the ACSM's *Standards* or the AHA/ACSM's *Joint PS*. An overview of each of the studies is provided below.

Study one

The purpose of this study conducted by McInnis, Hayakawa, and Balady (1997) was to evaluate pre-enrollment cardiovascular screening and emergency medical procedures practiced at fitness centers. In this study, a multiple choice questionnaire was mailed to the attention of the managers of all fitness centers in Massachusetts with current club association memberships ($n=102$) as well as a random selection of non-association clubs ($n=102$) in the same geographical vicinity. The fitness centers in this study included those with membership open to the general public as well as those with private membership such as corporate or worksite facilities.

The response rate for this study was 54% ($n=110$). Regarding facilities that screen new members, the results indicated that the majority of facilities (61%, $n=67$) always screen while 30% ($n=33$) do not routinely screen, and 9% ($n=10$) never screen. For the 100 facilities that do

screen routinely or on occasion, 77% ($n=77$) require physician clearance for clients identified as having known cardiac disease while 23% ($n=23$) recommend physician clearance. Additionally, for clients having greater than or equal to two risk factors, 51% ($n=51$) of facilities recommend physician clearance while 49% ($n=49$) require physician clearance.

Study two

K. H. McInnis et al. (2001) conducted a similar study among health clubs in the state of Ohio which took place just a few years after the *AHA/ACSM's Joint PS* was published. The purpose of this study was to evaluate compliance with these recommendations and compare results from the previous study conducted in 1997. For this study, a 30-question, multiple choice survey was mailed to the attention of the managers of all traditional (e.g., no spas, personal training or martial arts studios), non-hospital (e.g., no cardiac rehabilitation) fitness centers that were listed in a national business directory and open to the general public or have private membership (e.g., corporate or worksite fitness centers).

There were 122 clubs surveyed in this study which had a 53% ($n=65$) response rate. Of the 65 responding facilities, 58% ($n=38$) of facilities indicated that they do not always screen and 42% ($n=27$) always screen new members. This study, like the previous one, demonstrated that there was incongruence between common risk management practices within health clubs studied and the *AHA/ACSM's Joint PS* which recommends that "All facilities offering exercise equipment or services should conduct cardiovascular screening of all new members and/or prospective users" (Balady, et al., 1998, p. 2284). Additionally, 18% ($n=12$) of respondents reported awareness of the *ACSM's Standards* or the *AHA/ACSM's Joint PS*. Regarding the occurrence of cardiovascular medical emergencies taking place in their facilities, 17% ($n=11$) of respondents indicated that at least one had occurred within the past five years.

Study three

In 2002, another study conducted by Morrey, Finnie, Hensrud, and Warren (2002) investigated compliance with the *AHA/ACSM's Joint PS* among worksite health and wellness facilities (i.e., corporate). The survey instrument was mailed to the attention of 529 facility managers (or the closest person in charge) who were randomly selected Association for Worksite Health Promotion (AWHP) members.

A total of 221 surveys (42%) were returned with relatively equal representation across the United States as well a small percentage of international (1.5%) responses. Of the 221 responding facilities, 87% ($n=175$) indicated that they administer a health screening questionnaire to new members all of the time while 13% administer it to new members irregularly or not at all. Additionally, for members identified as at risk, 75% of the facilities required physician clearance, 18% recommended clearance and 2% did not require or recommend physician clearance. The remaining 5% are not accounted for by the authors relative to this variable. Regarding clients with known medical conditions, 82% of facilities required physician consent (or exercise was not permitted), 12% recommended physician consent, and 6% reported that consent did not affect exercise participation. This study also investigated the types of screening tools used by facilities and found that 48% of facilities used a self-developed health screening questionnaire of an unknown origin or basis.

Study four

Another national study conducted by Eickhoff-Shemek and Deja (2002a) determined adherence to the *ACSM's Standards* among health/fitness facilities. Participants for this study, individuals who registered for the ACSM's 2000 Health & Fitness Summit & Exposition in San Diego, California ($n= 1,024$), were mailed the four-page survey. Although this study investigated

adherence to all six ACSM standards published in the second edition (Tharrett & Peterson, 1997), discussion of the results will only be presented for the standard related to pre-activity screening. Standard 2, in the second edition of the ACSM's *Standards* required a facility to offer all adult members a pre-activity screening commensurate to the physical activities to be performed by the member. To address this standard, it was necessary for a facility to identify an appropriate pre-activity screening device, inquire about medical conditions and risk factors, and inform adult members of any potential risks prior to an adult member's participation in physical activity. The respondents represented health/fitness facilities in Washington, D.C. and 47 states in the United States.

The response rate for this study was 49% ($n=498$); of these respondents, several ($n=61$) indicated that they had no affiliation with a health/fitness facility. Therefore only the data from the respondents ($n= 437$) who were associated with a health/fitness facility were used for the analysis. When asked to identify their level of familiarity with the ACSM's *Standards* prior to completing the survey, 80% of respondents reported having "very good" (35%) or "some" (45%) familiarity. The results showed that 66% ($n=228$) of health/fitness facilities required completion of a pre-activity screening device for all adult members, 76% ($n=332$) included screening for primary coronary risk factors and 73% ($n=319$) included screening for medical conditions. Additionally, this study found that in 71% ($n=310$) of the responding facilities, a staff member administers the pre-activity screening device – a more professionally-guided approach. Regarding administration of the pre-activity screening device, 31% ($n=135$) of facilities reported that facility members self-administer or complete it on their own – a more self-guided approach. Further, 78% ($n=340$) of facilities informed members of potential risks for

participating in physical activity and 71% ($n=310$) required medical clearance prior to participation for those members who were determined to be at risk for cardiovascular disease.

Study five

The data from the previous study were further analyzed in a follow up study, also conducted by Eickhoff-Shemek and Deja (2002b). The purpose of this study was to determine if differences in adherence with the ACSM's *Standards* existed among health/fitness facility settings. Respondents ($n=437$) represented the health/fitness facilities which were divided into six subgroups based upon their settings as follows: (a) private, for profit, (b) community, nonprofit, (c) clinical/hospital, (d) government, (e) corporate or worksite and (f) university or college. The compliance in clinical settings statistically significantly higher than the other settings as showing Table 2.3

For this study, 433 of the 437 were used for data analysis. Findings demonstrate that the percentage of compliance relative to requiring all adult members to complete a pre-activity screening device was significantly higher for health/fitness facilities in clinical (97%) and corporate (87%) settings than the other settings. Similarly, compliance regarding including screening for coronary risk factors was significantly higher in clinical (98%) and corporate (90%) settings than the other settings. The same was also true regarding medical conditions being included in the screening device for facilities in the clinic (97%) and corporate (85%) settings. The data across all settings is presented in below Table 2.3.

Study six

Herbert et al. (2007) conducted a study among universities and colleges ($n=313$) listed as National Collegiate Athletic Association (NCAA) members in the 2002 Recreational Sports Directory of NIRSA. The purpose of this study was to evaluate facility adherence in campus

Table 2.3 Compliance Rates (Percentages) for ACSM Standard 2 (Pre-activity Screening) by Type of Facility (n=433)

	Type of Facility					
	Private N = 126	Community N = 53	Clinic N = 57	Government N = 54	Corporate N = 60	University N = 83
7. Facility requires <i>all</i> adult members to complete a Preactivity Screening Device (PSD) such as the PAR-Q or a health history questionnaire before their participation in physical activity.	70	42	97*	50	87†	48
8. PSD includes screening for primary coronary risk factors such as high blood pressure, high cholesterol, smoking, and a sedentary lifestyle.	81	74	98‡	61	90§	51
9. PSD includes screening for medical conditions such as diabetes, arthritis, and orthopedic restrictions.	80	70	97	48	85	53

*Significantly higher than private, community, government, university.

†Significantly higher than community, government, university.

‡Significantly higher than private, government, university.

§Significantly higher than university.

||Significantly higher than government, university.

Reprinted from Eickhoff-Shemek & Deja 2002b, p.21

recreation departments at major universities to the recommendations of the AHA/ACSM's *Joint PS* with specific emphasis on screening of new members and preparations for emergency responses. For this study, the 37-question survey was mailed to the attention of the directors of the campus recreation facility.

The response rate for this study was 51% (n=158). Based on these responses, 18% (n=29) of facilities performed pre-activity screening to “identify users/members with heart problems or at-risk for exercise-related heart problems” while 10% (n=15) indicated that they were consistently adhering to this practice. Regarding their knowledge of the AHA/ACSM's *Joint PS*, 30% (n=47) of respondents indicated that they were aware of these published recommendations. Additionally, 27% (n=43) of the respondents reported having had at least one cardiovascular medical emergency (i.e., cardiac arrest or heart attack) within the past five years.

Study seven

More recently, a study conducted by Springer et al. (2009a) which specifically targeted pre-activity cardiovascular screening procedures among health/fitness facilities was conducted in Wisconsin. The primary purpose of this study was to investigate pre-activity health screening questionnaires used by the health/fitness facilities including new members, clients of personal trainers and guests. Another purpose of this study was to determine whether facilities conducted follow-up procedures (i.e., require physician clearance prior to participation) for members, clients or guests who indicated that they had known cardiovascular disease or risk factors. Lastly, this study investigated the types of pre-activity health screening questionnaires and determined differences in pre-activity cardiovascular screening procedures among four settings (i.e., commercial, community, corporate, and academic). Different from the others, this study conducted phone interviews which consisted of 3 sections (i.e., demographics, pre-activity cardiovascular screening procedures for members, pre-activity cardiovascular screening procedures for clients) to gather the responses for data analysis.

For this study, there were a total of 146 health/fitness facilities contacted and 123 responded (84%). The facilities that did not respond ($n=23$) were no longer in business by completion of the interview process. Of the individuals responding for the health/fitness facilities, 95% were the fitness/program director or general manager ($n=117$). The other respondents were human resource or membership sales associates.

The results indicated that 33% of responding facilities ($n=40$) required members to complete a pre-activity health screening questionnaire. The percentage of corporate facilities that complete a pre-activity health screening questionnaire (63%) was statistically greater ($P=.0049$) than community (30%), commercial (25%), and academic (15%). Of the 40 facilities

which required members to complete a screening questionnaire, 73% ($n=29$) provided a copy of their screening questionnaire for review. In this review, 86% ($n=25$) used a self-developed questionnaire which incorporated elements of the PAR-Q or other recognized questionnaires. Additionally, of the 40 facilities which required members to complete a pre-activity health screening questionnaire, half (50%, $n=20$) required physician clearance prior to beginning physical activity for at-risk members. There were no statistically significant differences across settings relative to this variable (see Table 2.4).

The results from this aspect of the study, when compared to those of studies from 1997 to 2002 previously discussed, demonstrated that health/fitness facilities' adherence to published standards and guidelines may be decreasing despite the introduction of multiple published standards and guidelines to the body of literature. Earlier studies (Eickhoff-Shemek & Deja, 2002a; McInnis et al., 1997; K. H. McInnis et al., 2001; Morrey et al., 2002) found adherence rates ranging from 42%-87%, yet the Herbert et al. (2007) study and this study found much lower rates of 18% and 33%, respectively.

Furthermore, this was the first study conducted which directly investigated pre-activity screening procedures for facilities offering personal training programs. Of the responding facilities ($n=123$), most of the facilities (67%, $n=82$) did offer personal training services. Of these, 61% ($n=50$) required clients of personal trainers to complete a screening questionnaire. Of these, 64% ($n=32$) required physician clearance for at-risk personal training clients before beginning physical activity. The percentages of facilities in the corporate (85%), community (95%), and academic (100%) settings which required clients of personal trainers to complete a pre-activity screening questionnaire were significantly higher than facilities in commercial (34%) setting. However, there were no statistically significant differences among the settings which

required physician clearance for at-risk personal training clients before beginning physical activity (see Table 2.4).

The data from this study are indicative of a higher adherence to PHSP for clients of personal training programs than for members. Although these data are promising, no comparisons can be made or conclusions drawn regarding trends until additional research is conducted investigating adherence to PHSP in personal training programs.

Table 2.4 Frequencies (Percentages) for Pre-Activity CV Screening Procedures by Type of Facility*

Type of Facility	Facilities Requiring Members to Complete a Pre-Activity CV Screening Questionnaire ^a	Facilities Requiring Members to Obtain Physician Clearance ^b	Facilities Offering PT	Facilities Requiring PT Clients to Complete a Pre-Activity CV Screening Questionnaire	Facilities Requiring PT Clients to Obtain Physician Clearance ^b
Commercial (n=63)	16 (25)	7 (44)	44 (70)	15 (34)	7 (47)
Community (n=23)	7 (30)	5 (71)	21 (91)	20 (95) ^d	18 (90)
Corporate (n=24)	15 (63) ^c	8 (53)	13 (54)	11 (85) ^d	6 (55)
Academic (n=13)	2 (15)	0 (0)	4 (31)	4 (100) ^d	1 (25)
Total (N=123)	40 (33)	20 (50)	82 (67)	50 (61)	32 (64)

Abbreviation: CV, cardiovascular. ^aA questionnaire that screened for coronary heart disease (CHD) and CHD risk factors and included questions such as: Do you have high blood pressure, heart disease, etc. ^bA procedure in which at-risk members and personal training (PT) clients (with known CHD and/or risk factors for CHD) obtain "medical clearance" from their physician prior to initiation of physical activity. ^cCorporate significantly higher than academic, commercial, or community facilities ($P=.0049$). ^dCorporate, academic, and community significantly higher than commercial facilities ($P<.0001$).

*Reprinted from Springer et al., 2009a, p. 159

Study eight

The latest study was a continuation from the previous study, also conducted by Springer, Eickhoff-Shemek, and Zuberbuehler (2009b). The purpose of this study was to explore the rationale for the low adherence to nationally accepted, published standards by the respondents who represented those health/fitness facilities from the previous study that did not conduct pre-activity cardiovascular screening procedures. Just as in the previous study, the interviews with the health/fitness facility directors or program managers for this study took place over the phone. The health/fitness facilities that provided a negative response to the question, "Does your facility require members to complete a pre-activity health screening questionnaire?" were given a follow up question: "Please provide the reasons or rationale for not conducting pre-

activity health screening.” The qualitative data were systematically coded and then categorized into clusters accordingly.

Telephone interviews were conducted for 92% ($n=76$) of the health/fitness facilities. Analysis of the data revealed 18 codes that were further categorized and reduced into major clusters. A brief description of the general context of each of the six clusters is provided below.

1. Purpose or need for screening – respondents did not perceive a purpose or need to require members to complete a pre-activity health screening questionnaire; respondents perceived fitness assessment or facility orientation as an adequate substitute; respondents believed facility and user demographics precluded their facility from screening
2. Time and staffing – respondents believed that quantity of members relative to staffing would require a non-cost-effective investment of time; respondents believed it was impossible as some facilities were not staffed during all hours of daily operation; respondents indicated staff qualifications limit ability to accurately interpret results and increases complexity of the matter
3. Barrier to participation – respondents indicated that the screening process is invasive and intimidating for members; respondents reported importance of rapport building and facility utilization over screening
4. Personal responsibility for health and actions – respondents believed that members should divulge relevant information at the time of joining; respondents assumed that members would self-monitor and adjust participation levels accordingly
5. Legal issues – respondents indicated that members signed waiver and therefore assumed risk, respondents were operating based upon guidance from legal counsel,

respondents screened only clients of personal trainers and/or left the decision up to the trainer hired as an independent contractor

6. Company or franchise policy – respondents were adhering to policies of the owner, franchise, or management company, respondents indicated other responsibilities being prioritized; respondents indicated policy decisions being made prior to current leaders and standards being published and no changes or updates taking place

Though there was no consistent cluster that surfaced as the primary rationale across the various settings of the health/fitness facilities; the overall highest two percentages were represented in the purpose or need (28%) and time and staff (20%) clusters. Table 2.5 presents the frequencies and percentages across the settings for each of the clusters.

Additional Research: Screening as a Barrier to Exercise

As indicated in the review of the final study by Springer et al. (2009b), one of the reasons for not conducting pre-activity health screening is that it is a barrier to participation. Although it was rated as one of the less common reasons (rated fifth out of the six reasons) in this study, the issue of screening being a barrier has been addressed in other studies (Morey & Sullivan, 2003; Ory et al., 2005; Resnick et al., 2005). Discussions in these studies often refer to screening guidelines published by the ACSM or AHA. As demonstrated in the above description of the ACSM's *GETP*, a participant classified as "moderate" or "high" risk may

Table 2.5. Frequencies (Percentages)^a for Health/Fitness Facilities Rational by Cluster and by Type of Facility (n=76)

TYPE OF FACILITY	PURPOSE OR NEED	TIME AND STAFFING	BARRIER TO PARTICIPATION	PERSONAL RESPONSIBILITY	LEGAL ISSUES	COMPANY OR FRANCHISE POLICY
Commercial (n=40)	17 (43)	1 (3)	2 (5)	5 (13)	5 (13)	10 (25)
Community (n=13)	3 (23)	1 (8)	0 (0)	9 (69)	0 (0)	0 (0)
Corporate (n=15)	0 (0)	10 (67)	5 (33)	0 (0)	0 (0)	0 (0)
Academic (n=8)	1 (13)	3 (38)	0 (0)	0 (0)	1 (13)	3 (38)
Total (N=76)	21 (28)	15 (20)	7 (9)	14 (18)	6 (8)	13 (17)

^aRounded to the nearest whole number.

Reprinted from Springer et al. 2009b, p. 179

be advised to have a medical exam and/or an exercise test – the potential barriers to exercise.

Morey and Sullivan (2003) provide both theoretical and practical reasons to reassess extensive ACSM and AHA screening guidelines that recommend medical exams and exercise tests prior to exercise participation. They argue that adverse effects (defined in this study as cardiovascular events, musculoskeletal injuries) from exercise are rare and that costly diagnostic exercise testing often cannot detect and prevent acute events. They recommend an approach in which the physician serves as an advocate for physical activity versus a gatekeeper. Instead of extensive screening, they offer specific suggestions for patients with medical conditions, e.g., those with angina and claudication can minimize adverse effects by staying within personal limits and adjustments with medical therapy and those with diabetes need instruction regarding diet and insulin adjustment when exercising. They state that this approach will lower significant barriers to exercise participation and will make it easier and cheaper for the majority of individuals.

The study by Ory et al. (2005), investigated screening procedures and the occurrence of adverse events (AEs) such as falls, cardiovascular events, and musculoskeletal injuries from 11 diverse physical activity interventions for older adults participating in the Behavior Change Consortium (BCC). There was wide variability in the screening approaches used among the 11

sites with only six requiring screening and out of those, only three that required medical clearance. The main reason for conducting screening in the six sites was participant safety or reduction of AEs with other reasons being recruitment benefits and activity tailoring. Five out of these six sites utilized screening guidelines recommended by at least one professional organization such as ACSM or AHA. Although the older adults in these studies reported many minor AEs ($n=416$) and some major ($n=45$) that occurred during the study but not associated with the study intervention, there were only 51 minor AEs and no major AEs directly related to the study activity/exercise intervention. The authors discuss some of the barriers of exercise screening determined from their study such as a barrier to recruit participants (e.g., some chose not to participate because it would mean they would have to have an exercise test) and the significant staff time to track individuals and evaluate their eligibility. However, they also discuss how screening may enhance the recruitment process (some may want to have testing done), and for some, it provided reassurance and helped individuals to know what types of exercise to perform for safety reasons. Ory et al. agree with Morey and Sullivan (2003) that given the very low degree of AEs associated with the exercise interventions, screening guidelines should be redefined so that they are not a perceived barrier to engage in regular exercise. In addition, they recommend that screening criteria include musculoskeletal disorders as well as screening for cardiovascular disease.

In the study by Resnick et al. (2005), screening barriers such as the time and cost to see a health care provider, having the health care provider perform a medical exam, sign a permission slip, and/or arrange or interpret additional medical testing were investigated using a focus group method involving 122 older adults. The majority of the participants recognized the many benefits of screening. For example, their comments included statements like screening

makes you feel it will be safe, helps the instructor know me; keeps you from doing exercises that might be harmful, make me feel more confident) and did not perceive it as a barrier. However, some of the participants who expressed concern and frustration did perceive it as a barrier (e.g., physician would not sign the form; physician recommended tests/rehab program that are not covered by insurance, screening (meaning fitness testing) made me tired/feel less confident). Some also believed it was not necessary to undergo pre-exercise screening. Similar to authors in the other studies, these authors also call for a careful look at current screening guidelines that might create unnecessary barriers to exercise and recommend tools that also incorporate screening for musculoskeletal disorders especially in older adults.

Linking Review of Literature with Purposes of Present Study

Among the studies discussed above, there are similarities and differences regarding the specific setting, geographic locations, and variables that were explored. Although certain aspects related to pre-activity health screening were addressed in each of these studies, this construct was not the primary focus of all the studies. Some of these studies were broader in their scope, e.g., investigated other procedures such as whether or not the facility had an emergency response plan (and conducted regular drills to practice the plan) or met staffing qualifications established in published standards and guidelines. Table 2.6 summarizes the key findings relative to the pre-activity health screening variables investigated for studies one through seven previously discussed. Study eight was not included in the table because it only investigated rationale for not requiring completion of a screening device. The pre-activity health screening variables included in the table which were most commonly investigated across the studies were (a) criteria on screening device (b) screening required - new members/participants, (c) medical

clearance required – at-risk new members/participants, and (d) awareness/familiarity with the *AHA/ACSM's Standards*.

The present study investigated these same common variables as well as the other variables listed in Table 2.6. The present study explored additional variables related to other aspects of pre-activity health screening which have not yet been investigated and to satisfy the stated purposes of the study. The breadth of the present study allowed for comparisons of the its findings to that from all of the previous studies and also provided new insight regarding perspectives from health/fitness professionals related to pre-activity health screening such as:

- Importance of adherence to published standards and guidelines
- Benefits of PHSP
- Academic preparation for and confidence in conducting PHSP
- Management's familiarity with published standards and guidelines
- Importance to management of adherence to published standards and guidelines
- Legal liability issues associated with PHSP

Further, the data from this study will provide guidance for professional organizations in their development of future publications that include PHSP.

Summary

This chapter presented data describing the prevalence of chronic (lifestyle) diseases among Americans as well as the National Initiatives to encourage Americans to increase their physical activity. It is well-established in the literature that regular physical activity can help

Table 2.6 Responses (Percentages) to Variables Investigated in Pre-Activity Screening Studies

	Study 1 McInnis MA, 1997	Study 2 McInnis OH, 2001	Study 3 Morrey Ntl., 2002	Study 4 Eickhoff Ntl., 2002a	Study 5 Eickhoff Ntl., 2002b	Study 6 Herbert Ntl., 2007	Study 7 Springer WI, 2009a
Screening required - new Members/ Participants (M/P)	61%	42%	87%	66%	--	10%	33%
			Corporate only			University only	
Medical clearance required - “at risk” new M/P	-77% Known cardiac disease	--	-82% Known cardiac disease	71%	--	--	50%
	-49% ≥2 risk factors		-75% ≥2 risk factors				
Screening required - clients of Personal Trainers (PTs)	--	--	--	--	--	--	61%
Medical clearance required - “at risk” clients of PTs	--	--	--	--	--	--	64%
Comparison among settings: screening required - new M/P	--	--	--	--	6 Settings*	--	4 Settings**
Comparisons among settings: medical clearance required - “at risk” new M/P	--	--	--	--	--	--	4 Settings**
Type of screening device	--	--	48% Self developed	--	--	--	86% Self developed
Criteria on screening device	-Known cardiac disease	-Known cardiac disease	-Known medical conditions	-Known medical conditions	-Known medical conditions	-Known cardiac problems	-Known cardiac disease
	-CV risk factors		-CV risk factors	-CV risk factors	-CV risk factors	-CV risk factors	-CV risk factors
Awareness/Familiarity with the AHA/ACSM’s Joint PS[^] or the ACSM’s Standards⁺	--	Awareness ⁺⁺ 18%	--	Familiarity ⁺ -35% Very Good -45% Some	--	Awareness [^] 30%	--
A cardiovascular medical emergencies (i.e., cardiac arrest or heart attack) within past 5 years	--	17%	--	--	--	27%	--

*See Table 2.3 for comparisons - Study 5 (Eickhoff- & Deja, 2002b) ** See Table 2.4 for comparisons - Study 7 (Springer et al., 2009a)

decrease the prevalence of many chronic diseases. In addition to the many health benefits of physical activity, this chapter also described the risks of injuries associated with physical activity and how standards and guidelines published by professional organizations provide guidance for health/fitness professionals on how to minimize these risks. The standards and guidelines published in three different ACSM publications regarding pre-activity health screening procedures (PHSP) were specified. The potential legal implications, for not adhering to these published standards, were discussed along with a description of several case law examples. This chapter then provided an in-depth presentation of eight studies that have previously investigated adherence to PHSP among fitness facilities and described how the present study added to the literature.

CHAPTER THREE:

METHODOLOGY

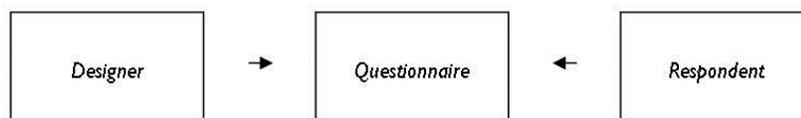
This chapter discusses methods to be used in the research study. It includes the following sections (a) Instrument for Obtaining Data, (b) Description and Selection of Population Sample, (c) IRB Approval, Pilot Study, and Validation of Instrument, (d) Data Collection Procedures, (d) Response Results, (e) Data Analysis, and (f) Summary.

Instrument for Obtaining Data

The dissertation survey instrument, which began as a paper-and-pencil instrument, was developed by the Principal Investigator (PI) with the guidance of the Major Professor. The instrument was initially created on June 4, 2012 and evolved over multiple versions in preparation for the research study. Both the paper-and-pencil version and the web-based versions of the dissertation survey instrument are in Appendix B1 and B2, respectively. The web-based version consists of 54 total questions categorized into five parts: (a) Pre-activity Health Screening Procedures and New Participants (Q1-Q26), (b) Pre-activity Health Screening for Guests and Personal Training Programs (Q27 – Q33), (c) Familiarity, Opinions, and Perceptions of management (Q34 – Q41), (d) Legal Issues (Q42 – Q46), and (e) Demographics (Q47 – Q53). Q54 was an open-ended question. The PI, as suggested by Dillman (2007), grouped questions with similar component parts and ordered them from most to least salient. It was hoped that this minimized the effort of the participants and helped keep them interested and focused on the content of the inquiries.

Although the original survey was designed as a paper-and-pencil survey, dissertation study participants completed the web-based version of the instrument. In the web-based version, the five parts were not visible to study participants. This difference in visual appearance is merely one of the many that exist between the paper-and-pencil and web-based versions of the survey instrument. Figure 3.1 illustrates the fundamental differences between the design of paper and Internet surveys (Dillman, 2007). The remainder of this section further describes the characteristics of the paper-and-pencil version of the survey while the web-based features of the survey instrument will be discussed, in detail, later in this chapter.

Paper questionnaire: The designer and respondent see the same visual image.



Web questionnaire: The designer and respondent may see different images because of different operating systems, browsers, screen configuration, tiled vs. full-screen displays, and individual designer decisions (e.g., color and text wrap-around).

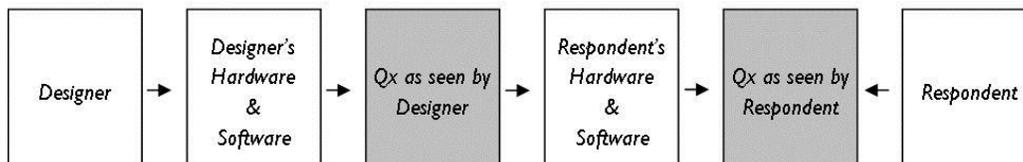


Figure 3.1 A fundamental difference between the design of paper and Internet surveys
 Reprinted from Dillman, 2007

Description of paper-and-pencil survey

Formatting for the majority of the questions in the survey instrument is close-ended with a mixture of ordered and unordered response options. The response options to the close-ended questions are ordered and scalar in nature and are displayed horizontally (Dillman, 2007). There is literature to support both sides of the argument relative to whether middle

alternatives (e.g., a neutral response) should be included in the wording of scalar-type questions (Converse & Presser, 1986). However, these questions were specifically designed to assess the direction in which participants leaned with a 4-point response scale (e.g., Strongly Agree, Agree, Disagree, Strongly Disagree). In these questions, participants were asked about variables that are directly related to themselves (e.g., confidence in conducting professionally-guided pre-activity screening procedures) or their perceptions of management and/or procedures of the fitness facility at which they are currently employed (e.g., importance that management adheres to published standards and guidelines); therefore a middle (i.e., neutral) response option is not offered. The close-ended questions with unordered response options do not fall along a continuum; rather, they require respondents to select the response option which best reflects their particular circumstances.

As open-ended questions are demanding for the participants (Gliner & Morgan, 2000), there is only two of this type included in the survey instrument, Q54. However, there are several partially open-ended questions; only visible to those participants who provided a qualifying response in the preceding question. A brief summary of the design and content for the questions in each of the five parts of the survey instrument is provided below.

Part 1: Pre-Activity Health Screening Procedures and New Participants (Questions 1 – 26)

These questions were asked in multiple choice and multiple choice table structure (i.e., close-ended). For each multiple choice question that included “Other, please specify” as a response option, there was a comment box provided for participants to elaborate on their response (i.e., partially open-ended).

Questions in this section addressed pre-activity health screening processes and procedural requirements for new participants and rationales for those requirements (or lack

thereof). Additionally, these questions inquired about the details of self-guided and professionally-guided procedures, privacy, security, and confidentiality of documentation, requirements for medical clearance as well as information on interpretation and determination of risk classification.

Part 2: Pre-Activity Health Screening for Guests and Personal Training Programs (Questions 27 – 33)

Similar to Part I, the questions in this section included multiple choice and multiple choice table formatting (i.e., close-ended). Also, the comment box was provided for participants to elaborate on their response for any multiple choice question that included “Other, please specify” as a response option (i.e., partially open-ended). These questions addressed procedural requirements relative to guests and personal training programs/clients as well as privacy, security, and confidentiality of documentation for personal training clients.

Part 3: Familiarity, Opinions, and Perceptions of Management (Questions 34 – 41)

The questions in this section had response options that were multiple choice, multiple choice table and 4-point scale formatting (i.e., close-ended). These questions addressed levels of familiarity and importance of following published standards and guidelines. Additionally, these questions inquired of participants’ levels of agreement, confidence in conducting PHSP, and adequacy of academic preparation involving PHSP.

Part 4: Legal Issues (Questions 42 – 46)

All of the questions in this section were close-ended with multiple choice and 4-point scalar response options. These questions addressed participants’ awareness, beliefs, and education/training relative to negligence claims or lawsuits.

Part 5: Demographics (Questions 47 – 54)

The questions in this section primarily consisted of multiple choice formatting (i.e., close-ended). There were, however, two open-ended questions: 1) the follow up to Question 50 which required participants to manually type in the name and concentration/specialization of their highest degree earned and 2) Question 54 which asked about any comments or challenges they have experienced while conducting PHSP at their facility.

With the exception of Question 54, these are typical demographics questions that addressed gender, age, years of professional experience, highest academic degree earned. Additionally, current position/title, average hours worked per week and facility setting are also addressed in these questions. Relative to question order, Lietz (2010) asserts that demographics questions should be asked at the end of a questionnaire so as not to impact participants' preparedness to answer questions based upon a feeling of losing anonymity.

Description of web-based survey

As previously mentioned, the electronic version of the dissertation survey instrument was completed by study participants. It was hosted on the Internet via Survey Gizmo's web-based survey platform ("Survey Gizmo," 2014). The web-based version of the survey instrument consisted of 54 total questions and was dynamic in nature. The sequence and total number of questions populated was exclusively dependent upon a participant's responses to prior questions. This version of the survey began with the "USF IRB Informed Consent (IC) to Participate in Research" page, transitioned to a "NOTE" page and then presented the "Instructions and Definitions" (see Appendix B2). The IC page includes all of the standard components required by USF's IRB. Upon review of this information, participants had the

option to print a “printer friendly” version of the IC page before continuing on to the next page.

The “NOTE” page provided helpful information and additional context to guide participants throughout the survey. First, participants were encouraged to make forward only progress through the survey (i.e., advised not to use the web browser’s back button). To reinforce this, the “forward only progress” was enabled for this survey (i.e., no previous button was provided). The next section informed participants of the ability to print the definitions as well as the view them in pop-up windows when one hovers over the hyperlinked terms throughout the survey. Lastly, participants were informed of the “Save and continue survey later” feature which is described below.

On the Instructions and Definitions page, the majority of the definitions came from the *ACSM’s for Exercise Testing and Prescription* 8th and 9th editions (Pescatello et al., 2014; Thompson, Gordon, & Pescatello, 2010). However, there were a few additional definitions which were developed by the PI and Committee Chair. It is on this page that study participants had the option to print the definitions for use while they completed the survey.

Although internet surveying is relatively newer in comparison to mailed surveys and phone interviews, there seem to be commonalities relative to procedural best practices and pitfalls (Dillman, 2007). Response rate and representativeness are important in survey research (Cook, Heath, & Thompson, 2000). Therefore, various processes were integrated into the development and delivery of the web-based survey to help minimize abandonment.

First, the instrument was designed with logic and functionality features which customized the survey based on responses to previous questions (Presser, 2004). These features allow participants to skip irrelevant questions where applicable. For example, participants who

responded “No” to Question 1 (Q1) “I am currently employed (part-time or full-time) in a fitness facility” were disqualified and therefore were automatically redirected to a landing page that ended the survey and reads “... Only Health Fitness Specialists who are currently employed part-time or full-time responded to the remaining questions...” Another example is Q5 “Does your fitness facility require “new participants” to complete a pre-activity screening device prior to their participation?” In this case, participants who respond “Don’t Know” were automatically redirected to Q27 (i.e., skip Q6-Q26) as those questions would not be applicable based upon his/her responses to the preceding question.

Second, a show/hide feature was integrated throughout the survey. This feature further customized the survey allowing more in-depth questioning of participants only when responses to an individual question or series of questions met a given response criterion. For example, only participants who responded “Yes” or “Don’t Know” to Q2, (“In addition to you, are there any employees (co-workers) in your facility who possess the ACSM HFS certification?”) were prompted to enter the name and address of the facility at which they were employed. These advanced features created a very individualized, respondent-friendly questionnaire experience which is an important element for achieving a high response rate (Dillman, 2007). The definition pop-up windows, provided throughout the survey when a participant hovers over a hyperlinked terms, are another feature that was included to enhance the friendliness of the survey, minimize the amount of work required of participants and increase consistency of wording throughout the online survey experience.

Additionally, efforts were made to balance the need for a high response rate with respect for the voluntary nature of research as well as participant’s time (Gliner & Morgan, 2000). For example, within the context of the recruitment e-mails and informed consent documentation,

participants were reminded of the value of the study, the importance of their contributions, and the voluntary nature of their participation and withdrawal. “Respondents should never be forced to provide a substantive answer before moving to the next question” (Dillman, 2007, p. 394). To reinforce the voluntary nature of the study, the “soft-required” feature was enabled for each survey question. Different from a “required” response feature, the “soft-required” feature does not require a response for each question. Instead, this feature notifies participants, upon omission of a response, that they did not respond to each question on any given page, encourages them to review their responses, and directs them to the first missed response on a given page. According to Gliner and Morgan (2000), this is an acceptable practice in the research process. Any participant who disregarded the “soft-requirement” notification and clicked the next button was allowed to proceed directly to the next page in the survey without providing responses to any unanswered question(s). This condition applied throughout the entire survey.

In an effort to make the web-based survey experience as convenient, yet effective, as possible, a “Save and Continue survey later” feature was integrated into the design. As such, this feature became available immediately after participants responded to the first question in the survey. Participants who took advantage of this feature were prompted to input their first name, last name and e-mail address. In return, they received a unique link via e-mail which allowed them to continue the survey where they left off, at their convenience.

Lastly, as an incentive for completing the survey, participants were given an opportunity to enter a drawing for a chance to win a gift card. According to Fowler (2009), a financial incentive may reduce the nonresponse bias in addition to the effects on overall response rate. This aspect of the study also took place in SurveyGizmo’s web-based platform immediately after

participants completed the *Dissertation Survey*. For example, participants were automatically redirected to a brief, two-question, survey, the *Drawing & Summary of Results* survey.

The first question in the *Drawing & Summary of Results* survey is one in which participants simply opted in to or out of the drawing. The second question in this survey allowed participants to indicate whether they wanted a summary of the results of the study sent to them. Entry of personally identifiable information (i.e., e-mail address) was required for those participants who opted in to the drawing or to receive a summary of the results. To ensure that the data remained independent, this survey was administered completely separate from the *Dissertation Survey* (Gliner & Morgan, 2000).

Description and Selection of Population Sample

The American College of Sports Medicine (ACSM) has over 25,000 certified health fitness professionals in 44 countries ("American College of Sports Medicine," 2013c). Qualifying individuals may become certified in three different categories: Health Fitness, Clinical, and Specialty ("American College of Sports Medicine," 2013b). The ACSM's Health Fitness Specialist (HFS) certification is in the Health Fitness category and has the most rigorous qualification requirements of the Health Fitness certifications ("American College of Sports Medicine," 2013a).

The current requirements for eligibility to take the ACSM's HFS certification are a Bachelor's degree in Exercise Science, Exercise Physiology, or Kinesiology from a regionally accredited college or university and a current certification in Adult CPR/AED with hands on-practical skills component (Pescatello et al., 2014). This has changed from the requirements in previous edition of the ACSM's *Guidelines for Exercise Testing and Prescription* (Thompson et al., 2010). In this previous version, an Associate's degree was also accepted and only CPR

certification was required, not CPR and AED. To maintain the HFS certification one must accumulate a minimum of 60 continuing education credits/units, maintain current CPR/AED certification, and pay the recertification fee within the designated three year period ("American College of Sports Medicine," 2013a).

According to the ACSM, the job definition for the HFS is a ...professional with a minimum of a bachelor's degree in exercise science. The HFS performs preparticipation health screenings, conducts physical fitness assessments, interprets results, develops exercise prescriptions, and applies behavioral and motivational strategies to apparently healthy individuals and individuals with medically controlled diseases and health conditions to support clients in adopting and maintaining healthy lifestyle behaviors. The academic preparation of the HFS also includes fitness management, administration, and supervision. The HFS is typically employed or self-employed in commercial, community, studio, corporate, university, and hospital settings (Pescatello, 2014, pp. 427-428).

The sample for this study were all individuals within the ACSM's 12 Regional Chapters in the United States who have earned the ACSM Certified Health Fitness Specialists (HFS) credential ($N=10,359$). Based upon aggregate demographic data provided by the ACSM's Corporate Office in Indianapolis, Indiana, the age range of the HFSs was from 18 to 86 years for the 87% who provided dates of birth ($n=8,997$). The breakdown of the population by prefix (i.e., Mr., Mrs., Ms., Miss) for the 94% ($n=9,611$) who provided their date of birth indicated that 38% were male ($n=3,669$) and 58% were female ($n=5,518$). The gender of the remaining 4% ($n=424$) was unknown as these individuals selected "Dr." as their prefix (i.e., DPT, MD, PhD, PharmD).

This particular sample was selected as the ACSM HFS credentialed individual is generally working in the settings being investigated in this study (i.e., Hospital/Clinical, University/College, Community, Commercial, Corporate, and Government). As health fitness professionals in these settings, HFSs are typically responsible to regularly implement the ACSM's *Guidelines for Exercise Testing and Prescription* in their daily practices and/or are involved in the decision making that may impact policies, procedures, and functions regarding the same ("American College of Sports Medicine," 2013a).

IRB Approval, Pilot Study, and Validation of Instrument

IRB approval for the pilot and dissertation studies (IRB Study # Pro 00008849) as Expedited (Category 2) was received on January 15, 2014. As the study instruments underwent continual refinement through reviews by the PI, committee members, and pre-pilot participants, adjustments and improvements were made to the instruments and study procedures. Final approval, as Exempt (Category 7), was received for the dissertation study on August 11, 2014 (See Appendix B3).

The present study used a newly developed survey instrument to investigate multiple variables regarding PHSP in fitness facilities through the perspectives from ACSM certified Health Fitness Specialists (HFSs). In an effort to establish a sound methodology, valid data collection, and generalizable results, it was imperative to conduct both pre-pilot and pilot tests to improve the design of the study as well as the content and format of the survey instrument. The pre-pilot study produced an abundance of constructive and positive feedback from experts, health/fitness professionals and lay persons.

This feedback was integrated into the methods of the study as well as the design of the instrument in preparation for the pilot study. The results from pilot study, involving 21 HFSs, satisfied its purposes which were to (a) obtain feedback regarding the clarity and content of the survey instrument, (b) assess the effectiveness and functionality of the procedural aspects of the study, and (c) obtain validity of the survey instrument. The feedback and data obtained were used to make several relevant changes and improvements in the survey instrument. The pilot study established evidence of the validity of the survey instrument, demonstrated the effectiveness and ease of the web-based procedures, and affirmed the significance of the study. The full details of the pre-pilot and pilot studies as well as validation of the survey instrument can be found in Appendix B.

Data Collection Procedures

As recommended by Dillman (2007), multiple contacts with study participants are essential for maximizing responses to surveys. Therefore the recruitment procedures for the Dissertation Study included four recruitment e-mails sent to study participants over a two week period. All e-mail messages were written by the PI and submitted to the Certification office at the ACSM's corporate headquarters in Indianapolis, Indiana. Dr. Richard Cotton, ACSM Director of Certification, agreed to send the recruitment e-mails on behalf of the PI.

ACSM participated as a cooperating agency (Gliner & Morgan, 2000) by disseminating the recruitment e-mail messages to all individuals in their certification database who possess the ACSM HFS credential and live in the United States. As the ACSM's Certification Director sent out the recruitment e-mails for the study, the PI did not have access to any personally identifiable information from the participants (i.e., data collected from dissertation survey was anonymous). To keep track of the anonymous data, each respondent was automatically

assigned a unique “Response ID” within SurveyGizmo’s web-based platform. Responses to the link in the dissertation recruitment e-mails were gathered directly in SurveyGizmo’s web-based platform. A brief description of content and delivery of each message is below, see Appendix C for these messages in their entirety.

Dissertation e-mail 1

This pre-announcement message notified ACSM HFSs of the forthcoming opportunity to participate in the study and enter the drawing for a chance to win one of six \$50 gift cards. This message was sent on August 22, 2014.

Dissertation e-mail 2

This message identified the PI, title, purpose and value of the study, as well as the USF IRB Approval/Study number. Additionally, it included statements which informed respondents of the instructions, financial incentive, and approximate time for completing the survey. Lastly, the deadline for completing the survey, contact information of research team, URL for survey and troubleshooting instructions were provided in this message. It is important to note that the content of this message was referred to as the *Cover Letter* in steps one and three of the pilot study and pilot study results above. This message was sent on August 25, 2014.

Dissertation e-mail 3

This message served as a Thank You to those who completed the survey and a gentle reminder for those who would not yet have completed the survey. Also, the URL for the dissertation survey, deadline for completing the survey as well as troubleshooting instructions were included in this message. Lastly, this message ensured the privacy, security, and confidentiality of the data collected. This message was sent on August 29, 2014.

Dissertation e-mail 4

This was the final reminder message for completing the survey and the chance to win the drawing for a \$50 dollar gift card. This message was sent on September 8, 2014.

To view the data collected, responses were filtered, sorted, summarized into reports in SurveyGizmo and then exported into other programs for further analysis. The data from the “Drawing & Summary of Results” survey were collected in SurveyGizmo’s web-based platform in this same manner. From this database, the PI randomly selected six respondents from those who opted in to the drawing to be recipients of the \$50 gift cards. All of the data collected was anonymous and accessible only by the PI. Any reports or exports generated from the data were saved on the PI’s password protected computer. Finally, a summary of the result of the study (i.e., the abstract) will be sent via email to respective respondents.

Response Results

There were a total of 10,359 HFSs in the ACSM’s database who lived in the United States. The ACSM Certification Director confirmed that 9,433 HFSs received the dissertation recruitment e-mails after the removal of (a) 21 pilot study participants, (b) all HFS’s who opted not to receive surveys of any kind from the ACSM and (c) all HFS’s with inaccurate e-mail addresses (as evidenced by undeliverable e-mail reply messages). Of these, 1,246 (13%) responded to the survey. Table 3.1 displays the total responses to each of the dissertation recruitment e-mails from each response type.

Table 3.1 Responses to Dissertation Recruitment E-mails, $n=1,246$

	Complete	Partial	Disqualified
E-mail 1 (Aug. 22)	<i>Pre-announcement</i>	<i>Pre-announcement</i>	<i>Pre-announcement</i>
E-mail 2 (Aug. 25)	400	215	293
E-mail 3 (Aug. 29)	50	27	51
E-mail 4 (Sept. 8)	85	61	64
Totals	535	303	408

Each response was categorized into one of three different response types: (a) complete (i.e., respondent reached the end of the survey), (b) partial (i.e., respondent did not reach the end of the survey), and (c) disqualified (i.e., respondent did not satisfy inclusion criteria). The first question (Q1) in the survey was a qualifying question from which only respondents who indicated “Yes” were allowed to progress to the next questions in the survey. Respondents who indicated “No” to this question did not meet the inclusion criteria for this study (i.e., currently employed part or full-time in a fitness center) and were therefore disqualified (i.e., not allowed to continue taking the survey).

In order to conduct accurate data analysis, it was necessary to first narrow the dataset down to only those respondents who met the inclusion criteria for this study (i.e., currently employed part or full-time). Therefore, all of the disqualified responses ($n=408$) and any partial responses that did not meet the inclusion criteria were excluded ($n=161$) from the dataset leaving 142 usable partial responses. This resulted in a total of 677 (i.e., $535+142$) responses that were analyzed to represent perspectives of study participants for 15 questions (i.e., Q1, Q3, Q34-Q45, Q53) in the survey instrument.

According to the USF IRB, a respondents’ participation in research should always be voluntary. The present study was in compliance by enabling the “soft-requirement” for each question in the survey instrument which was previously described. Due to the high number of partial responses, the fall-off statistics (i.e., when a respondent left the survey) for these respondents were observed. It was found that 40% of partial respondents left the survey after they viewed the first two pages of the survey which included the USF IRB Informed Consent. It is speculated that that these two items may have contributed to the number of unusable of partial responses.

Next, it was critical to ensure that each facility was represented only once as the potential existed for multiple HFSs to respond from the same fitness facility. Therefore a total of 21 responses were deleted from the dataset of responses for 33 questions (i.e., Q2, Q4-Q33, Q46, and Q53) in the survey instrument which represented individual fitness facilities. This resulted in 656 responses (i.e., 677-21) that were analyzed to represent individual fitness facilities.

The response rate of the present study (13%) may be considered low compared to the average response rate (39.6%) found in a web or internet-based survey meta-analysis (Cook et al., 2000). However, it has been demonstrated in survey research that response rates alone are not necessarily good indicators of non-response bias (Bethlehem, 2004; Groves & Peytcheva, 2008; Massey & Tourangeau, 2013). Draugalis (2009), stated that “nonresponse bias can lead to inaccurate conclusions if data from non-respondents would have changed the overall results (p.2).” However, Fowler (2009) suggests that information is lacking to reliably predict when, how much, and where non-response will or will not affect survey estimates. Nevertheless, the potential for non-response bias did exist for the present study. Therefore additional measures were taken to demonstrate that respondents were, indeed representative of the overall population. According to Fincham (2008), representativeness refers to how well the sample compares with the population of interest. The present study compared the demographic variables of the respondents (i.e., sample) to those available from the ACSM’s HFS database (i.e., population). Additionally, the statistically significant ($p=.05$) sample size required for a population size of 10,000 (i.e., of 370) was observed (Krejcie & D.W., 1970) and met.

Table 3.2 displays frequencies and percentages of age and gender among the sample of respondents and the ACSM’s database of HFSs who lived in the U.S. The database provided by

ACSM for this analysis included all HFSs (n=10,359). From this database, 424 HFSs indicated “Dr.” as their respective prefix; therefore gender was unable to be determined. There were many similarities in the percentages for the two groups, with age percentages generally being more similar than gender percentages. These data help demonstrate a proportionate representation of the respondents from the population.

Table 3.2 Gender and Age Comparisons, Frequencies (Percentages), n=677 and n=10,359

	Sample Respondents	Population ACSM Database
Q47. Gender		
Male	168 (31)	3,669 (39)
Female	379 (69)	5,518 (60)
Total	547 (100)*	9,187 (100)**
Q48. Age		
20-29	230 (42)	4,522 (50)
30-39	153 (28)	2,195 (24)
40-49	70 (13)	982 (11)
50-59	68 (12)	911 (10)
>60	26 (5)	387 (4)
Total	547 (100)*	8,997 (100)**

*Responses do not total 677 due to missing data

**Data for ACSM Database does not total 10,359 due to missing or uninterpretable data

To also address the potential non-response bias and because this was a national investigation, geographical data (states/regions represented) were compared between the two datasets (respondents and ACSM database). These data for the respondents were captured by Survey Gizmo and for the whole population, from the ACSM database. Table 3.3 displays a side-by-side comparison of the two groups; with the distribution of responses depicted by ACSM’s 12 regions. The frequencies and percentages are nearly identical with the only notable difference being in Region 12 – Texas.

Additional Demographic Data of Respondents

Figure 3.2 and the following Tables (3.4 – 3.7) and present the remaining demographic data for the respondents which includes Q49 – years of professional experience, Q50 – highest academic degree obtained, Q51 – current position, Q52 – hours worked per week, and Q53 – setting.

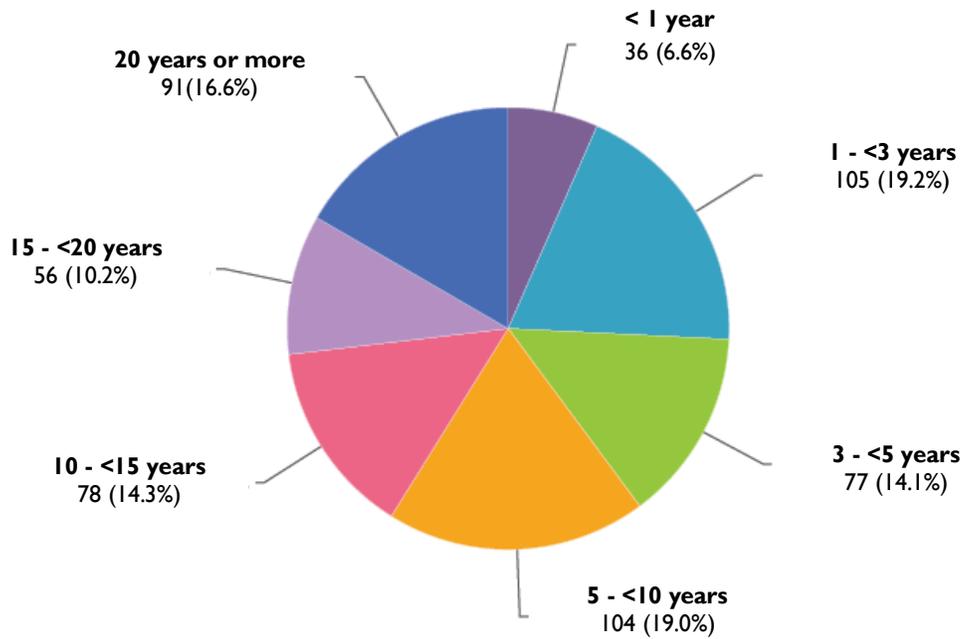


Figure 3.2 Q49: Years of professional experience in the field, $f(\%)$, $n=547^*$

**Responses do not equal 677 due to missing data*

Table 3.3 Geographic Data Comparisons based on ACSM HFSs 12 Regions, Frequencies (Percentages), $n=677$ and $n=10,359$

	Sample Respondents	Population ACSM Database
Chapter 1 AK	2 (0.3)	18 (0.2)
Chapter 2 AR, KS, MO, OK	43 (7)	838 (8)
Chapter 3 NY	25 (4)	419 (4)
Chapter 4 DE, MD, PA, WV, Washington D.C.	93 (14)	1,188 (12)
Chapter 5 IA, IL, IN, MI, OH, WI	88 (13)	1,280 (13)
Chapter 6 CT, MA, ME, NH, RI, VT	43 (7)	503 (5)
Chapter 7 MN, ND, NE, SD	27 (4)	510 (5)
Chapter 8 ID, MT, OR, WA	98 (4)	578 (6)
Chapter 9 CO, WY	29 (4)	313 (3)
Chapter 10 AL, FL, GA, KY, LA, MS, NC, SC, TN, VA	175(26)	2,870 (28)
Chapter 11 AZ, CA, HI, NM, NV, UT	80 (12)	1,280 (13)
Chapter 12 TX	31 (5)	447 (13)
Totals	665 (100)*	10,244 (100)**

*Responses do not total 677 due to missing data

**Responses from ACSM Database do not total 10,359 due to missing or uninterpretable data

Table 3.4 presents the results for Q50, which asked respondents to indicate their highest earned academic degree level. Once this question was answered, two follow-up questions were populated which asked (a) the name of their highest degree, and (b) the area of concentration for that degree. An analyses of these data ($n=547$) showed that almost all (91.6%,) of respondents had their degree and/or concentration in a kinesiology-related area (e.g., exercise science, clinical exercise, movement science, fitness studies, fitness and wellness management, human performance, health/health education/health promotion/wellness, athletic training, sport science/sport management, physical therapy, recreation/recreation therapy, physical education). The remaining respondents, $n=46$ (8.4%), had their degree and/or concentration in non-kinesiology areas such as business, nutrition/dietetics, nursing, psychology, journalism, communications, organizational leadership, economics, engineering, chiropractic medicine, education, English, counseling, and interdisciplinary studies.

Table 3.4 Q50: Please indicate the highest academic degree level you have obtained. $n=677$

Degree	f (%)
Associate's	17 (3.1)
Bachelor's	301 (55.0)
Master's	199 (36.4)
Doctorate	24 (4.4)
Other	6 (1.1)
Totals	547 (100)*

*Responses do not total 677 due to missing data

Table 3.5 presents the frequencies and percentages for Q51 which asks respondents to indicate their current position within their fitness facility. Based on the “other” responses for

Q51, 30 of them were added into one of the six choices as follows: seven added to choice #1 (fitness manager/owner (top management), two added to choice #2 (fitness director (middle management), five added to choice #3 (assistant director or program coordinator), 13 added to choice #4 (fitness staff (e.g., personal trainer, group exercise leader, fitness floor supervisor), one added to choice #5 (exercise/fitness specialist or exercise physiologist), two added to choice #6 (health educator, health promotion specialist, nutritionist, or wellness coach). The data in Table 3.5 reflect these changes. The remaining “other responses” were varied.

Table 3.5 Q51: Please select the option below that best reflects your current position within your facility. *n*=677

Position	f (%)
Fitness Manager/Owner (top management)	66 (12.1)
Fitness Director (middle management)	76 (13.9)
Assistant Director or Program Coordinator	47 (8.7)
Fitness Staff (e.g., personal trainer, group exercise leader, fitness floor supervisor)	162 (29.9)
Exercise/Fitness Specialist or Exercise Physiologist	146 (26.9)
Health Educator, Health Promotion Specialist, Nutritionist, or Wellness Coach	28 (5.2)
Other, please specify your position/title:	18 (3.3)
Totals	543 (100)*

*Response do not total 677 due to missing data

Table 3.6 Q52: In your current position, on average, how many hours per week do you work?
n=677

Hour Ranges	f (%)
10-20 hours	120 (22.1)
21-30 hours	73 (13.5)
31-40 hours	179 (33.0)
41-50 hours	144 (26.6)
50 hours or more	26 (4.8)
Totals	542 (100)*

*Responses do not total 677 due to missing data

Table 3.7 Q53: Please select the option below that best reflects the setting of your current facility. n=677

Settings	f (%)
University/College – Campus Recreation/Wellness and Recreational Sports	50 (9.2)
Community, non-profit -YMCA/YWCA, JCC	80 (14.7)
Commercial, for profit – Health clubs, 1 training or group exercise studios, sports performance centers	172 (31.7)
Hospital/Clinical – Fitness facilities affiliated with a hospital, Cardiac Rehab, Physical Therapy	122 (22.5)
Corporate – Employer sponsored fitness/wellness (private businesses and government agencies)	92 (16.9)
Government – Military, fire/police, city/county parks and recreation	27 (5.0)
Totals	543 (100)*

*Responses do not total 677 due to missing data

Data Analysis

This study investigated several variables in fitness facilities relative to PHSP through the perspectives of ACSM Certified Health Fitness Specialists. The procedures conducted for the descriptive statistics, open text analysis, and chi-square analysis are described below.

Descriptive statistics

Descriptive statistics (i.e., frequencies and percentages) are presented for the responses to each question to satisfy the purposes of the study. These statistics are in the same order as the questions and correspond to the four parts of the dissertation survey instrument. To prevent duplication of facilities represented in the dataset, as previously mentioned, 21 respondents were deleted from the total (i.e., 677) resulting in a new total of 656 for the descriptive statistics for facility related questions. The process to delete these 21 respondents is described below. However, first, the data from Q2 and Q3 are presented in Table 3.8 and Figure 3.3 as responses to these questions were instrumental in the process described below:

Table 3.8 Responses to Q2, $n=656$

	Yes f (%)	No f (%)	Don't Know f (%)	Total f (%)
Q2. In addition to you, are there any employees (co-workers) in your facility who possess the ACSM HFS certification?	186(30)	407(62)	38(6)	631(100)*

*Responses do not total 656 due to missing data

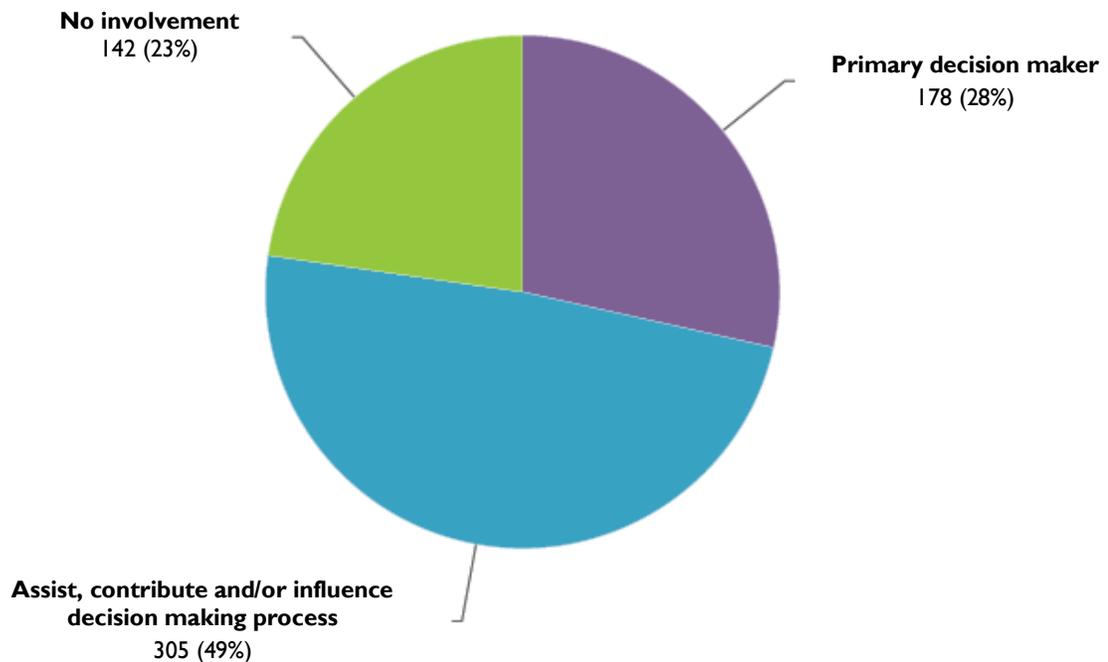


Figure 3.3 Q3: What role do you play in the decision making related to Pre-activity Health Screening Procedures at your fitness facility? $n=625^*$

**Responses do not total 677 due to missing data*

1. Respondents who indicated “Yes” or “Don’t Know” to Q2 received the follow up question that asked for detailed information (i.e., name, street address, city, state, and zip code) for the fitness facility at which they were employed.
2. The entire dataset was then filtered in SurveyGizmo for every “Yes” and “Don’t Know” response to this question (Q2) resulting in a total of 245 responses.
3. The filtered data were then exported into Microsoft Excel and sorted first by facility name, then street address, and city, state, and zip code, respectively to determine which facilities, in fact, had multiple HFSs who represented the same facility. It was found that 19 facilities were represented more than once. Of these, 18 facilities had two

respondents each and one facility had four respondents. Therefore a total of 21 (18+3) were deleted from the dataset.

Next, Q3 asks, “What role do you play in the decision making related to Pre-activity Health Screening Procedures at your fitness facility?” This question (Q3) served as the anchor question to determine which response was used for data analysis representing those facilities at which multiple HFSs were employed. The responses to Q3 were carefully reviewed from the sorted data in Microsoft Excel for each respondent’s role at their respective facility. To make the determination for which response was selected, the following process took place resulting in 18 total facilities being removed from the 245 from Q2:

1. The dataset for “primary decision maker” responses for this question were used to represent said fitness facility resulting in 7 deletions.
2. In the case that multiple “primary decision maker” responses were observed for this question, one of these was randomly selected (using www.randomizer.org) to represent said fitness facility resulting in 1 deletion.
3. In the case that there were no “primary decision maker” responses, the next role “assist, contribute and/or influence decision making process” was used to make the determination resulting in 2 deletions. Then the process described in items #1 and #2 above was used for the “assist, contribute and/or influence decision making process” resulting in 6 deletions.
4. After the above processes were completed, any remaining cases that indicated “no involvement” as the role, the more complete dataset was used to make the determination resulting in 3 deletions.

Chi-square analysis

The chi-square test is based on the comparison of expected frequencies and actual, obtained frequencies (Fraenkel & Wallen, 1990) and identifies whether differences among the categories of the variables are genuine and therefore generalizable to the full population or merely a result of sampling error (Rea & Parker, 2005). The nonparametric chi-square analysis was performed using SPSS software (SPSS Inc, Chicago, IL) for each of the four hypotheses listed below.

H_1 : The percentage of fitness facilities which require new participants to complete a pre-activity screening device will be significantly higher in the Hospital/Clinical setting than in University/College, Community, Commercial, and Government settings.

H_2 : The percentage of fitness facilities which require new participants to complete a pre-activity screening device will be significantly higher in the Corporate setting than in University/College, Community, Commercial, and Government settings.

To accurately represent the responses for the dependent variable in H_1 and H_2 , the total “Yes” and “No” responses to Q5 (i.e., does your fitness facility require “new participants” to complete a pre-activity screening device prior to their participation) were determined as follows:

1. “Yes” and “The majority of our new participants are required, but not all are required” were coded as “Yes” responses.
2. “No” and “The majority of our new participants are not required, but some might be required to completed pre-activity screening procedures” were coded as “No.”

The “Don’t Know” responses were not included in the chi-square analysis for H_1 and H_2 .

H_3 : The percentage of fitness facilities at which clients of personal trainers are required to complete a pre-activity screening device will be significantly higher in the Hospital/Clinical setting than in University/College, Community, Commercial, and Government settings.

H_4 : The percentage of fitness facilities at which clients of personal trainers are required to complete a pre-activity screening device will be significantly higher in the Corporate setting than in University/College, Community, Commercial, and Government settings.

For H_3 and H_4 , the “Yes” and “No” responses to Q32 were coded respectively and the “Don’t Know” responses were not to be used for the chi-square analysis. However, there was no variability in the data for this question (i.e., only one participant answered “No” to this question); therefore the chi-square analysis was not conducted for either hypothesis.

For each research hypothesis, the independent variable was the setting (i.e., Q53) of the fitness facilities being investigated which, for purposes of this study, are categorized as follows:

1. University/ College – Campus Recreation/Wellness and Recreational Sports
2. Community, non-profit -YMCA/YWCA, JCC
3. Commercial, for profit – Health clubs, personal training or group exercise studios, sports performance centers
4. Hospital/Clinical – Fitness facilities affiliated with a hospital, Cardiac Rehab, Physical Therapy
5. Corporate – Employer sponsored fitness/wellness (private businesses and government agencies)
6. Government – Military, fire/police, city/county parks and recreation

The dependent variable for all hypotheses was the requirement of completing a pre-activity screening device for new participants and clients of personal trainers (i.e., Q5 and Q32). Given the nature of these variables and the large size of the dataset, the key assumptions of the chi-

square statistical analysis (i.e., independent observations and continuous distribution) were satisfied (Hinton, Brownlow, Cozens, & McMurray, 2004). Additionally, as the independent and dependent variables in each of the research hypotheses were categorical in nature, the requirements for a chi-square test (Gliner & Morgan, 2000) were also satisfied.

To determine whether relationships existed between the variables for each setting in H_1 and H_2 , four, two (i.e., Yes/No) by two (i.e., H_1 Setting/Other Setting) tables were cross tabulated ($df=1$) for each of the settings; this totaled eight cross tabulations. Considerable differences between the obtained and expected frequencies and column percentages were observed, which indicated that there were notable differences between the variables among the many of the settings and are presented in Chapter 4. As the sample size for this study was substantial, a large value of the chi-square statistic (χ^2) was also observed for the majority of the analyses ($p=.05$). A large chi-square value inherently suggests that a relationship exists between the variables (Fraenkel & Wallen, 1990). After the chi-square values (χ^2) were obtained, the statistical significance of the relationships between the variables for each hypothesis was determined by observing the computed critical value of chi-square test in a probability table for chi-square tests (Powell, 1982).

To ascertain the degree of strength of the relationship and determine whether certain findings merit reporting, the Cramér's V measure of association was also observed. The Cramér's V takes a value of 0, in the case of no association; and a value of 1, in perfect association (Jolliffe, 1986). A traditional alpha level ($p=.05$) was initially used to determine statistical significance. However, as there were eight chi-square tests conducted, an increased potential for a Type I error existed. Therefore, a Bonferroni's adjustment was made (i.e.,

divided .05 by 8, the total number chi-square tests) resulting in more stringent alpha level ($p=.006$) to help decrease the likelihood of committing a Type I error (Keppel, 1991).

Open-text analysis

In an effort to contribute richness and additional meaning to the quantitative data obtained from dissertation survey instrument, inclusion of open-ended questions was recommended. To determine the content and quantity of questions that were included, sample questions were presented to participants from the Pilot study for review. These participants provided helpful feedback which ultimately determined that one question was appropriate and finalized the verbiage for this question. The result was a question that was directive, but somewhat flexible (i.e., Please provide any comments and/or challenges that you've experienced while conducting PHSP). This open-ended question (Q54) gave voice to the respondents as all other questions in the dissertation survey instrument were either close-ended or partially open-ended. According to Tashakkori and Teddlie (2003), the ability to “get more out of the data” enhances the quality of the data interpretation by providing an opportunity to generate more meaning.

There were acknowledged similarities in expertise, knowledge, and credentials between the PI and respondents in the study. However, as these similarities were undisclosed to respondents, it is believed that there was no influence on the quality or quantity of responses to this question. It is believed, however, that these similarities inherently supplemented integration of the data into categories. The PI employed principal concepts from grounded theory research to conduct several levels of analysis for this question (Glaser & Strauss, 1967). As remaining truly open to the emergence of theory is one of the most challenging issues for individuals who are new to grounded theory, the PI intentionally avoided preconception and

forced categorization. Instead, the concepts within the data were allowed to control the data coding process (Bryant & Charmaz, 2007).

To begin the substantive coding process, the PI used SurveyGizmo to filter the dataset for responses to this question (Q54) and then exported them into Microsoft Excel. Sixty-one percent of the sample provided responses for this question ($n=416$). For the first read, the data were sorted chronologically by the unique Response IDs assigned to each respondent within SurveyGizmo. For the second read, the data were sorted alphabetically by content to assist in the review and allow for common responses to be more easily noted. During the third read, the PI made field notes to capture information about the dataset (i.e., emerging concepts, uninterpretable data, and responses containing multiple concepts). During this review, observations and field notes were synthesized resulting in a list of 18 in-vivo codes (Bryant & Charmaz, 2007). The coded data and the list of 18 in-vivo codes that resulted from this analysis can be found in Appendix D.

Using these field notes and a variety of analytical tools (i.e., asking questions, drawing upon personal experience, constant comparisons, and flip-flop techniques) (Corbin & Strauss, 2008), the data were coded respectively, using SurveyGizmo's open text analysis feature. The coded data can be found in Appendix D. Once the data were coded, multiple reviews took place to ensure ideal categorization and identify common themes among the concepts. Through this process, the codes were categorized into three major themes which emerged from the data. The manifest intensity effect sizes (i.e., prevalence rates) as well as descriptions for each theme are presented in Chapter Four (Tashakkori & Teddlie, 2003).

Summary

This chapter presented detailed descriptions of the five parts of the paper-and-pencil survey as well as the logic and special features of the web-based version of the dissertation survey instrument. Next, the population sample and selection process were discussed. Then an overview of the IRB approval, pilot study, and validation of instrument were provided with reference to the extensive details of each in Appendix B. Lastly, explanations of the data collection procedures, discussion of response results and data analysis procedures were reviewed.

CHAPTER FOUR:

RESULTS

This chapter will present the findings from the dissertation study. First, the descriptive statistics will be presented according to the four parts of the dissertation survey: Part 1: Pre-activity Health Screening Procedures and New Participants (Questions 1 – 26), Part 2: Pre-Activity Health Screening for Guests and Personal Training Programs (Questions 27 – 33) Part 3: Familiarity, Opinions, and Perceptions of Management (Questions 34 – 41) Part 4: Legal Issues (Questions 42 – 46). The descriptive statistics for Part 5 of the survey (demographic data) were presented in Chapter Three. Then, the results of the chi-square analyses will be presented for H₁ and H₂. Finally, the results of the open-text analysis will be presented.

Descriptive Statistics

Part 1: Pre-Activity Health Screening Procedures and New Participants (Questions 1 – 26)

The descriptive statistics for Q1, Q2, and Q3 were presented in Chapter Three. Table 4.1 presents the frequencies and percentages for Q4.

Table 4.1 Responses to Q4, *n*=656

	Yes <i>f</i> (%)	No <i>f</i> (%)	Don't Know <i>f</i> (%)	Total <i>f</i> (%)
Q4. Are new participants formally notified or informed of injury risks associated with physical activity (e.g., musculoskeletal injuries, heart attack) prior to participation in your programs and services?	520 (86)	60 (10)	25 (4)	605(100)*

*Responses do not total 656 due to missing data

Table 4.2 Q5: Does your fitness facility require “new participants” to complete a pre-activity screening device prior to their participation? n=656

	<i>f (%)</i>
Yes -- all of our new participants are required	389 (64)
No -- none of our new participants are required	93 (16)
Yes -- the majority of our new participants are required, but some are not required	54 (9)
No -- the majority of our new participants are not required, but some are required	51 (8)
Don't know	18 (3)
Totals	605 (100)*

*Responses do not total 656 due to missing data

Table 4.3 presents the frequencies and percentages of responses to Q6. Based upon the logic of the survey, this question was only shown for respondents who selected either of the “No” responses in the previous question (Q5). Therefore, the total number of expected responses for this question is 144 (i.e., 93+51). Based on the “other” responses, 16 were added into one of the six existing response options for this question as follows: seven were added to response option #1 (no purpose/need), five were added to response option #2 (too much staff time/lack of resources), and four added to response option #6 (facility/franchise policy). The table below reflects these changes. For the seven added to response option #1, four respondents indicated there was no need/purpose because participants were already screened such as in military/clinical settings and three indicated there was no need/purpose due to participants signing documents such as a waiver or an assumption of risk, or because their facility was self-insured.

Additional “other” responses were classified into three new categories as follows:

1. Required only for personal training and/or other individualized fitness/wellness programs
(*n*= 9)
2. Do not know why (*n*= 5)
3. It is optional, not required (*n*=3).

The remaining “other” responses were varied.

Table 4.3 Q6: From the following items, please select the major reason that best describes why your fitness facility does not require all or the majority of new participants to complete pre-activity health screening device. *n*=144

	<i>f</i> (%)
There is no purpose or need for screening	11 (8)
Screening takes up too much staff time (or lack of staff resources)	22 (15)
Participants would perceive completing screening as a barrier that might cause them to not join the facility or participate in activities	12 (8)
Participants have responsibility for their own health and actions – our facility does not have this responsibility	42 (29)
Legal counsel advice, e.g., we have been advised not to conduct screening because it might increase legal liability	11 (8)
Fitness facility/franchise policy	20 (14)
Other, please specify:	26 (18)
Totals	144 (100)

Figure 4.1 depicts the frequencies and percentages of responses to Q7. Similar to the previous question (Q6), the logic of the survey only allowed for this question to be shown to respondents who answered either version of “No” to Q5. Therefore, the total number of expected responses for this question is 144 (i.e., 93+51).

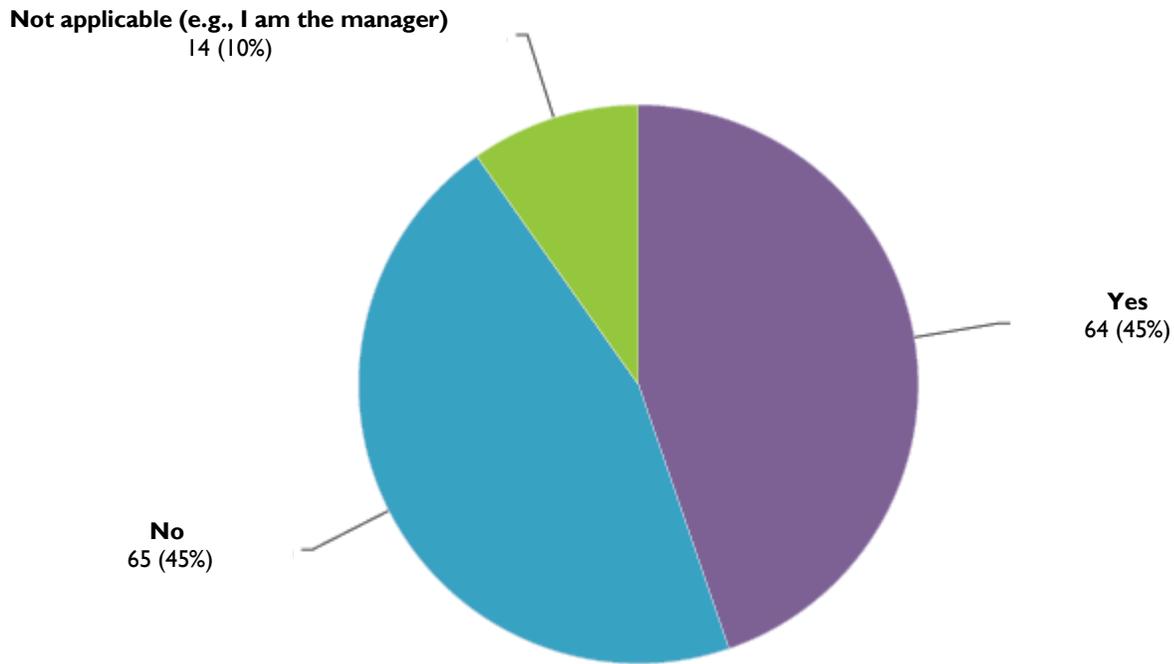


Figure 4.1 Q7: Have you made an effort to encourage management (e.g., top manager at your facility) to consider conducting Pre-activity Health Screening Procedures at your facility? n= 144*

*Responses do not total 144 due to missing data

Table 4.4 presents the frequencies and percentages for responses to Q8. Based upon the logic of the survey, only respondents who indicated either of the “Yes” response options in Q5 were shown Q7. Therefore, the total number of expected responses for this question is 443 (i.e., 389+54).

Table 4.4 Q8: For each item listed below, select the answer that corresponds to the information your new participants receive (either verbally or in writing) prior to completing your Pre-activity Health Screening Procedures (PHSP)? *n*=443

	Yes <i>f</i> (%)	No <i>f</i> (%)	Don't Know <i>f</i> (%)	Total <i>f</i> (%)
Information regarding the purpose of PHSP	344 (82)	50 (11)	28 (7)	422 (100)
Information regarding the steps involved in the PHSP	312 (74)	76 (18)	34 (8)	422 (100)
Information regarding the benefits of PHSP	293 (70)	90 (21)	39 (9)	422 (100)
Information regarding the potential risks of not completing the PHSP	263 (62)	110 (26)	49 (12)	422 (100)

**Responses do not total 443 due to missing data*

Table 4.5 presents the frequencies and percentages for responses to Q9. Similar to the previous question, only responses to either “Yes” response option in Q5 were shown Q9. Therefore, the total number of expected responses for this question is 443 (i.e., 389+54).

Table 4.5 Q9: Which of the following best describes the type of Pre-activity Health Screening Procedures your fitness facility uses to screen “new participants”?

	<i>f</i> (%)
Self- guided	113 (26)
Professionally- guided	189 (43)
We offer both self-guided and professionally-guided Pre-Activity Health Screening	138 (31)
Totals	440 (100)*

**Responses do not total 443 due to missing data*

Table 4.6 presents the frequencies and percentages for responses to Q10. Based upon survey logic, only respondents who indicated “Self-guided” and “We offer both...” in Q9 were shown this question. Therefore, the total number of expected responses for this question was 241 (i.e., 110+131). Based on the “other” responses, five were added into response option #3 (custom/in-house) with three who indicated that they used a modified version of the PAR-Q or the AHA/ACSM Questionnaire. Table 4.6 reflects these changes. The remaining “other” responses were varied.

Table 4.6 Q10: Which “self-guided” screening device do you use? *n*=241

	<i>f</i> (%)
PAR-Q and You	114 (47)
AHA/ACSM Health/Fitness Facility Preparticipation Health Screening Questionnaire	27 (11)
Custom/In-House Developed Instrument	93 (39)
Don't Know	4 (2)
Other, please specify	3 (1)
Totals	241 (100)

Table 4.7 presents the frequencies and percentages for responses to Q11. Similar to the previous question, only respondents who indicated “Self-guided” and “We offer both...” in Q9 were shown this question. Therefore, the total number of expected responses for this question was 241 (i.e., 110+131). Based on the “other” responses, four were added into choice #3 (required to complete screening device/required to obtain clearance if “at risk”). The data in the table below reflect these changes. The remaining “other” responses were varied.

Table 4.7 Q11: From the following statements which one best describes your “self-guided” screening procedures: *n*=241

	<i>f</i> (%)
The participant is encouraged by a staff member to review and complete the screening device, self-interprets the information as stated on the form, keeps the form and decides for himself/herself whether to seek medical clearance or consult with his/her physician	21 (8.7)
The participant is required to complete the screening device, and a staff member interprets the information and if this interpretation classifies the participant <u>at risk</u> (based on criteria established on the screening device or by your fitness facility) the participant is encouraged by a staff member to obtain medical clearance or to consult with his/her physician.	98 (40.7)
The participant is required to complete the screening device and a staff member interprets the information and if this interpretation classifies the participant “at risk” (based on criteria established on the screening device or by your fitness facility), the participant is required to obtain medical clearance	118 (48.9)
Other, please specify	4 (1.7)
Totals	241 (100)

Table 4.8 presents the frequencies and percentages for responses to Q12. Only respondents who indicated “Self-guided” and “We offer both...” in Q9 were shown this question. Therefore, the total number of expected responses for this question was 241 (i.e., 110+131).

Table 4.9 presents the frequencies and percentages for responses to Q13. Only respondents who indicate “Self-guided” and “We offer both...” in Q9 were shown this question. Therefore, the total number of expected responses for this question was 241 (i.e., 110+131). Based on the “other” responses, three were added into response option #3 (initially and when participant informs staff of a change). The data above reflect these changes. The

remaining “other” responses were varied with two of these indicating “initially and after 3 years.”

Table 4.8 Q12: Please respond to the following items regarding self-guided screening procedures - Our facility has a policy that personal information obtained from the screening device is kept: *n*=241

	Yes <i>f</i> (%)	No <i>f</i> (%)	Don't Know <i>f</i> (%)	Total <i>f</i> (%)
Private - respecting participant's right to maintain control over his/her personal information	207 (89)	15 (6)	12 (5)	234(100)*
Confidential - only authorized individuals have access to personal information	228 (95)	6 (3)	5 (2)	239(100)*
Secure - physical, technical, and/or administrative safeguards are in place to protect personal information	93 (83)	22 (9)	19 (8)	234(100)*

*Responses do not total 241 due to missing data

Table 4.9 Q13: How often do you have your participants complete your self-guided screening procedures? *n*=241

	<i>f</i> (%)
Initially only (e.g., when they join for the first time)	92 (38)
Initially and annually thereafter (e.g., when they renew their membership)	47 (20)
Initially and when a participant informs a staff member of a change in health status	90 (37)
Don't Know	7 (3)
Other, please specify	5 (2)
Totals	241 (100)

Table 4.10 presents the frequencies and percentages for responses to Q14. Based upon survey logic, only respondents who indicated “Professionally-guided” and “We offer both...” in Q9 were shown this question. Therefore, the total number of expected responses for this question was 313 (i.e., 182+131).

Table 4.10 Q14: Which “professionally-guided” screening device do you use? *n*=313

	<i>f</i> (%)
PAR-Q and You	67 (22)
AHA/ACSM Health/Fitness Facility Preparticipation Health Screening Questionnaire	33 (11)
Custom/In-House Developed Instrument	123 (40)
Specific, ready-made screening tool e.g., Health Risk Appraisal (HRA) or Health History Questionnaire (HHQ)	63 (20)
Don't Know	7 (2)
Other, please specify	17 (6)
Totals	310 (100)*

*Responses do not total 313 due to missing data

Table 4.11 presents the frequencies and percentages for responses to Q15. Similar to the previous question, only respondents who indicated “Professionally-guided” and “We offer both...” in Q9 were shown this question. Therefore, the total number of expected responses for this question was 313 (i.e., 182+131).

Table 4.11 Q15: Please respond to the following items regarding professionally-guided screening procedures - Our facility has a policy that personal information obtained from the screening device is kept: *n*=313

	Yes f (%)	No f (%)	Don't Know f (%)	Total f (%)
Private - respecting participant's right to maintain control over his/her personal information	267 (89)	17 (7)	16 (4)	300(100)*
Confidential - only authorized individuals have access to personal information	297 (96)	8 (3)	4 (1)	309(100)*
Secure - physical, technical, and/or administrative safeguards are in place to protect personal information	258 (85)	28 (9)	16 (6)	302(100)*

**Responses do not total 313 due to missing data*

Figure 4.2 depicts the frequencies and percentages for responses to Q16. Only respondents who indicated “Professionally-guided” and “We offer both...” in Q9 were shown this question based on survey logic. Therefore, the total number of expected responses for this question was 313 (i.e., 182+131).

Table 4.12 presents the frequencies and percentages for responses to Q17. Based on survey logic, only respondents who indicated “Yes” to Q16 were shown this question. Therefore, the total number of expected responses for this question was 248. Based on the “other” responses, three were added into one of the two existing response options as follows: one added to response option #1 (front desk staff), two added to response option #2 (health/fitness professional). The table below reflects these changes. The remaining “other” responses were varied.

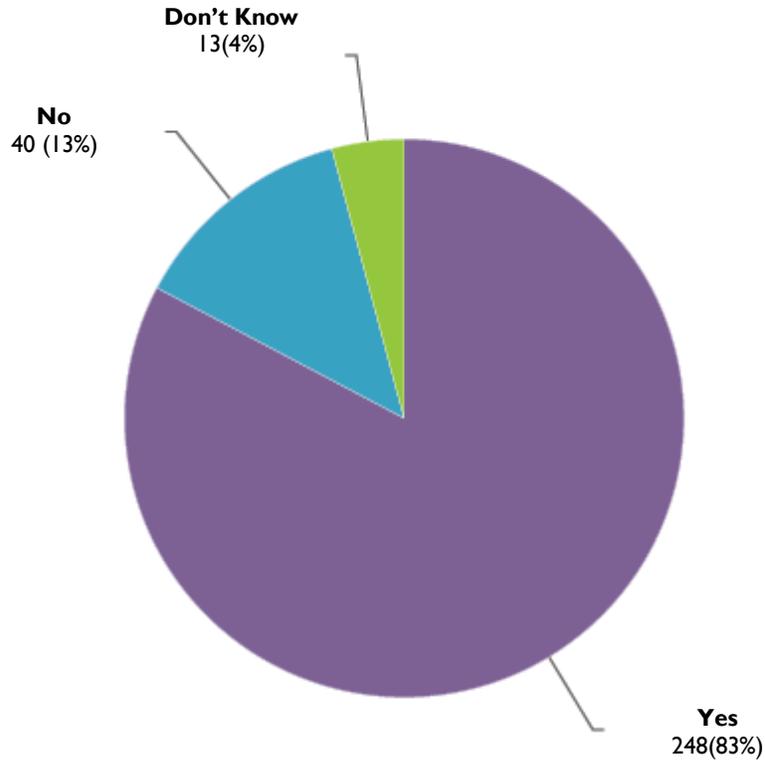


Figure 4.2 Q16: From the information on the screening device, does your fitness facility have pre-established criteria that identify participants as at risk prior to their participation? $n= 313^*$
**Participant responses do not total 313 due to missing data*

Table 4.12 Q17: Who primarily interprets the information provided on the device and makes the determination if a participant is “at risk”? $n=248$

	<i>f (%)</i>
Front Desk Staff	5 (2)
Health fitness professional	219 (88)
Health care or medical professional (e.g., a licensed professional such as a nurse, physician, physician assistant)	20 (8)
Other, please specify	4 (2)
Totals	248 (100)

Table 4.13 presents the frequencies and percentages for responses to Q18 and Q19. Based on survey logic, only respondents who indicated “Yes” to Q16 were shown this question. Therefore, the total number of expected responses for both questions was 248.

Table 4.13 Frequencies and Percentages of Responses to Q18 and Q19, n=248

	Yes f (%)	No f (%)	Don't Know f (%)	Total f (%)
Q18. If a participant is classified as “at risk,” is he/she required to obtain medical clearance?	216 (87)	27(11)	5 (2)	248(100)
Q19. For participants identified as “at risk” do you provide them with a medical clearance form for their medical care provider to complete and sign?	169(78)	37(17)	10 (5)	216(100)*

*Responses do not total 248 due to missing data

Table 4.14 presents the frequencies and percentages for responses to Q20. Only respondents who indicated “Professionally-guided” and “We offer both...” in Q9 were shown this question based on survey logic. Therefore, the total number of expected responses for this question was 313 (i.e., 182+131). Based on the “other” responses, only one was added into response option #3 (initially and when participant informs staff of a change). The table below reflects these changes. However, of the “other” responses, six indicated that their participants completed pre-activity screening procedures initially and then every 4-8 weeks. The remaining “other” responses were varied.

Table 4.14 Q20: How often do your participants complete your professionally-guided screening procedures? *n*=313

	f(%)
Initially only (e.g., when they join for the first time)	109 (36)
Initially and annually thereafter (e.g., when they renew their membership)	46 (15)
Initially and when a participant informs a staff member of a change in health status	119 (40)
Don't know	8 (3)
Other, please specify	19 (6)
Totals	301 (100)*

**Responses do not total 313 due to missing data*

Table 4.15 presents the frequencies and percentages for responses to Q21. Only respondents who indicated “Professionally-guided” and “We offer both...” in Q9 were shown this question based on survey logic. Therefore, the total number of expected responses for this question was 313 (i.e., 182+131). Based on the “other” responses, seven were added into one of the two response options as follows: four added to choice #1 (new participants excluded), three added to choice #2 (allowed to participate but need to sign a document). The data above reflect these changes.

Some of the remaining “other” responses were classified into responses as follows: nine of them indicated that they never had any participants refuse, two indicated that participants were allowed to participate in some activities but not activities such as personal training/staff-assisted programs, and two indicated they did not know. The remaining “other” responses were varied.

Table 4.15 Q21: For new participants who refuse to complete your required professionally-guided screening procedures (e.g., complete a screening device and/or obtain medical clearance if needed) which of the following reflects your facility’s policy? *n*=313

	<i>f</i> (%)
New participants are excluded from participation in program offerings	154 (51)
New participants are allowed to participate in program offerings, but first they must sign a document acknowledging their refusal to complete pre-activity screening procedures	115 (38)
Other, please specify	32 (11)
Totals	301 (100)*

*Responses do not total 313 due to missing data

Table 4.16 presents the frequencies and percentages for responses to Q22. Only respondents who indicated “Professionally-guided” and “We offer both...” in Q9 were shown this question based on survey logic. Therefore, the total number of expected responses for this question was 313 (i.e., 182+131). Based on the “other” responses, none were added into one of existing response options in this question. However, of the 13 “other” responses, three indicated that ACSM sources in combination with other sources were used. The remaining “other” responses were varied.

Table 4.18 presents the frequencies and percentages for responses to Q23. Only respondents who indicated the “ACSM’s Guidelines for Exercise Testing and Prescription” to the previous question (Q22) were shown this question based on survey logic. Therefore, the total number of expected responses for this question was 157.

Table 4.16 Q22: Which publication was primarily used when developing and implementing your “professionally-guided” screening procedures? *n*=313

	<i>f</i> (%)
ACSM’s Guidelines for Exercise Testing and Prescription	157 (52)
ACSM’s Health/Fitness Facility Standards and Guidelines	26 (9)
AHA/ACSM Joint Position Statement – Recommendations for Cardiovascular Screening, Staffing, and Emergency Policies at Health/Fitness Facilities	14 (5)
Other, please specify	13 (4)
Don’t know	6 (12)
None	85 (28)
Totals	301 (100)*

**Responses do not total 313 due to missing data*

Table 4.17 Q23: Please indicate which of the following are included on your fitness facility's screening device for a new participant. *n*=157

	<i>f</i> (%)
Known cardiovascular disease	145(96)
Know pulmonary disease	137(91)
Know metabolic disease	132(87)
None of the above	4(3)
Don’t know	2(1)
Totals	151(100)*

**Responses do not total 157 due to missing data*

Table 4.18 presents the frequencies and percentages for responses to Q24, Q25, and Q26. Only respondents who indicated the “ACSM’s Guidelines for Exercise Testing and Prescription” to Q22 were shown this question based on survey logic. Therefore, the total

number of expected responses for this question was 157. There was an unnumbered follow-up question to both Q24 and Q25 to probe more specifically about which signs/symptoms and risk factors were included on screening devices of these fitness facilities.

Table 4.18 Frequencies and Percentages of Responses to Q24, Q25, and Q26, *n*=157

	Yes <i>f</i> (%)	No <i>f</i> (%)	Don't Know <i>f</i> (%)	Total <i>f</i> (%)
Q24. Does your fitness facility's screening device include questions for a "new participant" to answer indicating signs and symptoms suggestive of cardiovascular, pulmonary, and metabolic disease?	133 (88)	14(9)	4 (3)	151(100)*
Q25. Does your fitness facility's screening device include questions for a "new participant" to answer indicating cardiovascular risk factors?	132(87)	13(9)	6 (4)	151(100)*
Q26. Does a staff member (or other designated individual) at your fitness facility classify "new participants" into low, moderate, and high risk classification categories after interpreting the data collected from a screening device?	93(62)	55(36)	3(2)	151(100)*

*Responses do not total 157 due to missing data

Figures 4.3 and 4.4 depict the frequencies and percentages for the follow up questions for Q24 and Q25, respectively. The follow-up question for Q24 was only shown for respondents who indicated "Yes" to Q24. Therefore, the total number of expected responses for both of these follow-up questions was 133. The follow-up question for Q25 was only shown for respondents who indicated "Yes" to Q25. Therefore, the total number of expected responses for both of these follow-up questions was 132.

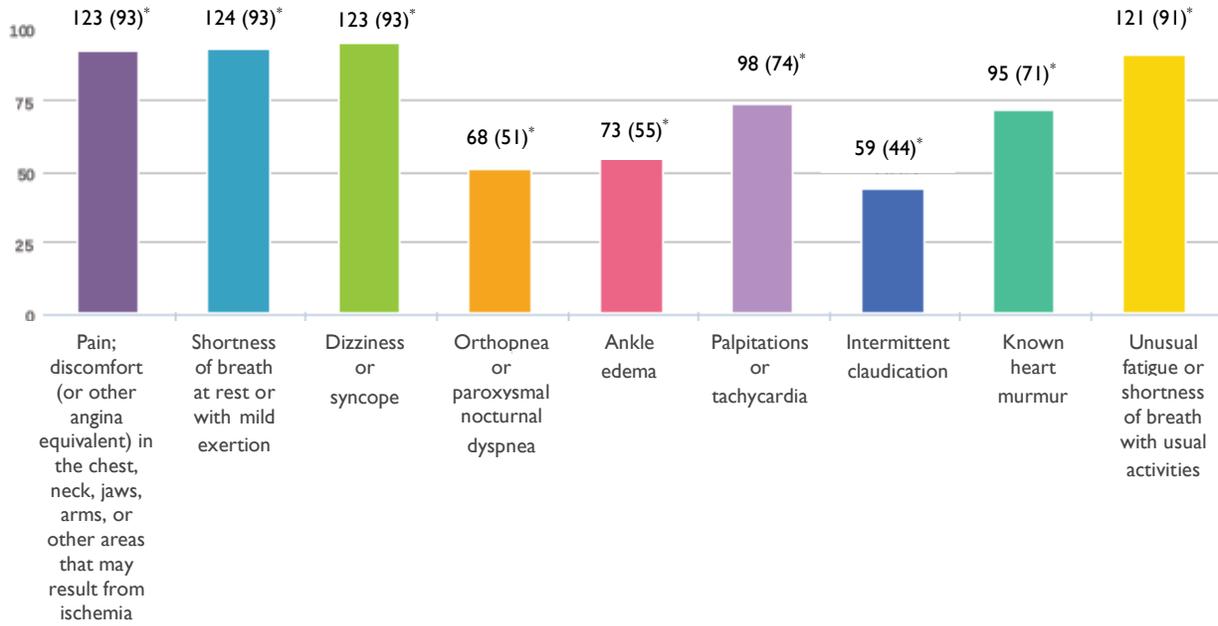


Figure 4.3 Q24 Follow-up: Please indicate which of the following major signs/symptoms from ACSM's Guidelines for Exercise Testing and Prescription are included on your screening device - check all that apply. $n=133$

*Responses do not total 133 due to missing data

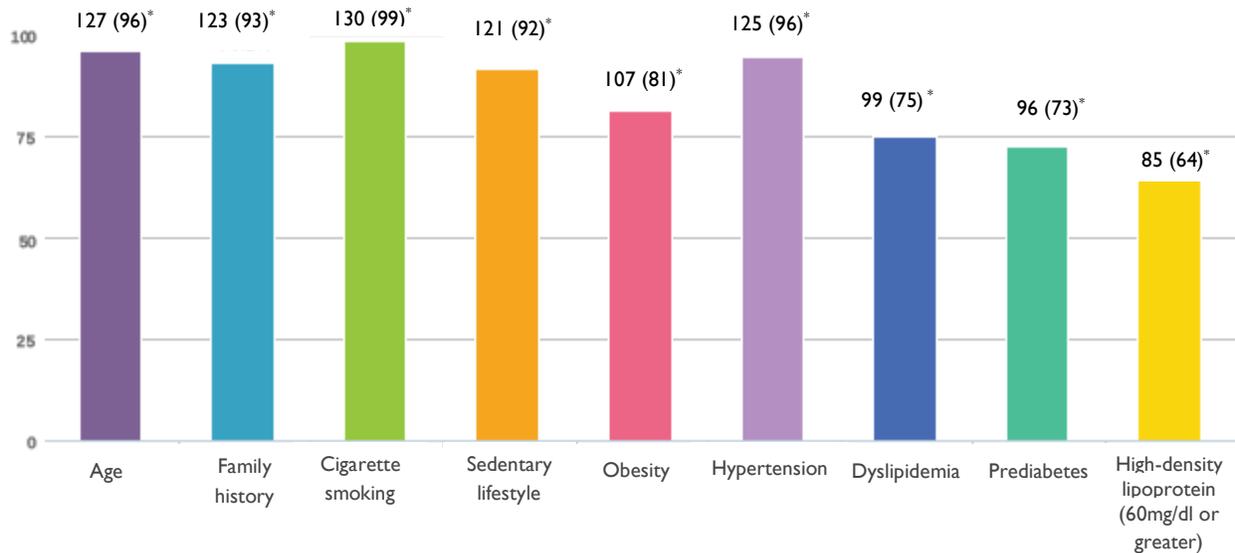


Figure 4.4 Q25 Follow-up: Please indicate which risk factors from ACSM's Guidelines for Exercise Testing and Prescription are included on your screening device - check all that apply. $n=132$

*Responses do not total 133 due to missing data

Part 2: Pre-Activity Health Screening for Guests and Personal Training Programs

(Questions 27 – 33)

The following tables and figures present the descriptive statistics for Q27 – Q33. Table 4.19 presents the frequencies and percentages for responses to Q27. Based on the “other” responses, none of them were added into one of existing response options. However, of the 62 “other” responses, 31 of these respondents indicated that they do not allow guests and 5 indicated that guests sign a waiver and/or release form. The remaining “other” responses were varied.

Table 4.19 Q27: Which of the following statements best describes your Pre-activity Health Screening Procedures for guests? *n*=656

	<i>f</i> (%)
Guests receive a screening device such as the PAR-Q and are required to complete it	218 (40)
Guests receive a screening device such as the PAR-Q and are encouraged to complete it	61 (11)
Guests are not provided a screening device to complete	171 (31)
Don't know	34 (6)
Other, please specify:	62 (11)
Totals	546 (100)*

*Responses do not total 656 due to missing data

Table 4.20 Frequencies and Percentages of Responses to Q28, n=656

	Yes f (%)	No f (%)	Don't Know f (%)	Total f (%)
Q28. Does your fitness facility require guests to sign a waiver or some other protective legal document such as an informed consent?	455 (84)	63 (12)	26 (5)	544 (100)*

*Responses do not total 656 due to missing data

Table 4.21 Q29: Which of the following best describes the hiring practices for your personal training program? n=656

	f (%)
All of our personal trainers are hired as employees	319 (59)
All of our personal trainers are hired as independent contractors	88 (16)
We hire both employees and independent contractors to provide personal training	62 (16)
We do not offer personal training	76 (6)
Totals	545 (100)*

*Responses do not total 656 due to missing data

Table 4.22 presents the frequencies and percentages for responses to Q30. Based on survey logic, respondents who answered “No” to the previous question (Q29) were not shown this question. Therefore, the total amount of expected responses is 469. Based on the “other” responses, only one was added to choice #2 (encouraged to complete PHSP). The table below reflects these changes. However, of the “other” responses, four indicated it was the trainer’s choice to have clients complete PHSP. The remaining “other” responses were varied.

Table 4.22 Q30: Which of the following best describes your facility’s policy regarding clients completing Pre-activity Screening Procedures (PHSP)? *n*=656

	<i>f</i> (%)
Clients of personal trainers are required to complete PHSP	322 (69)
Clients of personal trainers are encouraged to complete PHSP	70 (15)
Clients of personal trainers are neither required nor encouraged to complete Pre-activity Health Screening Procedures (PHSP)	35 (8)
Don’t know	30 (6)
Other, please specify	12(3)
Totals	469 (100)*

*Responses do not total 656 due to missing data

Table 4.23 presents the frequencies and percentages for responses to Q31. Based on survey logic, only respondents who indicated “Clients of personal trainers are required to complete PHSP” to the previous question (Q30) were shown this question. Therefore, the total amount of expected responses is 322. From the “other” responses, none were able to be placed (classified) into one of the existing response options in this question. All three “other” responses were varied.

Table 4.24 presents the frequencies and percentages for responses to Q32. Based on survey logic, only respondents who indicated “Personal trainers are required to follow specific PHSP as established by our fitness facility” were shown this question. Therefore, the total amount of expected responses is 270.

Table 4.23 Q31: Which of the following best describes the specific Pre-activity Screening Procedures (PHSP) that personal trainers must follow? *n*=322

	<i>f</i> (%)
Personal trainers are required to follow specific PHSP as established by our fitness facility	270 (84)
Personal trainers can determine their own PHSP	41 (13)
Don't know	8 (2)
Other, please specify	3 (1)
Totals	322 (100)*

*Responses do not total 322 due to missing data

Table 4.24 Q32: Please respond to the statements below regarding your personal training programs screening procedures. *n*=270

	Yes <i>f</i> (%)	No <i>f</i> (%)	Don't Know <i>f</i> (%)	Total <i>f</i> (%)
Clients of personal trainers are required to complete a screening device	269 (99)	1 (1)	0 (0)	270 (100)
Pre-established criteria are used to identify at risk clients	259 (96)	8 (3)	3 (1)	270 (100)
At risk clients are required to obtain medical clearance	227 (84)	31 (12)	12 (4)	270 (100)

Table 4.25 presents the frequencies and percentages for responses to Q33. Based on survey logic, respondents who answered “Don't Know” to Q31 were not shown this question. Therefore, the total amount of expected responses is 314.

Table 4.25 Q33: Our facility has a policy that personal information obtained from the screening device for personal training is kept: *n*=314

	Yes f (%)	No f (%)	Don't Know f (%)	Total f (%)
Private - respecting participant's right to maintain control over his/her personal information	281 (91)	18 (6)	10 (3)	309 (100)*
Confidential - only authorized individuals have access to personal information	305 (97)	6 (2)	3 (1)	314 (100)
Secure - physical, technical, and/or administrative safeguards are in place to protect personal information	261 (85)	33 (11)	15 (4)	309 (100)*

**Responses do not total 314 due to missing data*

Part 3: Familiarity, Opinions, and Perceptions of Management (Questions 34 – 41)

The following tables and figures present the descriptive statistics for Q34-Q41. As the questions in this section represent participant perspectives, the total number of expected responses for each question in this section was 677 (i.e., all complete (*n*=535) and partial (*n*=142) responses who responded “Yes” to Q1) – unless otherwise noted.

Table 4.26 Q34: What is your level of familiarity with pre-activity health screening standards and guidelines in each of the following publications? *n*=677

	Very Familiar f (%)	Familiar f (%)	Somewhat Familiar f (%)	Not Familiar f (%)	Total f (%)
ACSM's Guidelines for Exercise Testing and Prescription	382(69)	145(26)	25(4)	3 3(1)	555(100)*
ACSM's Health/Fitness Facility Standards and Guidelines	210(38)	195(35)	118(21)	32(6)	555(100)*
AHA/ACSM Joint Position Statement – Recommendations for Cardiovascular Screening, Staffing, and Emergency Policies at Health/Fitness Facilities	127(23)	176(32)	164(30)	88(15)	555(100)*

**Responses do not total 677 due to missing data*

Table 4.27 Q35: How important is it to you that your fitness facility adheres to published standards and guidelines for pre-activity health screening? *n*=677

	<i>f</i> (%)
Very Important	380 (69.5)
Important	136 (24.9)
Somewhat Important	28 (5.1)
Not Important	3 (0.6)
Totals	547 (100)*

*Responses do not total 677 due to missing data

Table 4.28 Q36: Please use the rating scale below to indicate the response which best reflects your level of agreement with the following statements? *n*=677

	Strongly Agree <i>f</i> (%)	Agree <i>f</i> (%)	Disagree <i>f</i> (%)	Strongly Disagree <i>f</i> (%)	Total <i>f</i> (%)
Data obtained in pre-activity health screening should be used when designing an individualized exercise program	477 (87.2)	69 (12.6)	1(0.2)	0 (0)	547 (100)*
Pre-activity Health Screening Procedures that include requiring medical clearance for at risk participants can lead to medical intervention/treatment.	380 (70)	156 (28.5)	10 (1.8)	1 (0.2)	547 (100)*
Conducting pre-activity screening procedures enhances the quality of our program.	434 (79)	107 (19)	6 (1)	0 (0)	547 (100)*
Conducting pre-activity screening procedures enhances the professional reputation of our program.	447 (82)	95 (17)	5 (1)	0 (0)	547 (100)*
Pre-activity Health Screening helps ensure the safety of our participants	474 (87)	69 (12)	4 (1)	0 (0)	547 (100)*

*Responses do not total 677 due to missing data

Table 4.29 Q37: How confident are you in conducting professionally-guided pre-activity screening procedures? *n*=677

	<i>f</i> (%)
Very Confident	385 (70.4)
Confident	144 (26.3)
Somewhat Confident	17 (3.1)
Not Confident	1 (0.2)
Totals	547 (100)*

*Responses do not total 677 due to missing data

Table 4.30 Q38: Did your undergraduate and/or graduate course include content covering Pre-activity Health Screening Procedures? *n*=677

	<i>f</i> (%)
Yes	493 (90.1)
No	46 (8.4)
Don't Know	8 (1.5)
Totals	547 (100)*

*Responses do not total 677 due to missing data

Table 4.31 presents the frequencies and percentages for responses to Q39. Based on survey logic, only respondents who indicated “Yes” to the previous question (Q38) were shown this question. Therefore, the total amount of expected responses is 493.

Table 4.31 Q39: How adequate was the pre-activity health screening information covered in your academic program(s)? *n=493*

	<i>f (%)</i>
More than Adequate	255 (51.7)
Adequate	205 (41.6)
Somewhat Adequate	31 (6.3)
Not Adequate	2 (0.3)
Totals	493(100)

Table 4.32 Q40: How important is it to the management (e.g., top manager at your facility) of your fitness facility that it adheres to published standards and guidelines for pre-activity health screening? *n=677*

	<i>f (%)</i>
Very Important	267 (49)
Important	145 (27)
Somewhat Important	78 (14)
Not Important	34 (6)
Don't Know	23 (4)
Totals	547 (100)*

**Responses do not total 677 due to missing data*

Table 4.33 Q41: How familiar is the management (e.g., top manager at your facility) with pre-activity health screening procedures provided in each of the following publications? *n*=677

	Very Familiar <i>f</i> (%)	Familiar <i>f</i> (%)	Somewhat Familiar <i>f</i> (%)	Not Familiar <i>f</i> (%)	Don't Know <i>f</i> (%)	Total <i>f</i> (%)
ACSM's Guidelines for Exercise Testing and Prescription	184(33.6)	102(18.6)	83(15.2)	18(14.8)	97(17.7)	547(100)*
ACSM's Health/Fitness Facility Standards and Guidelines	144(26.3)	99(18.1)	103(18.8)	89(16.3)	112(20.5)	547(100)*
AHA/ACSM Joint Position Statement – Recommendations for Cardiovascular Screening, Staffing, and Emergency Policies at Health/Fitness Facilities	101(18.5)	99(18.1)	103(18.8)	108(19.7)	136(19.7)	547(100)*

*Responses do not total 677 due to missing data

Part 4: Legal Issues (Questions 42 – 46)

The following tables and figures present the descriptive statistics for Q42 – Q46.

Table 4.34 Frequencies and Percentages for Q42, Q43 and 44, *n*=677

	Yes <i>f</i> (%)	No <i>f</i> (%)	Don't Know <i>f</i> (%)	Total <i>f</i> (%)
Q42. Are you aware of any legal cases in which the failure to conduct Pre-activity Health Screening Procedures resulted in a negligence claim or lawsuit against a fitness facility?	118 (22)	353 (64)	76 (14)	547 (100)*
Q43. Are fitness facilities that do not conduct Pre-activity Health Screening Procedures at increased risk of a negligence claim or lawsuit?	432 (79)	21 (4)	94 (17)	547 (100)*
Q44. Do you believe that Pre-activity Health Screening Procedures could minimize the incidence of serious or potentially life threatening events?	523 (96)	13 (2)	11 (2)	547 (100)*

*Responses do not total 677 due to missing data

Table 4.35 Q45: How adequate was your preparation (e.g., formal education and/or training) regarding legal implications involved with Pre-activity Health Screening Procedures? *n*=677

	<i>f</i> (%)
More than Adequate	155 (28)
Adequate	212 (39)
Somewhat Adequate	135 (25)
Not Adequate	45 (8)
Totals	547(100)*

*Responses do not total 677 due to missing data

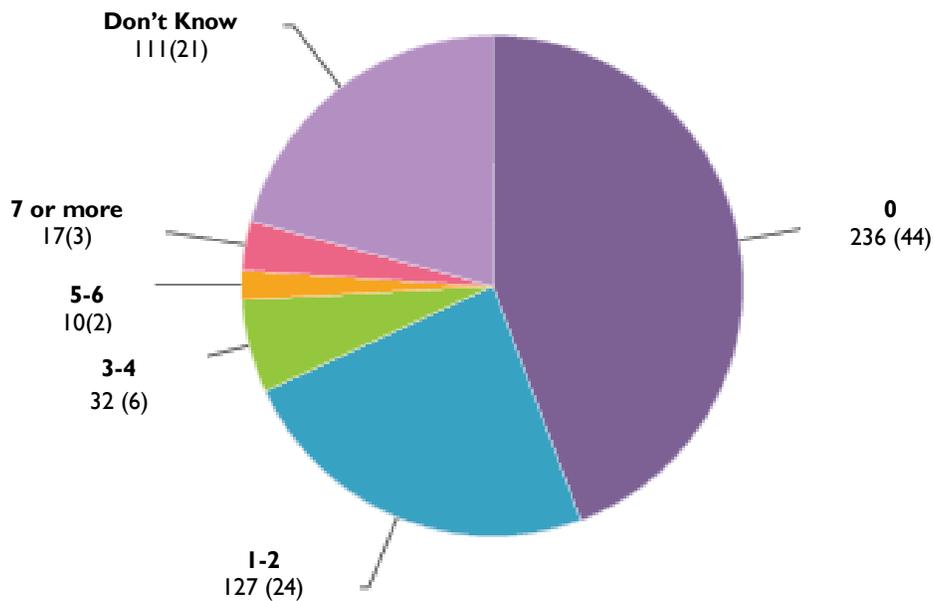


Figure 4.5 Q46: To your knowledge, how many cardiac events (e.g., cardiac deaths, cardiac arrests, heart attacks in which CPR/AED and/or activating EMS was needed) have occurred within your facility in the last 5 years? *n*=677

Chi-square analysis

Table 4.36 presents the results of the chi-square analyses for H₁ and H₂. As there was no variability between the variables in H₃ and H₄, no chi-square analyses were conducted.

Table 4.36 Chi-Square analysis results for H₁ & H₂

H₁: The percentage of fitness facilities which require new participants to complete a pre-activity screening device will be significantly higher in the Hospital/Clinical setting than in University/College, Community, Commercial, and Government settings

	<i>n</i>	χ^2	<i>p</i>	<i>V</i>	Column Differences (%)
University	161	27.772	.000 ^a	.415 ^c	34.3
Community	189	39.602	.000 ^a	.458 ^c	38.9
Commercial	279	17.605	.000 ^a	.251 ^d	19.8
Government	142	14.436	.000 ^a	.319 ^d	26.3

H₂: The percentage of fitness facilities which require new participants to complete a pre-activity screening device will be significantly higher in the Corporate setting than in University/College, Community, Commercial, and Government settings.

	<i>n</i>	χ^2	<i>p</i>	<i>V</i>	Column Differences (%)
University	135	5.97	.015	.210	30.8
Community	163	11.141	.001 ^b	.261 ^g	24.6
Commercial	253	.927	.336	.061	5.5
Government	116	1.625	.202	.118	12.0

^aHospital/Clinical significantly higher than University, Community, Commercial, and Government ($p < .006$). ^bCorporate higher than Community ($p < .006$). ^cStrong association. ^dModerate association.

Based upon the significance of the chi-square statistics, the research hypothesis for H₁ (for all four comparisons between variables) was accepted, i.e., the percentage of fitness facilities which require new participants to complete a pre-activity screening device was significantly higher ($p < .006$) in Hospital/Clinical settings than all of the other four settings. Whereas the research hypothesis for H₂ was accepted for only one comparison (Corporate was significantly higher, $p < .006$, than Community) and was rejected for the other three comparisons ($p > .006$). The Cramér's *V* for the significant findings indicated either a strong

association or moderate association. For the interpretation of the Cramér's V measure of association, values of .60 to less than .80 are considered strong and .20 to less than .40 are moderate (Rea & Parker, 2005).

Table 4.37 presents the results of the chi-square analysis which was conducted to determine if there were significant differences in the percentages of Hospital/Clinical and Corporate facilities which require new participants to complete a pre-activity screening device. This analysis was not a part of the research hypotheses; rather it was an exploratory finding. The results indicate that Hospital/Clinical is significantly higher than Corporate relative to the requirement of new participants to complete a pre-activity screening device ($p < .006$).

Table 4.37 Exploratory Chi-Square analysis for Hospital/Clinical and Corporate Settings

	n	χ^2	p	V	Column Difference (%)
Corporate	204	9.049	.003 ^a	.211 ^b	14.3

^aHospital/Clinical significantly higher than Corporate ($p < .006$). ^bModerate association.

Open-text analysis

The survey instrument included one open-ended question in an effort to contribute richness and additional meaning to the quantitative data obtained. The total number of responses ($n=416$) to this question (Q54) were analyzed and coded resulting in a total of 475 concepts observed. According to Corbin (2008), concepts are words that stand for groups or classes of objects, events, and actions that share some major common property(ies), though the property(ies) can vary dimensionally (p. 45). Of the 475 concepts observed, 19 (4%) respondents indicated "No problem." This small percentage is likely indicative of the respective complexities encountered when respondents (attempt to) conduct PHSP. Thirty-seven percent ($n=175$) of these responses were coded "Indirectly Related" as they were either

uninterpretable or did not directly address issues or challenges experienced while conducting PHSP. The total of the responses coded “No problem” and “Indirectly Related” (i.e., 19+175= 194) was not included in the categorization of the data into themes, leaving 281 remaining responses for categorization into the three major themes that emerged from the data. These major themes were 1) medical clearance related issues, 2) administrative/procedural related issues, and 3) member related issues. The total number of units in each of these themes was converted to percentages to determine the manifest intensity effect sizes (i.e., prevalence rates) for each major theme. Figure 4.6 depicts the manifest intensity effect sizes for the open-ended responses to Q54. A description and discussion of each of these themes is provided below.

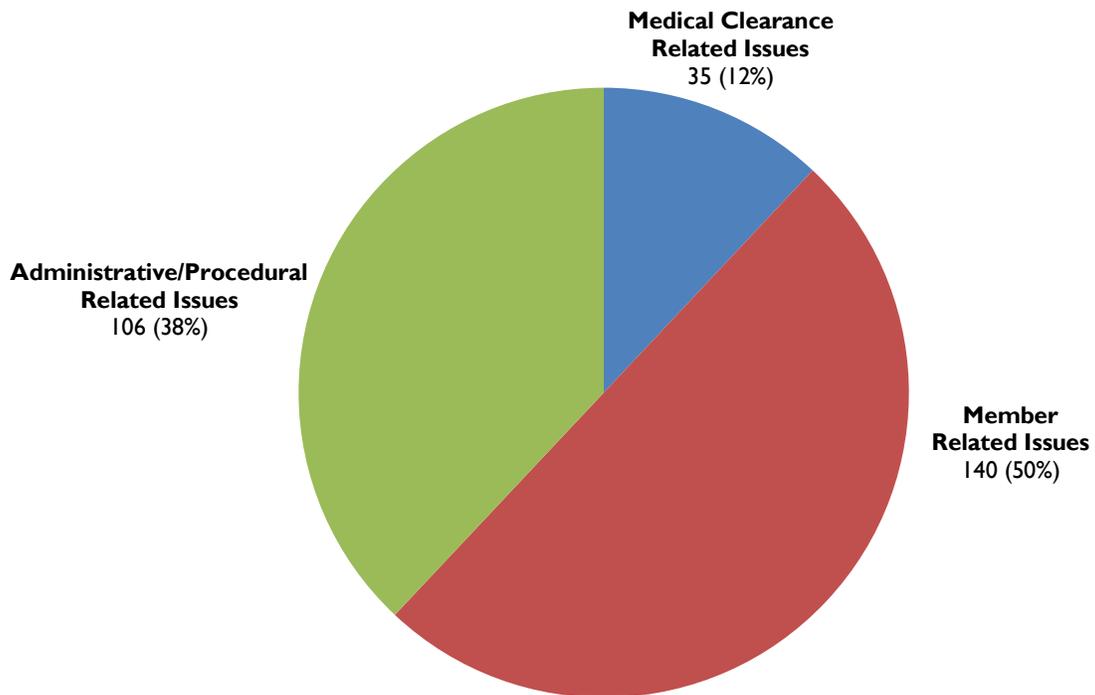


Figure 4.6 Manifest intensity effect sizes for Q54, $n=281$

Medical clearance related issues (12%)

Of the three major themes, this one was unique as it represented issues with medical clearance which either originated from and/or impacted the 1) new participant/member, 2) facility's administration and 3) physician/medical provider. The issues involving medical clearance are important to note as they directly affect the implementation of PHSP at fitness facilities and new participants' ability to engage in exercise. For example, in an effort to expedite the process and/or satisfy the new participant/member, some respondents indicated that they were hesitant to exclude a new participant from exercise out of fear/concern that the participant may be discouraged to start a fitness program. Additionally, there were some instances where new participant/members never came back or quit once they were informed of the requirement of medical clearance. A few specific examples are listed below to demonstrate the types of responses which were coded and then categorized into this theme.

New participant/member

“Clients resist seeing a physician for clearance.”

“Some people do not come back/quit when I inform them that they need to get medical Clearance.”

Facility's Administration

“It would take a while for a doctor's office to fax over our medical clearance form to us.”

“We have viewed numerous hypertension issues even after clearance by a physician.”

Physician/medical provider

“Dr. offices not responding to forms faxed regarding their patients risk of exercise and any restrictions.”

“When requesting clearance, not all doctors consent because they state it is not up to them to clear the patient.”

Administration/procedural related issues (38%)

The resounding general concepts in this theme were issues relative to management knowledge/support, staff knowledge/preparation/time, and procedures. More specifically, many respondents indicated that 1) managers are ambivalent toward PHSP, 2) staff/trainers are not knowledgeable, prepared, or do not have time to conduct PHSP, and 3) PHSP are lacking at the fitness facility. A few specific examples are listed below to demonstrate the types of responses which were coded and then categorized into this theme.

Managers are ambivalent toward PHSP

“Support from owners and managers who do not have an educational background in exercise science.”

“Owners would not like it, it was discussed.”

“At my facility it does not seem to be as important as selling personal training and memberships.”

Staff/trainers are not knowledgeable, prepared, or do not have time to conduct PHSP

“Part-time staff does not have knowledge or skills to properly discuss health history and risks.”

“Personal trainers are not really prepared to PHSP”

“Time is the biggest problem”

“Having time to explain the screening while treating patients.”

Procedural inadequacies

“Keeping track of the new participants who enter to try a class.”

“No systems in place.”

“Privacy- we have difficulty at times keeping our desk area private.”

“I am unaware of who enforces medical clearance in order to participate. It is my understanding it is the employees’ responsibility to seek assistance.”

Member related issues (50%)

This major theme represented issues experienced by respondents which originate from the new participant/member. The resounding general concepts in this theme were issues relative to noncompliance and misinformation from the new participant/member. For example, many respondents indicated that their new participants/members do not 1) want to do the screening, 2) understand the importance of pre-activity screening or questions on the device, and/or 3) provide accurate information on the device. Rationales for not providing full disclosure ranged from the new participant/member not knowing to not trusting the process (i.e., information may not be confidential). A few specific examples are listed below to demonstrate the types of responses which were coded and then categorized into this theme.

Do not want to do the screening

“People do not want to complete prescreening.”

“Some individuals do not want to go through the process of obtaining physician clearance prior to using the facility.”

Do not understand the importance of pre-activity screening or questions on the device

“People do not understand the importance of it.”

“People don't see the point.”

Do not provide accurate information on the device

“Clients not understanding questions.”

“Some people are unsure of their health history/information.”

“Many people are not totally honest on their forms, whether on purpose, due to embarrassment, or misinformation (not aware that taking BP meds does not mean they do not have high blood pressure anymore).”

Summary

This chapter presented the results of the data obtained in the study. It included the descriptive statistics for all of the respondents' answers to the questions from the web-based survey. It also included the results and explanation of the chi-square analyses. Lastly, it included the results of the open-text question which utilized a qualitative-analysis approach.

CHAPTER FIVE: DISCUSSION

This chapter includes a discussion of the results and is presented in the following sections: (a) Comparison of Results – Present Study and Previous Research (b) New Findings (c) Conclusions, (d) Recommendations, and (e) Summary.

Comparison of Results – Present Study and Previous Research

As discussed in the literature review, there are several studies which have investigated various aspects relative to pre-activity screening, more specifically, adherence to published standards and guidelines. The geographic makeup of these studies has been either individual cities or states while some were national investigations. The investigations in previous research included variables such as the requirement of pre-activity screening and medical clearance for at-risk for new participants and/or clients of personal trainers, type of and criteria included on screening device, awareness or familiarity with published standards and guidelines, and occurrences of cardiovascular medical emergencies within past five years. However, only two of the studies investigated comparisons across various settings (Springer et al., 2009a, Eickhoff-Shemek & Deja, 2002b).

Facilities requiring new participants to complete a pre-activity screening device

Figure 5.1 presents the percentages for the studies which investigated the requirement of new participants to complete a pre-activity screening device. Based on these data, the present study had the second highest percentage (73%) among all of the studies. In general, the

three state investigations (McInnis et al., 1997; K. H. McInnis et al., 2001; Springer et al., 2009a) indicated the lower percentages relative to this variable, whereas all but one (Herbert et al., 2007) of the four national investigations found higher percentages including the present study. It is believed that this may be due to the makeup of the subjects investigated in these three studies where all or a majority of the respondents were highly credentialed professionals. In the 2002 national investigation (Eickhoff-Shemek & Deja, 2002a), over 50% were HFS (formerly referred to as HFIs) certified, possessed master’s degree, and had 10 or more years’ experience in the field. The participants in the present study were all HFS certified, 40% possessed a master’s degree or higher and 41% had 10 or more years of professional experience in the field. The respondents in the state investigations were primarily managers or directors of fitness facilities whose credentials were not disclosed. According to Abbott (2009) many facility managers do not have formal education in exercise science or related areas which may explain the lower percentages in these studies.

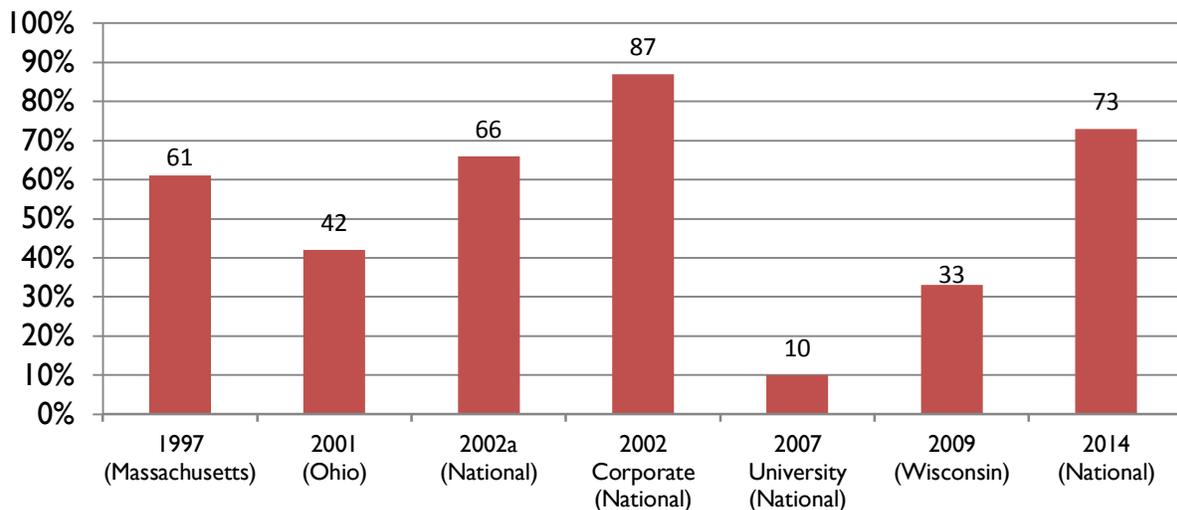


Figure 5.1 Percentage of Fitness Facilities Which Require New Participants to Complete a Pre-activity Screening Device – A Comparison of Previous Research and Present Study.

Figure 5.2 presents the percentages of fitness facilities (by setting) that require new participants to complete a pre-activity screening. These data demonstrate a wide range of percentages across settings; however, Hospital/Clinical and Corporate settings have the highest percentages among all of the settings. In the present study, the percentages of fitness facilities that required new participants to complete a pre-activity screening device were significantly higher ($p < .006$) in Hospital/Clinical settings than all of the other five settings. Also in the present study, the percentage of fitness facilities in the Corporate setting was significantly higher ($p < .006$) than only one other setting (Community) for this variable.

When comparing these data with the other two studies that investigated comparisons among settings (Eickhoff-Shemek & Deja, 2002b; Springer et al., 2009a), similar significant differences were found. In the Eickhoff-Shemek and Deja study (2002b), it was found that percentages of fitness facilities in the Hospital/Clinical settings that required completion of a pre-activity screening device were significantly higher than those in Private (Commercial), Community, Government, and University settings. Additionally, percentages of fitness facilities in Corporate settings that required completion of a pre-activity screening device were significantly higher than Community, Government, and University settings. In Springer et al. (2009a), percentages of fitness facilities that required completion of a pre-activity screening device in Corporate settings were significantly higher than those in Academic (University), Commercial, and Community settings. Hospital/Clinical settings were not investigated in this study.

The *ACSM Standards* (Tharrett & Peterson, 2012, p. 2) states, “Facility operators shall offer a general pre-activity screening tool (e.g., Par-Q) and/or specific pre-activity screening tool (e.g., health risk appraisal [HRA], health history questionnaire [HHQ]) to all new members and

prospective users” and a similar statement is included in the *ACSM’s Joint PS (American College of Sports Medicine, 2009)*. Based on the findings of the present national study and the previous two (Eickhoff-Shemek & Deja, 2002b; Springer et al., 2009a) which compared the requirement of new participants to complete a pre-activity screening device among different settings, there appears to be a trend with higher adherence rates to standards and guidelines published by ACSM in Hospital/Clinical and Corporate settings when compared to the other settings. In addition to employing highly credentialed professionals, further possible reasons for these settings having higher percentages of compliance with published standard and guidelines may include that they have more resources (i.e., staff to participant ratios are lower) and also provide fitness services for a smaller membership base as compared to other settings. Additionally, specific to Hospital/Clinical, these settings are accustomed to adhering to medical standards (e.g., Joint Commission on Accreditation of Health Care Organizations) and therefore are likely to also adhere to other standards from organizations such as the ACSM.

Facilities requiring medical clearance for at-risk new participants

For the purposes of this study, an at-risk new participant was defined as someone with known disease (e.g., cardiac, pulmonary or metabolic) or with signs/symptoms and/or risk factors associated with cardiac, pulmonary, or metabolic disease. Also, participants with other medical conditions (e.g., pregnancy, orthopedic injury) may be considered at-risk. Additionally, in the present study self-guided and professionally guided screening was defined as follows:

Self-guided – screening conducted by participants with little or no direction or supervision from an exercise or health fitness professional. Professionally guided – screening is conducted by an appropriately trained health fitness professional that possesses a

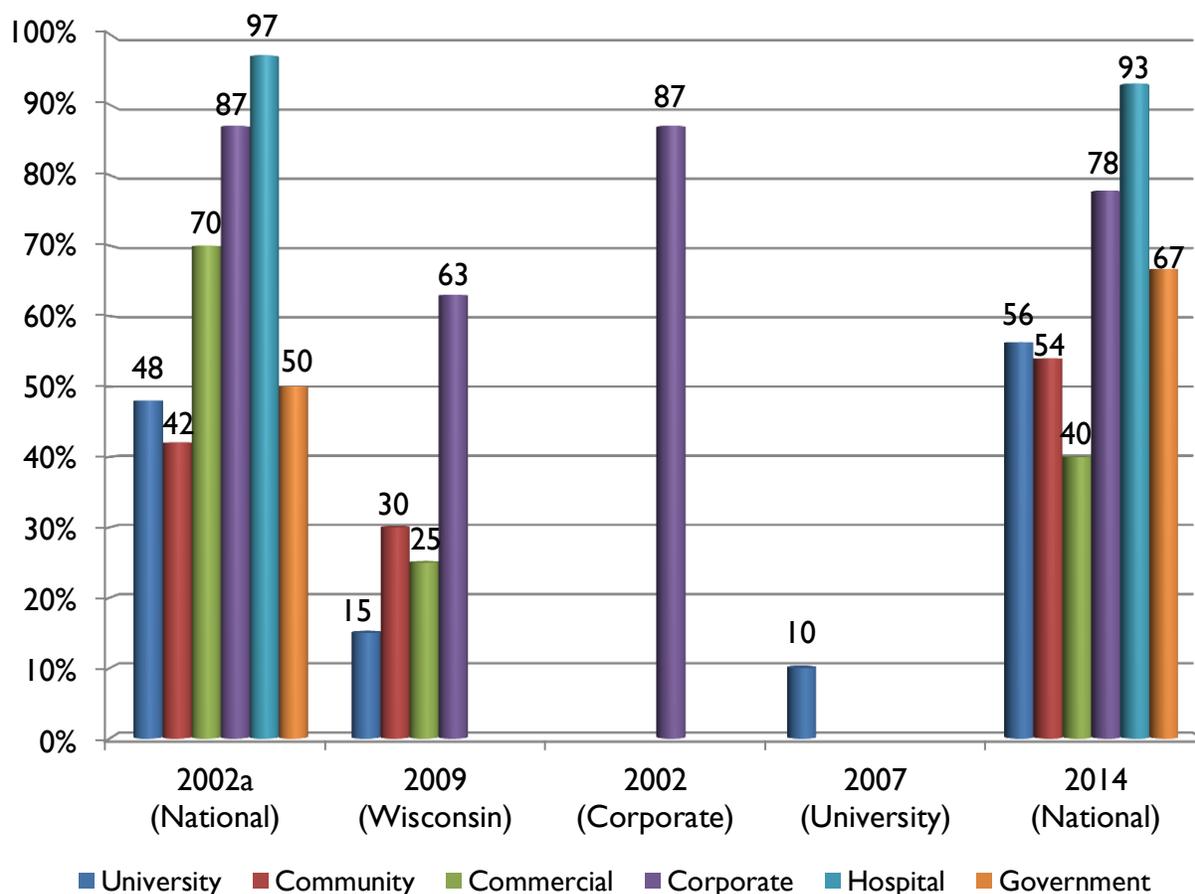


Figure 5.2 Percentage of Fitness Facilities that Require New Participants to Complete a Pre-activity Screening Device – A Comparison by Setting of Previous Research and Present Study

certification equivalent to the ACSM HFS or higher. This screening involves a more advanced process than self-guided that includes (a) the review of a detailed health/medical history form in order to determine risk classification and (b) depending on risk classification (and/or other existing medical conditions) obtaining medical clearance.

The present study found that almost half of the fitness facilities (47%) required at-risk participants to obtain medical clearance for their self-guided PHSP and 87% required this for professionally-guided PHSP. A disparity among fitness facilities was observed for this requirement for self- and professionally-guided PHSP. However, this difference was not

surprising as professionally-guided PHSP is more structured and typically takes place with one-on-one guidance while self-guided is less formal and self-directed. Although there are four previous studies (Eickhoff-Shemek & Deja, 2002a; McInnis et al., 1997; Morrey et al., 2002; Springer et al., 2009a) that investigated this same variable, none of these studies differentiated between self- and professionally-guided PHSP. Two studies which found 71% and 50% of fitness facilities required medical clearance for at-risk participants, but did not explicitly define at-risk (Eickhoff-Shemek & Deja, 2002a, Springer et al., 2009a, respectively). The other two studies defined at-risk as participants who had known cardiovascular disease and two or more risk factors and investigated the requirement of medical clearance separately for these variables (McInnis et al., 1997; Morrey et al., 2002). Also, these studies found that 49% and 75% of fitness facilities required medical clearance for participants with two or more risk factors and 77% and 82% required the same for participants with known cardiac disease (McInnis, et al., 1997; Morrey et al., 2002). These findings (77% and 82%) are close to that of the present study (87%), at least relative to professionally-guided PHSP, but all of the percentages from the previous studies are higher than the present study (47%), relative to self-guided PHSP. Perhaps higher percentages occurred in these other studies because professionally-guided PHSPs were being conducted, but the type of screening was not explicitly stated in any of these studies.

Facilities requiring clients of personal trainers to complete pre-activity screening device and medical clearance for at-risk

The present study found that the majority (84%) of fitness facilities offered personal training. Of these, 84% of the facilities required personal trainers to follow their PHSP. More specifically, of the facilities that offer personal training, nearly all (99.6%) required clients to complete a pre-activity screening device and 84% required medical clearance for at-risk clients. Only one other

study (Springer et al., 2009a) previously investigated this variable and found that 61% of fitness facilities required personal training clients to complete a screening device and of those, 64% required medical clearance for clients who were considered at-risk. As the population sampled for this study (i.e., metropolitan area in Wisconsin) was different than the present study, only a limited comparison was possible.

Overall, the data clearly demonstrate that relative to for personal training programs, a high percentage of fitness facilities are adhering to the *ACSMs Standards* which states, “If a facility operator becomes aware that a member, user, or prospective user has a known cardiovascular, metabolic, or pulmonary disease, or two or more major cardiovascular disease risk factors, or any other self-disclosed medical concern, that individual shall be advised to consult with a qualified healthcare provider before beginning a physical activity program” (Tharrett & Peterson, 2012, p. 2). This is encouraging and would be expected, especially with professionally-guided programs such as personal training for which individualized attention is necessary prior to the design and implementation of a customized program.

Type of and Criteria on Screening Device

In the present study, 47% and 22% of fitness facilities indicated that they used the PAR-Q and YOU for their screening device, and 37% and 40% indicated that they used a custom/in-house developed instrument for self- and professionally-guided PHSP, respectively. The percentages demonstrate that facilities using self-guided procedures used the PAR-Q more (47%) compared to those facilities using professionally-guided procedures (22%).

These findings for use of the PAR-Q are in alignment with the nature of self-guided PHSP which is intended to be completed by the participant. There was a similarity between percentages of fitness facilities that used custom/in-house developed instruments for self- and

professionally guided PHSP (i.e., 37% and 40%). These percentages may perhaps indicate that a more comprehensive, standardized screening device that meets criteria as established in the ACSM's *GETP* is needed. These data as well as respondents' qualitative feedback support a need for an established/validated screening device. For example, the following statements were provided for Q54,

“Have not found a good health tool to discuss results with patients that make sense to the layman.”

“A universal form for risk would be great.”

“The limitations of the pre-activity sheet we have the members fill out.”

“Having a questionnaire that covers all possible health problems.”

Two of the previous studies that investigated this same variable found that 48% and 86% of fitness facilities indicated that they used a self-developed instrument. However, these two studies did not differentiate between self- and professionally-guided PHSP relative to this variable.

Regarding the criteria on the screening device, all previous studies included known cardiac disease or medical conditions and all but one (McInnis, et al., 2001) included cardiovascular risk factors. The present study also investigated this variable relative to professionally-guided PHSP. These findings demonstrate that the majority (52%) indicated that they utilized the ACSM's *GETP* to develop and implement their professionally- guided PHSP. This is likely attributed to the fact that this book is the primary resource used by HFSs to prepare for the ACSM's HFS certification. To more specifically investigate this variable, several questions in the present study addressed specific criteria in three areas: 1) known disease (i.e., cardiovascular, pulmonary, metabolic), 2) major signs and symptoms, and 3) risk factors. Based

on the findings as presented in Chapter 4, it appears that a very high percentage of fitness facilities are, in fact, including the specific criteria for all three of these areas in the ACSM's *GETP* on their screening device (87%-96% for known diseases, 88% for signs and symptoms, and 87% for risk factors). Inclusion of the nine signs and symptoms ranged from 44%-95% with dizziness/syncope the highest (95%) and intermittent claudication the lowest (44%). Inclusion of the nine cardiovascular risk factors ranged from 65%-99% with smoking the highest (99%) and high-density lipoprotein the lowest (64%). It is speculated that terms like intermittent claudication and high-density lipoprotein are not included as often on screening devices because participants may not understand the terms. Also, the data demonstrate that 82% of facilities have pre-established criteria and at 88% of facilities, the health/fitness professional interprets the information to determine if a new participant is at-risk.

Awareness/Familiarity

The present study investigated respondents' levels of familiarity with pre-activity health screening standards and guidelines in the three ACSM publications and found that 95%, 72%, and 55% of respondents indicated that they were very familiar or familiar with the ACSM's *GETP*, the ACSM's *Standards*, and the *AHA/ACSM's Joint PS*, respectively. Again, the higher levels of familiarity with the ACSM's *GETP* are likely associated with the necessity of this publication for HFSs to prepare for the certification. Three previous studies also investigated familiarity and awareness of published standards and guidelines (Eickhoff-Shemek & Deja, 2002a; Herbert et al., 2007; K. McInnis et al., 2001). Eickhoff-Shemek and Deja (2002a) found high levels of familiarity (80%) with the ACSM's *Standards*. The other two studies found lower percentages ranging from 18-30% relative to the *AHA/ACSM's Joint PS*. These findings relative to awareness and familiarity with published standards and guidelines, though higher in the present study than previous

studies, indicate a need for fitness professionals (and managers) to become more familiar with them, especially given the potential legal implications which are discussed in Chapter 2 and below. The respondents of this study indicated that their managers were less familiar with these published standards and guidelines than they were.

Cardiovascular Emergencies in Last Five Years

The present study found one or more cardiac events (e.g., cardiac deaths, cardiac arrests, heart attacks in which CPR/AED and/or activating EMS was needed) had occurred in the last five years at 44% of the fitness facilities. This finding is higher than those of previous studies which found ranges from 17-27% relative to this variable (Herbert et al., 2007; K. H. McInnis et al., 2001). The demonstrated increase in cardiovascular events may be, in part, due to the increased prevalence of older adults (who are generally at increased risk) participating in physical activity in fitness facilities. Additionally, this finding may be indicative of an increase of fitness facility's adherence to published standards and guidelines regarding this variable.

Reasons for not requiring new participants to complete screening device

The present study investigated the percentages of facilities which required new participants to complete a pre-activity screening device prior to participation as well as the reasons why they did not. As indicated in Table 4.2, 24% of fitness facilities do not require new participants to complete a pre-activity screening device. For those facilities, the top three reasons were 1) participants have personal responsibility (29%), 2) lack of staff resources (15%), and 3) facility/franchise policy (14%). The other study that also investigated this variable found that a much higher percentage (67%) of fitness facilities did not require new participants to complete a pre-activity screening device prior to participation (Springer et al., 2009a). Of those, the top three reasons were 1) no purpose or need (28%), 2) lack of staff resources (20%), and

3) participants have personal responsibility (18%). There were similarities in the findings for two of the top three reasons in each study – lack of staff resources and participants have personal responsibility. One of the reasons (lack of staff resources) would likely be typical of many fitness facilities as resources (i.e., staffing, funding) may be limited when serving large populations. Based upon respondents’ qualitative feedback (provided to Q54), the participant/staff ratio was an issue as demonstrated by the following quote, “We would not have the man-power to require the screening and follow-up for every member of our facility since every college student is a member.”

New Findings

The previous discussion focused on comparisons of variables between the present study and previous studies. However, some new findings were revealed in this study. This section will focus on the many new findings obtained in this study that add to the literature regarding PHSP.

For this discussion and to assist with the interpretation of the data, it was arbitrarily decided that percentages above 70 indicated a strong or positive result and those 70 or below indicated a need for improvement as was done in a previous study (Eickhoff-Shemek & Deja, 2002a). This section is divided into three parts: (a) Administrative Procedures, (b) Legal Implications, and (c) Perceptions of Respondents.

Administrative Procedures

To help new participants appreciate the importance of completing PHSP, it is important that they are informed of the (a) purposes of screening, (b) steps involved in the process, (c) benefits of completing PHSP, and (d) the risks of not completing PHSP (Eickhoff-Shemek et al., 2009; Tharrett & Peterson, 2012). The results in this study indicated that 82% and 74% of the

facilities are informing participants of the (a) purposes and (b) steps involved, respectively. However, only 69% and 62% of facilities are providing information on the (c) benefits and (d) risks, respectively. The necessity and effectiveness of providing this type of information was confirmed by qualitative responses to Q54. For example, respondents provided the following statements,

“Reluctance/refusal of participants. Education usually quells the rebellion.”

“I have not really experienced any real problems with pre-activity screening other than some participants not wanting to complete it but when the importance of it is expressed to them, they were more understanding.”

With regard to how often fitness facilities have their participants complete PHSP, the percentages were quite similar for both self-guided and professionally-guided programs. For self-guided, this study also found that 38% of facilities required participants to complete initially only, 36% initially and when participant informs a staff member of a change in health status, and 20% initially and annually thereafter. Relative to professionally-guided PHSP, the present study found that 36% of facilities required participants to complete initially only, 39% initially and when participant informs a staff member of a change in health status, and 15% initially and annually thereafter. There is little guidance from the ACSM in their published standards of practice, which might explain the varied results with regard to how often facilities should have participants complete PHSP. However, this is an important issue given that one’s health status can often change.

Legal Implications

As discussed in Chapter 2, it is essential from a legal perspective that fitness facilities conduct pre-activity screening procedures because the failure to do so can lead to negligence

claims and lawsuits. Most facilities (73%) had their new participants complete a screening device, which was a higher percentage than any of the other previous national studies. While these findings may suggest a trend in the right direction, there is still a need for improvement in certain settings (university, community, commercial, and government) where less than 70% of facilities had new participants complete a screening device (See Figure 5.1).

Also, as described in Chapter 2, expert witnesses often introduce published standards and guidelines as evidence of duties owed to plaintiffs (injured parties) in negligence lawsuits. Therefore, it is essential that fitness professionals and managers not only be familiar with these published standards but also implement them into their daily practices. Regarding familiarity, 69%, 38%, and 23% of the respondents indicated they were “very familiar” with the ACSM’s *GETP*, the ACSM’s *Standards*, and the *AHA/ACSM’s Joint PS*, respectively. When asked how familiar they believed their top managers were with these publications, respondents’ indicated percentages of 34, 26, and 19 for “very familiar,” respectively. Regarding importance to adhere to published standards and guidelines, 70% percent of the respondents in this study believed it was “very important”. However, only 49% believed that the top managers of their facility believed it was “very important” to do so. Perhaps one of the reasons for the low adherence to pre-activity screening procedures especially in certain settings (university, community, commercial and government) is that the managers of these facilities are not familiar with the published standards and guidelines and also do not believe it is important to adhere to them. These data also support the need for some improvement among the respondents in this study with regard to their familiarity with and importance of adhering to published standards of practice.

Several of the survey questions dealt directly with legal-related issues. For example, one question asked if new participants are formally notified or informed (i.e., having read and signed a document, e.g., informed consent, membership agreement, or waiver, that describes the injury risks) of injury risks associated with physical activity (e.g., musculoskeletal injuries, heart attack) prior to participation in their programs and services. A high percentage (86%) of the respondents indicated “yes” to this question. Additionally, one respondent stated “We explain why we do this and how it improves their safety while exercising” to Q54. Informing participants of risks associated with physical activity in documents such as in informed consents, waivers, membership agreements, will help to strengthen the “assumption of risk” defense which can protect the facility from liability when a claim/lawsuit occurs after an injury (Eickhoff-Shemek, Herbert, & Connaughton, 2009).

Another set of questions addressed privacy, confidentiality, and security of information gathered on the pre-activity screening device for (a) self-guided, (b) professionally-guided, and (c) personal training programs. For all three programs, a high percentage of facilities had policies in place regarding (a) privacy, 89-91%, (b) confidentiality, 95-97%, and (c) security, 83-85%. This is especially important for fitness facilities that are considered “covered entities” under a federal privacy law called the Health Insurance Portability and Accountability Act (HIPAA) which requires protected health information (PHI) to be kept private, confidential and secure (Eickhoff-Shemek, Herbert, & Connaughton, 2009). Violations can result in criminal charges and huge fines. For facilities that are not covered entities under HIPAA, it is still important to have these policies in place due to state privacy laws that may require PHI to be kept private, confidential, and secure. It is obvious from these data that high percentages of

fitness facilities are adhering to these law as well as codes of ethics, published by professional organizations that include the importance of keeping PHI confidential.

Regarding having guests complete a screening device, 51% of the respondents indicated that their facility either requires or encourages their guests to complete a screening device such as a PAR-Q and 31% are not providing a screening device for their guests to complete. In the *ACSM's Standards*, one of the standards states that "Facility operators shall offer a general pre-activity screening tool, (e.g., PAR-Q)... to all new members and prospective users" (Tharrett & Peterson, 2012, p. 2). This publication defines users as individuals who accessed the facility on one or more occasions without purchasing a membership and therefore, would include guests. Given that only 51% of facilities are adhering to this standard, improvement is needed in this area. However, the majority (84%) require their guests to sign a waiver or some other protective legal document such as an informed consent. These types of documents can help provide some legal protection, if a guest is injured while using the facility and subsequently sues the facility for negligence.

Respondents who indicated that they conduct professionally-guided screening programs were asked what they do when a new participant refuses to complete their facility's PHSP. Fifty percent indicated that they exclude these individuals from participation in program offerings and 37% indicated that they allow them to participate but they must first sign a document acknowledging their refusal to complete the pre-activity screening procedures. In the *ACSM's Standards*, one of the guidelines states that members or users "who fail to complete the pre-activity screening procedures on request should be permitted to sign a waiver or release that allows them to participate in the program offerings at the facility. In those instances where such members and/or users refuse to sign the release or waiver, they should be excluded from

participation to extent permitted by law” (Tharrett & Peterson, 2012, p. 6). It is likely that the law this ACSM guideline is referring to is the Americans with Disabilities Act (ADA) which requires individuals with disabilities access to fitness facilities. By refusing individuals to participate in program offerings, it could potentially lead to a discrimination lawsuit. Another issue that arises with this guideline is that waivers are unenforceable in some states because they are against public policy (Eickhoff-Shemek, Herbert, & Connaughton, 2009). It is unclear from these results in this study if facilities are following this guideline exactly as recommended given 50% and 37% of the facilities either refusing participation or having new participants sign a refusal document which may or may not be a waiver, respectively. This issue regarding what facilities need to do with regard to members/users who refuse to complete pre-activity screening procedures requires legal consultation to determine which liability exposure is of most concern, i.e., a potential violation of the ADA or a potential negligence lawsuit for the failure to conduct pre-activity screening procedures especially in states where a waiver will not provide protection for negligence.

Of the facilities that offer personal training, 68% hire all employees, 19% hire all independent contractors, and 13% hire both employees and independent contractors, which totals almost one-third (32%) of the facilities utilizing independent contractors to provide personal training services. A law (Publication 1779) of the Internal Revenue Service (IRS) requires that employers cannot exhibit “behavioral control” over independent contractors -- meaning that employers cannot provide independent contractors extensive instructions on how their work needs to be done and cannot provide training for them regarding any required procedures the business wants the contractor to follow (Eickhoff-Shemek, Herbert, & Connaughton, 2009). The results of this study indicated that 69% of the facilities that offered

personal training had a policy that required clients of personal trainers to complete pre-activity screening procedures. Such a policy for personal trainers who are independent contractors might be considered a violation of this law. Again, to obtain clarification on this legal issue, fitness professionals and managers need to consult with their legal counsel to research the legal consequences of potentially violating IRS law or having personal trainers not adhering to published standards of practice regarding pre-activity screening procedures.

Respondents' specific answers to the survey in this study indicate a need for education with regard to the legal implications involving pre-activity screening procedures. Only 28% of the respondents believed their formal education and training was "more than adequate" on this topic with 39% indicating "adequate" and with 33% indicating "somewhat adequate" or "inadequate". However, 79% of the respondents indicated that facilities that do not conduct pre-activity screening procedures are at an increased risk of a negligence claim/lawsuit. Interestingly, the majority of the respondents (78%) either indicated "no" or "don't know" when asked if they were aware of legal cases where the failure to conduct pre-activity resulted in a negligence claim or lawsuit. It may be that the former statistic (79%) reflects a general understanding that the failure to follow published standards of practice can lead to negligence claims/lawsuits. These results, along with some of the results discussed in this sub-section of Legal Implications, demonstrate a need for health/fitness professionals to have formal education and training regarding the many legal issues that exist with regard to pre-activity screening procedures.

Perceptions of Respondents

The present study found high percentages from respondents relative to their perceptions about PHSP and its impact on their facility's programs. More specifically, nearly all

(87%) “strongly agreed” that data obtained from pre-activity health screening should be used when designing an individualized exercise program and that pre-activity health screening helps ensure safety of participants. A previously mentioned qualitative response supports these findings, relative to safety of participants and another respondent’s feedback to Q54 stated that PHSP was “Positive for information gathering for me and for ensuring the safety of clients.” Regarding perceptions about PHSP enhancing the quality and professional reputation of their facility’s programs, 80% and 81% of respondents indicated that they “strongly agree,” respectively.

Additionally, 70% of respondents indicated that they “strongly agree” that requiring medical clearance can lead to medical intervention/treatment. One participant provided the following statement to Q54, “Taking resting blood pressure and finding it in stage 2 hypertension. Helped get a client to listen to his doctor and do a sleep study and start taking his medicine regularly.” Nearly all respondents (96%) believed that PHSP could minimize incidence of serious injury or life threatening events.

Further, the present study investigated inclusion of PHSP in academic courses and respondents’ perceptions of adequacy of coverage in academic programs. Findings demonstrated that undergraduate and/or graduate academic courses included content covering PHSP for 90% of respondents of which 52% indicated that this coverage (in their academic program(s)) was “more than adequate.” Based on these data, many academic programs are covering content related to PHSP. However, respondent perceptions regarding adequacy of coverage indicates, perhaps, that there is room for improvement regarding the quality, quantity, and practicality of content covered. This need was reflected by the following quote of one

respondent, “Bridging the gap between science/text books and theory and the actual application of these procedures/terms.”

Open-text analysis – major themes

As previously mentioned, after the open-text analysis was conducted, 18 in-vivo codes were categorized into three major themes (i.e., medical clearance issues, participant related issues, administrative/procedure-related issues). About half of the respondents’ comments (50%) were related to issues ranging from compliance to inaccurate information provided during PHSP. This is problematic, as the effectiveness of pre-activity screening starts with the accuracy and completeness of the information provided on the screening device. Almost 40% of respondents’ comments were related to administrative/procedural related issues ranging from inconsistencies/inadequacies among staff to lack of resources, procedures and management support. It is believed that the relatively lower percentages found are not necessarily indicative of the impact of these issues on PHSP. The remaining respondents’ comments (12%), though they originated from or impacted different stakeholders in the process (i.e., member, physician/medical provider, facility’s administration), were directly related to issues with medical clearance. This aspect of PHSP is critical to the next steps in the implementation of an exercise program and likely would delay the process for the new participant.

Throughout this section of the Discussion, the results were described and interpreted using percentages higher than 70% representing strong or positive results and those 70% or below indicating a need for fitness facilities to make improvements with regard to their pre-activity screening procedures.

Conclusions

The major findings from the comparison of the present study and previous research include:

- A high percentage (73%) of the fitness facilities represented in this study require their new participants to complete a pre-activity screening device; only one other previous study had a higher percentage (87%) and this study only investigated corporate settings, which when compared to the corporate findings of this study (73%) and one other study (87%), similar higher percentages were found.
- The results of this study generally support previous research findings in that hospital/clinical and corporate settings have a higher percentage of facilities that require new participants to complete a pre-activity screening device than other types of facilities.
- The requirement to have at-risk new participants obtain medical clearance was high (87%) compared to previous studies when considering professionally-guided PHSP but was low (47%) compared to previous studies when considering self-guided PHSP.
- For facilities offering personal training, higher percentages were found in the present study for (a) requiring clients of personal trainers to complete a screening device (99.6%) and (b) requiring medical clearance for at-risk clients (84%) when compared to only one other study in which these percentages were 61% and 64%, respectively.
- The PAR-Q is used more in facilities using self-guided procedures (47%) than in facilities using professionally-guided procedures (22%). Comparisons with two other studies that used custom or self-developed devices could not be done because these studies did not differentiate between self-guided and professionally guided.
- A high percentage of fitness facilities utilizing professionally-guided procedures are including all three areas of criteria as established by the ACSM's *GETP* as follows: (a) 87%- 96% for the three known disease categories, (b) 88% for signs and symptoms

(ranging from 4%-95% for each of the nine), and (c) 87% for risk factors (ranging from 64%-99% for each of the nine).

- The level of familiarity with published standards and guidelines related to pre-activity screening among the respondents in this study, though higher than previous studies, could be improved.
- Two of the top three reasons for not having new participants complete a pre-activity screening device were the same in this study and one other study that investigated this variable – lack of staff resources and participants have personal responsibility.

A summary of the major new findings are presented in two sections, 1) Strong/Positive Results and 2) Results Indicating a Need for Improvement. Arbitrarily, percentages above 70 were considered strong/positive and those 70% and below reflected areas needing improvement.

Strong/Positive Results

- High percentages (82% and 74%) of the facilities inform their new participants of the purposes of PHSP and steps involved in the process, respectively.
- Most fitness facilities (73%) required new participants to complete a pre-activity screening device.
- Most fitness facilities (86%) formally notified or informed new participants of risks associated with physical activity.
- A high percentage (87%) of the respondents “strongly agreed” that data obtained from pre-activity health screening should be used to design an individualized exercise program

and that conducting PHSP helps ensure the safety of participants with 96% of them indicating that PHSP could minimize the incidence of a serious or life-threatening event.

Results indicating a need for improvement

- Only 69% and 62% of fitness facilities provide information for their new members on the benefits of completing PHSP and risks of not completing PHSP, respectively.
- Certain fitness settings (Commercial, Community, University, and Government) have low percentages (40% - 67%) regarding the requirement of new participants to complete a pre-activity screening device.
- Being “very familiar” with published standards of practice regarding pre-activity screening procedures was 69% for the ACSM’s *GETP* among the HFSs (respondents) and lower (34% for the ACSM’s *GETP*) when HFSs were asked about their top manager’s familiarity. These percentages regarding “very familiar” were even lower for the other two ACSM publications.
- Only 51% of the respondents indicated that their facility either requires or encourages their guests to complete a screening device such as a PAR-Q and 31% are not provided a screening device for their guests to complete.
- Only 28% of the respondents believed their formal education and training was “more than adequate” regarding legal implications involving pre-activity screening with 39% indicating “adequate” and with 33% indicating “somewhat adequate” or “inadequate”.
- The majority of the respondents (78%) either indicated “no” or “don’t know” when asked if they were aware of legal cases where the failure to conduct pre-activity resulted in a negligence claim or lawsuit.

- Many respondents identified challenges with PHSP with three issues emerging from Q54 -- medical clearance issues, participant related issues, and administrative/procedure-related issues. All of these issues could be addressed to minimize these challenges through various educational strategies provided to HFSs.

Recommendations

Based upon the findings from the present study, recommendations were made for the following areas: 1) Future published standards and guidelines. 2) Academic programs in exercise science and related areas, and 3) Future research.

Future published standards and guidelines

Quantitative and qualitative findings from this study, demonstrated that there are legitimate issues and concerns regarding conducting PHSP among HFSs who are currently working as practitioners in the profession. As the ACSM is the gold-standard in the field from which health fitness practitioners seek guidance regarding recommendations and standards for best practices, it is incumbent upon the organization to consider these findings. The intricacies of the various settings of each fitness facility may present their own set of challenges separate from those which inherently accompany PHSPs. One respondent to this study indicated that the complexity of the ACSM's *GETP* is problematic. Perhaps, a more direct, simple approach to PHSP in future published standards and guidelines would mitigate some of the issues experienced by respondents in this study. Other HFSs indicated that the lack of knowledge and/or support from their managers directly impacted PHSPs at their facility. Another recommendation for the ACSM could be to provide guidance on how often fitness facilities need to have participants complete PHSP in their published standards of practice.

The implementation of other mechanisms might also prove to be effective in acknowledging and addressing issues related to PHSP among various settings such as focus groups, round-table discussion at conferences, interactive educational sessions, and online-training modules for HFSs, managers, and perhaps even Human Resource representatives. The Scientific Roundtable recently hosted by the ACSM is indicative of their acknowledgment of issues around this topic and willingness to learn of and address issues.

Academic programs in exercise science and related areas

Findings from this study indicate less than ideal percentages of HFSs who indicated that their academic programs adequately covered content regarding PHSP. More specifically, almost half (48%) of the respondents indicated either “somewhat adequate” or adequate” to this question on the survey versus a more confident answer -- “more than adequate” (52%). This is concerning, as the academic degree is the foundation from which aspiring health/fitness professionals build their knowledge, practical experiences, eligibility for accredited certifications, and professional credibility. Based on the findings from this study, exercise science and related academic programs should consider the depth, breadth, and relevance of content covered regarding PHSP in an effort to ensure that students are better prepared upon entry into the profession as practitioners. Specifically, to address issues with PHSP, a focus on legal implications relative to PHSP as well as the effective development, implementation, and evaluation seems prudent. Additionally, developing and/or capitalizing upon partnerships and collaborations with local fitness facilities on- and/or off-campus may provide mutually beneficial experiences with a focus on PHSP such as service-learning opportunities, internships or special projects to hone the practical knowledge and skills of students.

Future research

The present study was part confirmatory and exploratory regarding multiple variables of PHSPs. As the latest edition of the ACSM's *GETP* is currently being edited for publication soon and research around PHSP has not been published in five years, the findings are timely for the field. Based on the results, there are some positive findings; yet others indicate a clear need for improvement, clarification, and simplification. This is the first study to investigate self- and professionally-guided PHSP. Future research should be done with this same focus to help ascertain trends in the profession relative to adherence with published standards and guidelines among fitness facilities. A myriad of issues surfaced in the findings of this study; some of which were very specific to a particular setting. Perhaps more focused studies are appropriate for each individual setting to delve deeper into these specific issues as well as explore plausible solutions.

The present study used a survey instrument to obtain a great deal of quantitative data regarding PHSP in fitness facilities. Only one question on the survey instrument provided respondents with an opportunity to include additional context regarding their experiences with PHSP at their fitness facility which was a limitation of this study. Future research could investigate this topic in a more in depth manner; possibly integrating a mixed-methods approach with personal interviews and/or focus groups to enhance the richness of the data. Another recommendation might be to conduct direct observation of PHSPs within fitness facilities and investigate the reliability of the data reported with what actually transpires in the day-to-day operations.

Summary

This chapter presented a detailed discussion of the results which acknowledged accomplishment of the purposes of the study as well as provided meaningful interpretation of the findings and implications. The discussion began with comparisons of the present study with previous research. New findings were then discussed, followed by conclusions and recommendations.

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APPENDICES

Appendix A: Pre-Activity Screening Devices (PAR-Q and AHA/ACSM Health/Fitness Facility Preparticipation Screening Questionnaire)

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 _____

DATE _____

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

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.



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AHA/ACSM Health/Fitness Facility Preparticipation Screening Questionnaire

Assess your health needs by marking all *true* statements.

History

You have had:

- A heart attack
- Heart surgery
- Cardiac catheterization
- Coronary angioplasty (PTCA)
- Pacemaker/implantable cardiac defibrillator/rhythm disturbance
- Heart valve disease
- Heart failure
- Heart transplantation
- Congenital heart disease

Symptoms

- You experience chest discomfort with exertion.
- You experience unreasonable breathlessness.
- You experience dizziness, fainting, blackouts.
- You take heart medications.

*If you marked any of the statements in this section, consult your physician or other appropriate healthcare provider before engaging in exercise. You may need to use a facility with a **medically qualified staff**.*

Other health issues

- You have diabetes
- You have or asthma other lung disease.
- You have burning or cramping in your lower legs when walking short distances.
- You have musculoskeletal problems that limit your physical activity.
- You have concerns about the safety of exercise.
- You take prescription medication(s).
- You are pregnant.

Cardiovascular risk factors

- You are a man older than 45 years.
- You are a woman older than 55 years, you have had a hysterectomy, or you are postmenopausal.
- You smoke, or quite within the previous 6 mo.
- Your BP is greater than 140/90.
- You don't know your BP.
- You take BP medication.
- Your blood cholesterol level is >200 mg/dL.
- You don't know your cholesterol level.
- You have a close blood relative who had a heart attack before age 55 (father or brother) or age 65 (mother or sister).
- You are physically inactive (i.e., you get less than 30 min. of physical activity on at least 3 days per week).
- You are more than 20 pounds overweight.

*If you marked two or more of the statements in this section, you should consult your physician or other appropriate healthcare provider before engaging in exercise. You might benefit by using a facility with a **professionally qualified exercise staff** to guide your exercise program.*

-
- None of the above is true.

You should be able to exercise safely without consulting your physician or other healthcare provider in a self-guided program or almost any facility that meets your exercise program needs.

Balady et al. (1998). AHA/ACSM Joint Statement: Recommendations for Cardiovascular Screening, Staffing, and Emergency Policies at Health/Fitness Facilities. *Medicine & Science in Sports & Exercise*, 30(8). (Also in: *ACSM's Guidelines for Exercise Testing and Prescription*, 7th Edition, 2005. Lippincott Williams and Wilkins <http://www.lww.com>)

www.acsm-msse.org/pt-core/template-journal/msse/media/0898c.htm

Appendix B: Summary of Pilot Procedures and Documents

SUMMARY OF PILOT PROCEDURES AND DOCUMENTS

Pre-Pilot Procedures

Fowler (2009) recommends a field pretest of a survey instrument and procedures once the researcher believes it is nearly ready to be used. Therefore the paper-and-pencil and web-based versions of the survey instrument and study procedures were pre-piloted. This process included three distinct groups; experts (n=3), Health Fitness Specialists (n=5), and lay persons (n=10). The purposes of the pre-pilot were to glean valuable feedback, identify errors, and make respective adjustments early on to improve the instrument's content and formatting as well as the procedural aspects of the study before use in the field. It is important to note that the pre-pilot also marked the beginning of the processes by which the PI began establishing the validity of the instrument. Validity refers to whether the instrument is correctly measuring the concepts under investigation (McKenzie, Neiger, & Thackeray, 2013). There are many ways of gathering evidence regarding the validity of an instrument and its interpretations (Sarvela, 1993); these processes will be described in the pre-pilot and pilot study procedures.

Expert panel

Pre-piloting with the expert panel took place between June 21 and October 11, 2013 and included three notable individuals. Linda Pescatello and Walter Thompson who were editors of the American College of Sports Medicine's Guidelines for Exercise Testing and Prescription, respectively (Pescatello et al., 2014; Thompson et al., 2010) and Judy Springer who

was the lead investigator of the most recent studies in the literature relative to pre-activity screening (Springer et al., 2009a, 2009b).

According to Presser (2004), it is not uncommon to have an expert panel evaluate a questionnaire before it is used in the field. As the paper-and-pencil version of instrument was the conceptual framework upon which the web-based version was designed, it was important to have the experts review the paper-and-pencil version of the *Dissertation Survey*. This review process was fundamental in establishing evidence of the content validity of the dissertation instrument. Content validity is usually established by using a group of experts to review the instrument (McKenzie et al., 2013). Content validity refers to “the assessment of the correspondence between the items composing the instrument and the content from which the items were selected” (Di Iorio, 2005, p.213). The experts made several suggestions and recommendations for offering additional definitions, clarifying context, increasing response options, and enhancing consistency of interpretation of the questions throughout the survey instrument.

Additional Definitions and Clarifying Context

It was suggested to add the term “formally notified” to Q4, which was originally worded “Are new participants informed of injury risks associated with physical activity (e.g., musculoskeletal injuries, heart attack) prior to participation in your programs and services?” The rationale for this recommendation was a belief by the experts that most HFSs would indicate that they “talk about” injury risks as their way of informing new participants potentially which would skew the “Yes” responses to the question as originally phrased. Based upon this suggestion, the question was edited to “Are new participants formally notified or informed of injury risks associated with physical activity (e.g., musculoskeletal injuries, heart attack) prior to

participation in your programs and services?” To help ensure participants understood the term “formally notified,” it was hyperlinked in this question allowing participants to hover over it and the definition (i.e., having read & signed a document [e.g., informed consent, membership agreement, or waiver] that describes the injury risks) would appear in a pop-up window.

Other definitions were suggested and included for Q26. In this question, it was recommended to provide operational definitions for the terms “low, moderate, and high” within the survey (i.e., hyperlinked terms with pop-up windows) as well the definitions to be reviewed prior to participants taking the survey. For clarification of context, it was suggested to add a survivable event to the examples of cardiac events in Q46. In addition to cardiac deaths and cardiac arrests, the examples of cardiac events now include “heart attacks in which CPR/AED and/or activating EMS was needed.” All of the definitions and various modes of making them readily available to participants that were provided, helped increase consistent meaning for all respondents throughout; therefore increasing the reliability of answers (Fowler, 2009).

Additional Response Options

A recommendation by another expert supplemented Q9 with a third response option, “We offer both self-guided and professionally-guided Pre-Activity Health Screening.” This question previously only had two response options (i.e., self-guided or professionally-guided). This additional response option allowed HFSs from those fitness facilities offering both self and professionally-guided pre-activity health screening to appropriately identify. Similarly, “Health care or medical professional (e.g., a licensed professional such as a nurse, physician, physician assistant),” was added to Q17 as it was recommended to include a health care professional in the response options for this question. Additionally, on Q30, an additional response option,

“Clients of personal trainers are neither required nor encouraged to complete Pre-activity Health Screening Procedures (PHSP)” was recommended and included in the survey instrument. This question originally offered only “Clients of personal trainers are required,” “Clients of personal trainers are encouraged,” or “Other, please specify” response options. Lastly, it was recommended to include additional response options for the years of experience options in the demographic Q49.

Consistency of Wording

The experts also provided recommendations for deletions of certain terms, phrases, and acronyms as well as rephrasing questions and some response options. For example, Q7, originally worded “As an ACSM HFS, have you made an effort to continue to encourage management (e.g., top manager at your facility) to consider Pre-Activity Health Screening Procedures at your facility,” the phrase “As an ACSM HFS” was deleted as it was believed that participants may respond as ACSM would, versus from their personal stance. Another recommendation was to more strongly word the first response option in Q36, “Pre-Activity health screening procedures that include requiring medical clearance for at risk participants could lead to medical intervention,” from reading “could lead” to “will” or “can.” Based upon this recommendation, the response option was edited to “Pre-activity health screening procedures that include requiring medical clearance for at risk participants can lead to medical intervention.” It was also recommended to delete the term “Private” from the Commercial/Private response option in Q53 as Private settings are not necessarily equivalent or comparable to Commercial settings.

In review, the recommendations from the expert panel resulted in multiple structural changes which helped streamlined the paper-and-pencil version of instrument. Perhaps more

importantly, this panel's review and feedback yielded critical additions, adjustments, and targeted deletions which ultimately contributed to the consistency, clarity, and establishment of content validity of the instrument.

Health fitness specialists

A convenience sample (n=5) of local colleagues know by the PI was selected for this group; pre-piloting took place from November 11 – 25, 2013. The PI identified this group of HFSs to establish additional evidence of content validity and provide feedback on the format and flow of the paper-and-pencil version of the instrument as they are a direct subset of sample for which this study was designed.

Based on the majority of recommendations from this group, it was evident that there was a vested interest in the conceptual framework of the study as they demonstrated concern and familiarity with aspects common only to working practitioners in the field. For example, there was a recommendation to include an additional section to the survey instrument which would address PHSP for group fitness programs among the fitness facilities in the different settings. One HFS worked part-time at two fitness facilities and recommended allowing participants in the study to respond based upon their "top two workplaces." Another recommendation was to include a comment box for each "Don't know" response to allow participants who selected this option to explain why they do not know the answer(s). Although pertinent to the field and profession, addressing these recommendations would have integrated multiple additions (i.e., variables, constructs) to the survey instrument and significantly broadened the nature of the study. Therefore, the feedback described above was not considered. Recommendations that were addressed are described below.

One HFS recommended integrating the concept of “HFS’s influence” into the question or response options for Q3 which asks “What role do you play in the decision making related to Pre-Activity health Screening Procedures at your fitness facility?” In this case, it was believed that some HFSs may feel that they do not have direct role in the decision making regarding PHSP, but as the expert at their facility, they can influence the decision makers who do. This recommendation was integrated into a response option for this question which reads, “Assist, contribute, and/or influence decision making process.” Another HFS provided a suggestion for improving the flow of the survey instrument. For example, in Part 3 of the survey instrument (Familiarity, Opinions, and Perceptions of Management), it was recommended to reverse the order of the Q34 and Q35 which asked about importance of adhering to published standards and guidelines before addressing familiarity with the same.

Additionally, this group identified several editorial and grammatical changes that needed to be made throughout the survey to improve the format and consistency which ultimately enhanced the content of the survey instrument. The HFSs reviewed and provided feedback as the next step in the process of establishing evidence of validity of the survey instrument. According to (Gliner & Morgan, 2000), there is no statistic that demonstrates content validity; rather it is established by a process.

Lay persons

A convenience sample (n=10) of individuals also known by the PI was selected for this group. Pre-piloting with this group took place from January 21 – 26, 2014 and only included the web-based version of the survey instrument. This group was selected to gain outside perspectives and feedback as they had neither involvement with the development and design of the survey instrument nor familiarity with the context of the study and procedures. The

feedback from this group included recommendations for removal of duplicate response options as well as correction of various typos, grammatical errors, and word omissions. The recommendations from this group resulted in the correction of a number of grammatical and typographical edits which were not recognized by the PI nor the other two groups.

Overall, the pre-pilot process proved to be particularly beneficial as it resulted in an abundance of substantive improvements and therefore a more robust survey instrument. Also, it served a critical role in the process of establishing evidence of the validity of the survey instrument.

Institutional Review Board Approval

The PI submitted the initial application which included the pilot and dissertation studies on January 8, 2014 to the USF IRB. Reviewer notes were provided to the PI on January 13, 2014. The PI addressed the Reviewer notes and resubmitted the application. The PI received approval for the study (IRB Study # Pro 00008849) as Expedited (Category 2) on January 15, 2014.

As the study instruments underwent continual refinement through reviews by the PI, committee members, and pre-pilot participants, adjustments and improvements were made to the instruments and study procedures. These adjustments and improvements were submitted to the USF IRB as Amendments on February 14, 2014. Reviewer notes for the Amendment were addressed by the PI and resubmitted to the USF IRB. The PI received approval for the pilot and dissertation studies as Exempt (Category 7) on February 26, 2014.

Pilot Study Procedures

The pilot study took place from April 4 -11, 2014. The participants for the pilot study were selected from the ProFinder available on the ACSM's website ("American College of Sports Medicine," 2013c). ProFinder is a web-based feature provided by the ACSM in which

certified individuals voluntarily provide their contact information (i.e., name, city, state, and e-mail address). This listing is intended to facilitate networking opportunities among professionals and provide a platform for employers and individuals to find certified professionals in specific geographical locations. The PI conducted a query for all individuals in the ProFinder database who are ACSM HFS certified and live in the local Tampa Bay area. This search yielded potential pilot participants (n=44) who were invited via e-mail (by the PI) to participate in the pilot study.

The purposes of the pilot study were to 1) obtain feedback regarding clarity and content of the survey instrument, 2) assess the effectiveness and functionality of the procedural aspects of the study, and 3) evaluate the validity of survey instrument prior to commencement of the research study (Gliner & Morgan, 2000). Participants who agreed to participate (N=21) in the pilot study were sent two e-mails (see B4) that included links to several documents to review (e.g., the cover letter) and two surveys to complete and return after answering the questions in the web-based version of the dissertation survey.

In the first recruitment e-mail, participants were asked to complete the first two steps. The instructions for these two steps were included in the first email and were designed to pilot format and functionality of the survey instrument and study procedures. The design of the pilot study facilitated a virtually seamless experience for the participants for completing each of the steps. Reminder emails were sent on April 8 and again on April 10, 2014 to participants who had not responded to the first email (i.e., started or completed the first two steps). The three steps of the pilot study are described below.

Step one

In Step One, participants reviewed the *Cover Letter* (see the second document in Appendix C) which provided them with the context of the dissertation study and guided their experience through the pilot study.

Step two

In this step, pilot participants completed three web-based surveys, consecutively within SurveyGizmo's web-based platform. The first survey, *Dissertation Survey (for Pilot Participants)* was formatted to look and function exactly as the survey did for dissertation study participants with the exception of a few additional features. This version of the instrument is available in B5.

These additional features were integrated into the pilot study to streamline the implementation, assess the validity, functionality, and delivery of the instrument, and track time for survey completion. For example, before answering the first question on the *Dissertation Survey (for Pilot Participants)* survey, participants were asked to input their last name. Additionally, email addresses were automatically captured via the IP address from which each participant accessed the survey. Having this data (i.e., last name and email address) was advantageous as it effectively expedited the pilot study. Specifically, it automated the delivery of e-mails upon completion of each previous step and enabled the PI to track the progress and path of each participant and troubleshoot when necessary. As the length of the survey instrument was of concern, this was a critical aspect to include in the pilot study. Therefore, measures were taken to gather actual as well as reported time spent completing this survey. To ensure a direct measurement of time spent on this survey was captured, a hidden timestamp was embedded within the design this survey. This timestamp populated the exact time, measured in seconds, that it took each participant to complete the survey. Discussion on

participants' reported time for taking the survey and perceptions of the length of the survey are provided below in the pilot study results.

Upon completion of the first web-based survey *Dissertation Survey (for Pilot Participants)*, pilot study participants were redirected to a second web-based survey. This was the brief, two-question survey, titled *Drawing & Summary of Results* (see B6). These procedures are identical to those described in the description of web-based survey section above. However, in this case, there is no actual drawing that took place as there was no monetary incentive involved in the pilot study. Pilot participants were made aware of this in the first recruitment email they received.

Lastly, to complete this step, participants were automatically directed to the third web-based survey titled *Pilot Study: Follow up Survey* (see B7). This survey was designed to be a quick, easy survey that specifically inquired about the technological components (i.e., browser issues, functionality and flow of survey) and features (i.e., print features, hyperlinked terms, save and continue later) of the *Dissertation Survey (for Pilot Participants)*. This survey also asked participants for feedback regarding the structure for the financial incentive that was offered and to provide additional comments or suggestions to generally improve the *Dissertation Survey (for Pilot Participants)*. It was decided to ask these questions immediately upon completion of the *Drawing & Summary of Results* survey so that participants could quickly reference their experiences with each of the steps that dissertation participants were asked to follow and recall any technical issues that may have been encountered. Additionally, this process served to evaluate the use and operation of the functionality and features provided within the design of the web-based surveys.

Step three

As previously discussed, steps were taken in the pre-pilot process to establish evidence of content validity of the survey instrument. According to Gliner and Morgan (2000), no one type of evidence is sufficient for establishing validity. The additional efforts that were made in the pilot study to strengthen the evidence of the instrument's validity are described below.

Immediately upon completion of the second step, participants automatically received the final recruitment e-mail message. This message included instructions for completing the third step and contained the following attachments: 1) *Cover Letter*, 2) *Dissertation Survey* and 3) *Validation of Dissertation Survey Instrument* (see B8). In this last step, participants reviewed and referenced the first two attachments as they completed the third attachment. To make this process more user-friendly for participants, the *Validation of Dissertation Survey* instrument was designed to be conveniently completed as a fillable portable document (i.e., typed). However, the capability to print the document and manually complete (i.e., hand write) this instrument. To complete this step, participants were asked to save or scan their feedback and return the completed file to the PI via e-mail.

Validation of Dissertation Survey

The *Validation of Dissertation Survey Instrument* consisted of 21 total questions which addressed the *Cover Letter* and each of the five parts of the *Dissertation Survey*. The first two questions are partially close-ended in nature (i.e., require a mutually exclusive yes, or no, please specify response), are specific to the *Cover Letter*, and address whether the purpose of the study was clearly described and instructions were clear. The third question, also relative to the *Cover Letter*, is an open-ended question which asked for comments and/or suggestions for improvement. It was important to get feedback on this document from pilot participants as it

is, verbatim, the same information that dissertation participants received in the second dissertation recruitment email (i.e., the *Cover Letter*).

The remainder of the *Validation of Dissertation Survey Instrument* consisted of a series of three questions which were posed for each of the five parts of the *Dissertation Survey*. The first two questions were partially close-ended questions (i.e., require a mutually exclusive yes, please describe or no, please specify response). Together, they addressed participants' understanding (i.e., clarity of) and belief that each question on the *Dissertation Survey* measured what it was intended to measure (i.e., face validity). According to McDermott and Sarvela (1999), a measure is said to have face validity if, on the face, it appears to measure what it supposed to measure. Although face validity alone is not sufficient, it is a selling point for an instrument (Gliner & Morgan, 2000). The third question in the series was open-ended and asked for qualitative comments and/or suggestions for improvement for each respective part of the *Dissertation Survey*.

Additionally, for the each of the parts of the *Dissertation Survey* that include 4-point scalar response options (i.e., Part 3, Part 4), there was a question that addressed any relevant issues that participants had or noticed. As there are mixed opinions in the literature regarding whether a middle (i.e., neutral) response option should be included, it was important to assess the response options for these questions. The last question (i.e., Q21) on the *Validation of Dissertation Survey Instrument* was open-ended and asked participants for additional comments and suggestions to improve the overall *Dissertation Survey* and study processes. A discussion of the pilot participants' feedback regarding these questions is discussed below.

Pilot Study Results

In review, there were 21 participants who agreed to participate in the pilot study which aimed to 1) obtain feedback regarding clarity and content of the survey instrument, 2) assess the effectiveness and functionality of the procedural aspects of the study, and 3) evaluate the validity of survey instrument prior to commencement of the research study. The response rates of each of the three steps in the pilot study are presented below followed by a detailed discussion of the quantitative results, qualitative response and subsequent changes to the survey instrument.

Step one

This step served to replicate the process and provide the exact information that dissertation study participants received prior to taking the web-based survey. In this step, pilot participants were provided a copy of and asked to review the *Cover Letter* before proceeding forward. Unlike the other two steps in the pilot study, there was no direct way to determine if participants reviewed the *Cover Letter* as asked in this step. However, other feedback on the *Cover Letter* was obtained in step three as described below.

Step two

There was a 95% response rate (n=20) for this step in which participants completed three web-based surveys successively: 1) *Dissertation Survey (for Pilot Participants)*, 2) *Drawing & Summary of Results*, and 3) *Pilot Study: Follow up survey*. As previously described, the first two surveys replicated those which were experienced by dissertation study participants and provided the context necessary to establish the conceptual framework of the dissertation study for pilot study participants. The process of pilot participants completing these two surveys,

served as the primary means by which the effectiveness of the procedures of the study and the functionality web-based design of the instrument were evaluated.

The aggregate data collected from pilot participants' responses to the first two web-based surveys (i.e., *Dissertation Survey (for Pilot Participants)*, *Drawing & Summary of Results*) were not used to determine statistical differences. Rather, a summary report including each of the questions from both web-based surveys and respective responses (i.e., descriptive statistics and qualitative feedback to open-ended questions) was generated in SurveyGizmo and thoroughly reviewed (see B9). This in-depth review was intended to verify that the show/hide features and skip logic patterns worked as planned, identify potential issues with content and wording of questions, establish a protocol for determining whether questions were not visible (i.e., due to survey logic), skipped or unanswered (i.e., missing data).

Step three

Although participants automatically received the email with instructions to complete this step immediately upon completion of step two, this step was not web-based and took place completely separate from the previous two steps. The response rate was 76% (n=16) for this final step in the pilot study to evaluate the validity of the *Cover Letter* and *Dissertation Survey* prior to the dissertation study. It is believed that the remaining 5 participants' perception of the amount of time and effort required to complete this step (i.e., review and provide feedback for the *Cover Letter* and each question on the *Dissertation Survey*) was the primary contributing factor for the lower response rate for this step.

The discussion of pilot study results is divided into four parts 1) Changes to survey instrument resulting from the summary report, 2) *Pilot Study: Follow up survey*, 3) *Validation of*

Dissertation Survey Instrument 4) Additional questions to reflect published pre-activity health screening procedures.

Changes to Survey Instrument Resulting from the Summary Report

Clarification of instructions for Q2. As previously described, the web-based survey was designed in such a way that participants who respond “Yes” or “Don’t Know” to Q2 received the follow up question that asks for detailed information (i.e., name, street address, city, state, and zip code) for the fitness facility at which they are employed. This process was integrated to ensure that responses from HFSs who are employed at the same facility were able to be filtered, sorted, and analyzed respectively. Therefore, the instructional text that precedes this question was changed to more accurately inform participants as to why this information is needed and how it was used. Both versions of the instructional text are presented below.

Q2 instructional text previously read, “To prevent duplication and ensure accurate analysis of the data, please provide the information requested below for the facility at which you work.”

Q2 instructional text was edited to “Please provide the information requested below for the facility at which you work. **NOTE:** This information was only be used to compare responses at like facilities and ensure accurate analysis of the data.”

Deletion of response option in Q3. Question 3 is the anchor question in the survey instrument that served as the first step in the process by which the responses from Q2 were sorted and ultimately selected to represent a given fitness facility. Therefore, it was important the response options were fixed (i.e., no open-ended option). The “Other” response option was deleted from this question and now there are now only three response options (i.e.,

primary decision maker, assist, contribute and/or influence decision making process, no involvement).

Rephrasing Q30 and response options. The wording of this question originally focused on the facility's policies relative to personal trainers versus clients which caused multiple participants to select the "Other, please specify" response option. Upon review of the details of those responses, it was evident that rephrasing the question would resolve this issue and allow participants' to accurately select a representative response option. Q30 and multiple choice response options previously read, "Which of the following best describes your facility's policy regarding personal trainers having their clients complete Pre-Activity Health Screening Procedures (PHSP)?

- Personal trainers are **required** to complete PHSP with their clients
- Personal trainers are **encouraged** to complete PHSP with their clients
- Personal trainers are neither encouraged nor required to complete ` Health Screening Procedures (PHSP) with their clients
- Don't Know
- Other, please specify:"

Q30 and multiple choice response options were edited to read, "Which of the following best describes your facility's policy regarding clients completing Pre-activity Health Screening Procedures (PHSP)?

- Clients of personal trainers are **required** to complete PHSP
- Clients of personal trainers are **encouraged** to complete PHSP
- Clients of personal trainers are neither encouraged nor required to complete Pre-activity Health Screening Procedures (PHSP)

- Don't Know
- Other, please specify:"

Rephrasing Q32 and response options. Similarly, Q32 also focused on the facility's procedures relative to personal trainers versus clients. It was important to clarify this question because its responses were analyzed to test the research hypotheses. Q32 and response options previously read, "Please respond to the question below regarding which of the procedures below are your personal trainers at your facility **required** to follow?"

- Personal trainers have clients complete a screening device
- Using pre-established criteria, personal trainers identify at risk clients
- Personal trainers have their at risk clients obtain medical clearance"

Q32 and Yes/No/Don't Know response options were edited to read, "Please respond to the statements below regarding your **personal training program's** screening procedures.

- Clients of personal trainers are required to complete a screening device
- Pre-established criteria are used to identify at risk clients
- At risk clients are required to obtain medical clearance"

Rephrasing Q33 and instructions. For consistency and clarification, the instructional text preceding Q33 is now identical to that of the previous question (i.e., Q32). Question 33 previously read, "Please respond to the following items regarding personal training program's screening procedures. Our facility has a policy that personal information obtained from the screening device for personal training is kept:"

Q33 was edited to "Please respond to the statement below regarding your personal training program's screening procedures. Our facility has a policy that clients' personal information obtained from the screening device for personal training is kept:

Clarification in Q45. This question, as originally worded, had potential of being considered double barreled. It previously read, “How adequate was your training and/or education regarding legal implications involved with Pre-activity Health Screening Procedures?” Q45 was edited to “How adequate was your preparation (e.g., formal education and/or training) regarding legal implications involved with Pre-activity Health Screening Procedures?”

Additional response options in Q51. The number of “Other, please specify” responses to this question in the summary report indicated that additional response options were needed to adequately allow participants to accurately identify the option “best reflects” their current position within their fitness facility. The following two response options have been added to this question, 1) Exercise/Fitness Specialist or Exercise Physiologist and 2) Health Educator, Health Promotion Specialist, Nutritionist, or Wellness Coach. As the title “Wellness Coach” was added to the second, additional response option, it was deleted from a previous response option (i.e., Fitness Staff). The inclusion of these additional response options decreased the percentage of “Other, please specify” responses from 20% in the pilot study to 8.8% in the dissertation study.

Clarification and deletion of response option in Q53. This multiple choice question was originally worded, “Please select the option that best reflects the setting of your current position.” To ensure that there was no ambiguity regarding the interpretation of this question which might lead to inconsistent responses from participants it was reworded to “Please select the option that best reflects the setting of your current facility.”

Additionally, this question originally included an “Other, please specify” response option. However, based upon the responses in pilot study summary report, it was evident that the participants who selected this option were merely providing additional information which did

not change their setting and would complicate the analysis of the data. As the responses to this question were used to test each of the hypotheses, the “Other, please specify” response option was deleted and participants responded to this question by selecting the option that best reflects the setting of their current position facility (i.e., Hospital/Clinical, Corporate, University/College, Community, Commercial, and Government).

Pilot Study: Follow up Survey

The *Pilot Study: Follow up survey* was the third web-based survey in the series that participants completed in step two of the pilot study. Q1 – Q2 in this follow up survey addressed the length of the *Dissertation Survey (for Pilot Participants)*. In an effort to evaluate the length of the survey from various aspects, participants were first asked to select a time range (i.e., <5 min., 5-<10min., 10-<15min, etc.) that represented how long it took them to complete the survey. Figure 3.2 illustrates the specific breakdown of the responses to Q1. In the next question, participants were asked to select a descriptor (i.e., too short, about right, too long, other) for the length of the survey. One hundred percent of participants (n=20) selected the “About Right” descriptor regarding the length of the survey. The actual completion times, as tracked by the hidden timestamp feature within SurveyGizmo, ranged from 11 minutes, 12 seconds to 21 minutes, 43 seconds with a mean of 15 minutes, 45 seconds for those participants who did not experience technical issues or use the “Save and Continue later” feature. These results clearly confirmed that the “10-15 minute” time range included in the *Cover Letter* was an accurate approximation and length of the survey was not a deterrent or issue of concern for the pilot study participants as was previously of concern.

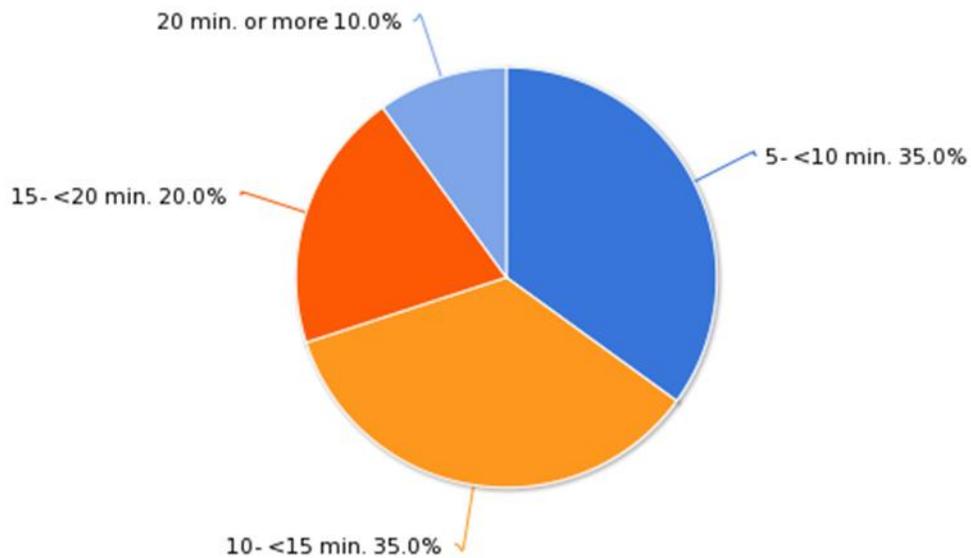


Figure 3.2 Q1: How long did it take you to complete the survey?

Q3 – Q8 addressed the participants’ use of the print features, helpfulness of and suggestions for improving the “NOTE” page, and use of the “Save & Continue later” feature and blue underlined (i.e., hyperlinked) terms. Table 3.1 displays the frequencies and percentages of responses to Q3-Q4 and Q6-Q8. The open-ended question (Q5) which asked for suggestions to improve the “NOTE” yielded two participants’ recommendation to “use a larger font size” and one other participant’s suggestion to “remove the statement about definitions being on the following page.”

To probe further among those who did not hover over the hyperlinked terms ($n=11$), a follow-up question was posed to find out why they did not use this feature. Of those 11 participants, 27.3% ($n=3$) indicated that they “didn’t know/notice that they were there (i.e., didn’t see them).” The other 72.7% ($n=8$) selected the “Other” option and input responses

Table B.1 *Pilot Study: Follow up survey – Responses to Q3-Q4, Q6-Q8*

	Yes f (%)	No f (%)
Q3. Did you use the print feature/option for the Informed Consent (IC) on Page 1 of the survey?	2 (10)	18 (90)
Q4. Was the “NOTE” helpful on Page 3 of the survey?	20 (100)	0 (0)
Q6. Did you use the print feature/option for the definitions on Page 3 of the survey?	6 (30)	14 (70)
Q7. Did you use the “Save & Close” feature/option at any point throughout the survey?	4 (20)	16 (80)
Q8. Did you hover over any of the blue underlined terms to see the definition of term(s) throughout the survey?	9 (45)	11 (55)

such as “didn’t feel the need to,” “I knew/remembered the definitions,” and “I understood the definitions.” On the other hand, 100% of those who did hover over the hyperlinked terms responded “Yes” when asked if they felt that these definitions/blue underlined terms were helpful throughout the survey.

Q11 – Q12 addressed the technical aspects of the survey and procedures. When asked if they had technical problems accessing the *Dissertation Survey (for Pilot Participants)* directly from the link provided in the initial email, 95% of participants (n=19) responded “No.” The one participant who had the issue provided this feedback “Could not get it to open on certain browser” in the comments section for this question. This participant reached out to the PI who then provided a unique link which allowed the participant to re-access the survey.

An illustration of the breakdown of web browsers that participants reported using to access the survey is presented in Figure B.3.

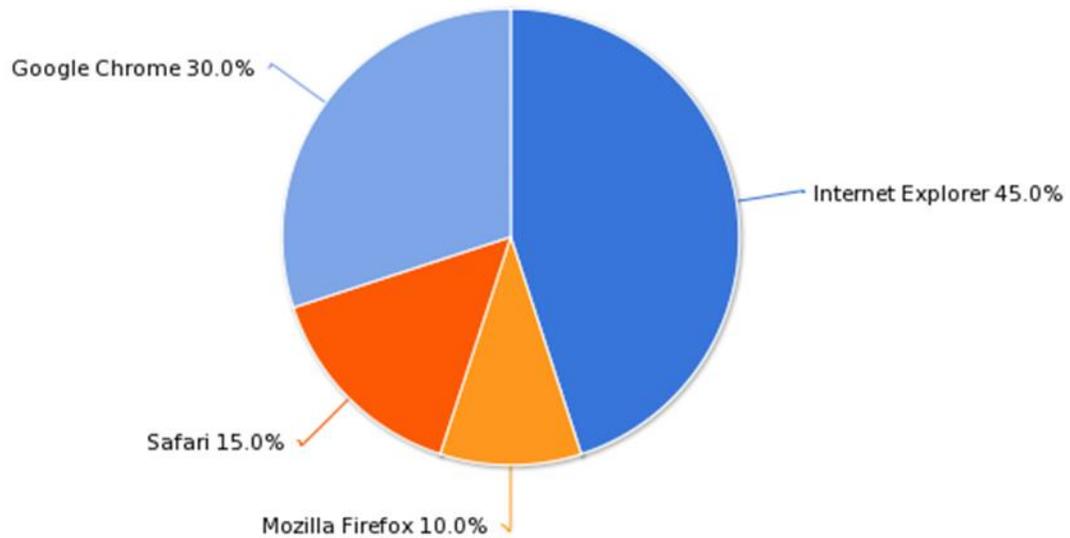
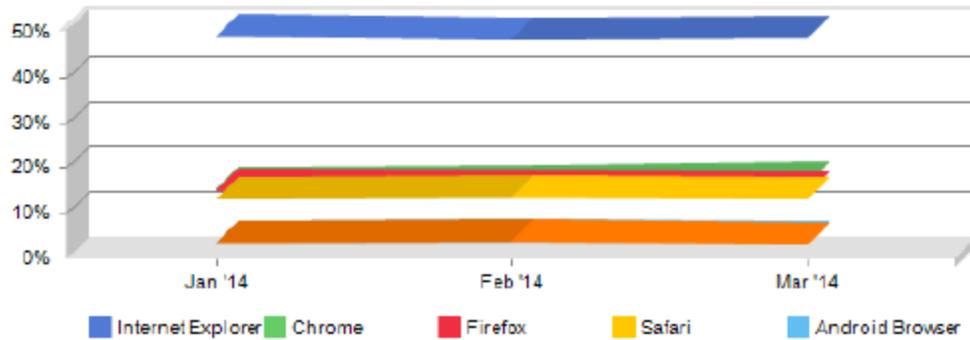


Figure B.3 Q12: Which Internet browser did you use to complete the Dissertation Survey?

These results somewhat resemble the worldwide market research on top browser share trends for the first quarter of 2014 ("Net Market Share," 2014) presented in Figure B.4. According to SurveyGizmo, all major browsers are supported including Google Chrome, Firefox, Safari, and Internet Explorer 7, 8, and 9. They recommend always keeping web browsers up to date with the most current version to ensure continued compatibility and state that "Internet Explorer users using high security settings (generally between medium-high to high depending on the version) might run into issues when using SurveyGizmo. High security settings may block JavaScript which SurveyGizmo uses to make the application interactive" ("Survey Gizmo," 2014). Based upon a review of the pilot results relative to overall technical issues, there is no compelling evidence to support that one browser was more problematic than another. Two participants took the survey on an iPad and one took the survey on an iPhone.



Month	Internet Explorer	Chrome	Firefox	Safari	Android Browser	Other
January, 2014	49.15%	15.44%	15.14%	13.20%	3.57%	3.50%
February, 2014	48.37%	15.95%	14.61%	13.46%	3.91%	3.70%
March, 2014	48.97%	16.73%	14.48%	13.04%	3.60%	3.18%

Figure B.4 Top Browser Share Trend – January to March, 2014

Q13 – Q19 address various aspects of the “Thank You” page, drawing and summary of results, and other technical issues or general feedback. For Q13, all participants (n=20) indicated that the “Thank You” message appeared immediately upon completion of the *Dissertation Survey (for Pilot Participants)*. For Q14, 80% of participants (n=18) indicated that they were redirected without problem to the *Drawing & Summary of Results* survey. One of the two participants who were not redirected automatically to the *Drawing & Summary of Results* survey is the same participant referenced above in Q11 who also experienced technical issues accessing the survey directly from the link provided. The other participant was a new instance. These results demonstrate that there were negligible issues regarding this aspect of the study; therefore it is believed that those participants who are inclined to enter the drawing and/or want a summary of the results of the dissertation study should be able to do so with no problem.

For the two participants who reported that they were not automatically redirected, to the “Thank You” page, the subsequent questions regarding the “Thank You” page were not populated. Therefore, the number of participants who responded to Q15 was 18 total. Of these, 100% selected “Yes” to either enter the drawing or receive a summary of the results. For Q16, all participants (n=18) selected “Yes” to indicate that they felt assured the responses from both surveys were not connected (i.e., were independent). This was a good indication that dissertation study participants would feel similarly. Therefore it was believed that dissertation study participants would not likely feel apprehensive regarding providing their e-mail address or see this procedural aspect as a barrier for participating in the drawing or requesting a summary of the results of the study.

All participants (n=20) answered the remainder of the questions on the *Pilot Study: Follow up survey*. For Q17, 85% of participants (n=17) reported not experiencing other technical issues/difficulties. Of those participants who did report having other technical issues/difficulties (n=3), two were able to resolve them by troubleshooting on their own. The other participant reached out to the PI who then provided a unique link which allowed the participant to re-access the survey. Qualitative feedback from the three participants (15%) who did have other technical issues is listed below in Table 3.2.

Figure B.5 illustrates that participants were nearly equally divided regarding the structure of the financial incentive for Q18. Though a minimal difference existed in the percentages of the top two choices for the structure of the financial incentive, the verbiage was changed in the recruitment email (i.e., *Cover Letter* that dissertation study participants received) to reflect the six, \$50 gift cards instead of the three, \$100 gift cards that were originally being offered.

Table B.2 Pilot Study: Follow up survey – Qualitative Responses to Q17*

1. “I did have the browser error about halfway through the survey and had to get assistance from Aaron.”
2. “Towards the beginning of the survey, my screen froze up. Might be an issue w/ my ipad or Wi-Fi connection. I left the screen and came back later. It came up fine then.”
3. “The survey did not allow me to continue to the page for the drawing or summary of results. I had to save the survey and continue at a later time. I was able to continue when I signed on again.”

*Q17: Did you experience any other technical issues/difficulties?

The qualitative responses to the final, open-ended question (i.e., Q19) on the *Pilot Study: Follow up survey* are displayed in Table B.3.

To address the comment from the participant who expressed the need for clarity in Q35 relative “to whom it was important,” the question was edited to “How important is it to you that your facility adheres to published standards and guidelines for pre-activity health screening? It was later researched and found that this question was properly worded in a previous iteration of the survey instrument.

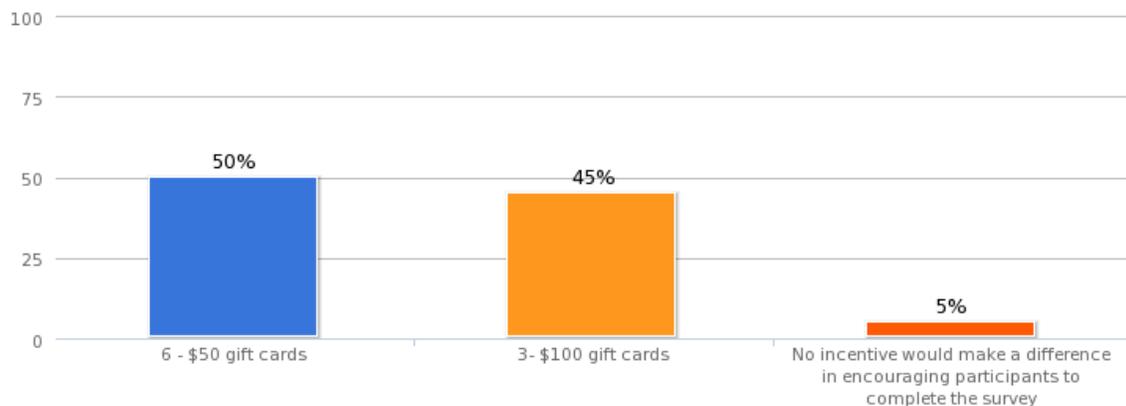


Figure B.5 Q18: Currently we are offering Dissertation Study participants three (3) \$100 gift cards as an incentive to complete the dissertation survey. However, there may be a better combination of chances/incentives. Which of the following options do you think would be the strongest incentive to encourage completion of the Dissertation Survey?

Table B.3 *Pilot Study: Follow up survey – Qualitative Responses to Q19**

1. “I think this is great focus that needs to be addressed in our industry. Good Luck!”
 2. “Survey was quick and easy to use/understand.”
 3. “I think this is very valuable in our field; I can’t wait to hear about the summary of the results.”
 4. “I liked the survey. I think adding more questions regarding the professional beliefs as compared to the employer’s standards may give a broader perspective.”
 - 5a. “Q35 It wasn’t clear to WHOM it was important – me, the facility or the participant.”
 - 5b. “Q40 I needed the option of “I don’t know” to accurately answer the question. Thanks & good luck!”
 6. “No options to put a secondary place of employment and not being able to go back, I was unable to change my place of employment had I chosen to.”
-

**Q19: Please provide any additional comments and/or suggestions to improve the overall survey, process, study, etc.*

However, the verbiage had somehow been inadvertently been deleted. The feedback from one participant that indicated a “Don’t Know” response option was needed for Q40 resulted in this response option being added for Q40 and Q41.

Validation of Dissertation Survey Instrument

Q1- Q3 inquired about the clarity of the *Cover Letter* in describing the purpose of the study, instructions for the study, as well as suggestions for improvement. Table B.4 displays Q1 and Q2 and the respective responses. The qualitative feedback from Q3 supported the responses that were provided for the first two questions. For example, participants stated “I thought the instructions were very clear,” “I thought the cover letter was very clear & precise,” “Very concise and clear – easy to follow.” One participant further commented, “I like how you

mentioned the gift cards twice; it gives me motivation to actually do the survey. Otherwise it will get overlooked in my in-box.”

Table B.4 *Validation of Dissertation Survey Instrument – Responses to Q1-Q2*

	Yes f (%)	No f (%)
Q1. Did the information in the cover letter clearly describe the purpose of the study?	16 (100)	0 (0)
Q2. Were the instructions in the cover letter clear?	16 (100)	0 (0)

The remainder of the questions on the *Validation of Dissertation Survey Instrument* addressed each of the five parts of the *Dissertation Survey*, respectively. The results from the *Validation of Dissertation Survey Instrument* were exceptionally favorable regarding the clarity, face validity, and response scales of the questions in the *Dissertation Survey*. Table B.5 below displays the responses to the partially close-ended questions.

For the qualitative feedback, one participant stated for Q7, “I didn't quite understand what is meant by ‘Private’ as it relates to client confidentiality” relative to Q33 on the *Dissertation Survey*. For Q12, two participants provided specific feedback. The first participant responded, “maybe include ‘neither agree nor disagree,’” and expounded, “I would not say I had an ‘issue,’ I just think that it would be interesting to see who may be on the fence or who simply does not care.” The second participant indicated, “on the agree/disagree scale, I was really neutral. The other scale had a ‘somewhat option.’” These two responses were

Table B.5. *Validation of Dissertation Survey Instrument – Responses to Q4-Q5, Q7-Q8, Q10-Q12, Q14-Q16, Q18-Q19*

	Yes f (%)	No f (%)
Part One: Pre-Activity Health Screening Procedures and New Participants		
Q4. Clarity*	16 (100)	0 (0)
Q5. Face validity**	16 (100)	0 (0)
Part Two: Pre-Activity Health Screening Procedures for Guest and Personal Training programs		
Q7. Clarity*	15 (94)	1 (6)
Q8. Face validity**	16 (100)	0 (0)
Part Three: Familiarity, Opinions, and Perceptions of Management		
Q10. Clarity*		
Q11. Face validity**	16 (100)	0 (0)
Q12. Response scale***	16 (100)	0 (0)
	14 (88)	2 (12)
Part Four: Legal Issues		
Q14. Clarity*		
Q15. Face validity**	16 (100)	0 (0)
Q16. Response scale***	16 (100)	0 (0)
	16 (100)	0 (0)
Part Five: Demographics		
Q18. Clarity*	16 (100)	0 (0)
Q19. Face validity**	16 (100)	0 (0)

*Clarity = *Were there any questions in this part of the survey that you did not understand?*

**Face validity= *Do you believe that the questions accurately measure what they were intended to measure?*

***Response scale = *Did you have any concerns/issues with the questions that included Likert Scales?*

referencing Q36 on the *Dissertation Survey* which was the only question with a 4-point response scale involving levels of agreement (i.e., strongly agree, agree, disagree, strongly disagree). All other questions with 4-point scalar response options are relative to familiarity, importance, confidence, or adequacy (i.e., very familiar, familiar, somewhat familiar, not familiar). Based on this feedback, all questions with 4-point scalar response options remained the same.

The response rates for the pilot study were extremely high (i.e., 95% and 76%). The abundance of quantitative feedback affirmed the clarity, length, and functionality of the survey instrument. It also established strong evidence of validity of each of the questions. Additionally, it presented considerations to be made relative to questions with the 4-point scalar response options and provided directive for the preferred structure of the financial incentive for the dissertation study. Changes that were made to the recruitment emails and survey instrument based upon the quantitative and qualitative feedback from pilot participants are described below.

Changes to Dissertation Recruitment E-mails #2-#4. To help minimize technical issues and equip dissertation participants with the troubleshooting information in advance, the following statement was inserted into Dissertation Recruitment Emails #2-#4, “NOTE: If you experience technical difficulties accessing the survey from the hyperlink provided above, please try first try clearing your web browser’s cache and then copy/paste this entire link into a new web browser. If after taking these steps, you are still experiencing technical issues, please feel free to contact me directly.”

Additionally, based upon the pilot participants’ responses regarding the structure of the financial incentive for the dissertation study, the verbiage was updated to reflect the preference for offering six, \$50 gift cards versus the three \$100 gift cards originally being offered.

Changes to NOTE. The feedback from pilot participants indicated that the font in the NOTE should be larger; therefore the font size was increased from 12 to 18. Additionally, it was recommended to delete the second bulleted statement, “Definitions of terms used throughout the survey appear on the next page.” It was decided that this bulleted item was indeed not necessary and made the “NOTE” shorter.

Updating Thank you Page. For consistency, the Thank you page was updated to reflect the changes that were made above relative to the preferred structure of the financial incentive for the dissertation survey (i.e., offering six \$50 gift cards).

The wealth of positive feedback from the pilot study was indicative of the quality of the study design as well as participants' interest in the conceptual framework and outcomes of study. The recommended changes from pilot study participants in combination with others identified by the PI solidified the evidence of the validity of the survey instrument. Table 3.6 presents the qualitative feedback provided by pilot participants for the final, open-ended question on the *Validation of Dissertation Survey Instrument* (i.e., Q21).

This qualitative feedback clearly illustrated the pilot participants' perspectives regarding the quality and importance of the study as well its potential to contribute to the field. It also repeatedly acknowledged the clarity of questions, design, and ease of completing the instrument. Given the richness of this qualitative feedback, it was decided to add a similar open-ended question at the end of the *Dissertation Survey* that followed the final demographics question (Q53). It read, "Please provide any comments regarding pre-activity screening procedures and/or the purposes of this study." This question was soft-required as are all other questions in the web-based survey instrument, therefore, participants had the option respond to this question or simply proceed forward to final page of the survey.

Table B.6 *Validation of Dissertation Survey Instrument – Qualitative Responses to Q21**

1. “I thought the instructions were very clear, the questions were easy to understand and the survey process was very easy to follow.”
2. “I might suggest adding more open ended questions.”
3. “As a certified ACSM Health Fitness Specialist and Registered Nurse with many years of cardiac and intensive care nursing, the questions in this study were easy to understand and accurately indicated the goal of this study and the researcher. Pre-activity health screening is essential for any individual enrolled in an exercise program whether it be within a fitness facility or provided by an independent fitness contractor. Additionally, results of the pre-activity screen should be evaluated by a certified fitness professional with the knowledge base to interpret the results or the client should be referred to a medical professional prior to initiating a fitness program for the client. This study is an important step in improving the professionalism within the fitness industry as well as promoting safety for the clients we serve.”
4. “I believe this survey will provide valuable feedback to improve our profession and I look forward to learning the results.”
5. “All of the questions were very clear and the Likert scales were easy to follow. I understood why the questions were asked, and what they were looking for.”
6. “I think this survey/study has the right questions for evaluating PHSP in the Health and Fitness field and to see what "professionals" in our field think. I included quotation marks around professionals because I know that within any field, not everyone is the professional they should be in order to contribute to the forward (positive) progress of their respective field. I think your study will shine some light on this for our field. In addition, one of the things I frown on with surveys is their length/time to complete. I think the length was perfect and questions were easy to understand. Great job! Can't wait to see the results.”
7. “It was clear and user friendly.”
8. “I think this survey was very well designed in terms of format and language used as I did not have any difficulty answering the questions. The format also provided a smooth flow and transition question to questions. As a result, I believe this contributed to the fact that it did not take me more than 15 minutes to complete the survey. Lastly, I really enjoyed completing this survey.”
9. “Your survey appears well thought-out and easy to understand. I can't wait to celebrate Dr. Craig!”

**Q21: Please provide any additional comments and/or suggestions to improve the overall survey and/or study processes, etc.*

Additional Questions to Reflect Published PHSP

After a closer review of the three ACSM publications discussed in Chapter 2, the following three changes were made to reflect aspects of the pre-activity health screening process that were originally omitted from the *Dissertation Survey*:

Addition of Q21. “For new participants who refuse to complete your required professionally guided screening procedures (e.g., complete a screening device and/or obtain medical clearance if needed) which of the following reflects your facility’s policy?”

- New participants are excluded from participation in program offerings
- New participants are allowed to participate in program offerings, but first they must sign a document acknowledging their refusal to complete pre-activity screening procedures
- Other, please specify”

Unnumbered, follow up question to Q24. Please indicate which of the following major signs/symptoms from ACSM's *Guidelines for Exercise Testing and Prescription* are included on your screening device - check all that apply.

- Pain; discomfort (or other angina equivalent) in the chest, neck, jaws, arms, or other areas that may result from ischemia
- Shortness of breath at rest or with mild exertion
- Dizziness or syncope
- Orthopnea or paroxysmal nocturnal dyspnea
- Ankle edema
- Palpitations or tachycardia
- Intermittent claudication

- Known heart murmur
- Unusual fatigue or shortness of breath with usual activities

Unnumbered, follow up question to Q25. Please indicate which risk factors from *ACSM's Guidelines for Exercise Testing and Prescription* are included on your screening device - check all that apply.

- Age
- Family history
- Cigarette smoking
- Sedentary lifestyle
- Obesity
- Hypertension
- Dyslipidemia
- Prediabetes
- High-density lipoprotein (60mg/dl or greater)

DOCUMENTS

BI. Paper-and-Pencil Version of Dissertation Survey

Investigation of Pre-Activity Screening Procedures Among ACSM Certified Health Fitness Specialist Professionals

Thank you for giving your valuable time to participate in this study. This following 4-part survey investigates several constructs related to pre-activity screening procedures for self and professionally guided programs. You have been selected for this study because you possess the ACSM's Health Fitness Specialist certification and are a professional in this field. It is assumed that you are [in some way] involved in the pre-activity screening processes and/or procedures which take place (or not) in your organization.

We know that there is an inherent risk that exists with physical activity; therefore it is important that we have procedures in place to identify at risk individuals. There are several organizations that provide standards and guidelines for pre-activity screening. The American College of Sports Medicine has the most robust standards and guidelines for pre-activity screening and devotes an entire chapter to this very topic. For context, please review the following definitions below prior to beginning the survey.

TERMS AS DEFINED BY ACSM's Guidelines, 8th ed. (2009):

- **At-risk:** individual with known disease (metabolic, pulmonary, cardiac) and/or multiple risk factors, and/or signs & symptoms
- **Risk stratification:** process by which individuals are assigned to one of the three risk categories (i.e., low, moderate, high) based upon the presence or absence of 1) cardiovascular, pulmonary, and/or metabolic disease, 2) signs or symptoms, and 3) CVD risk factors
- **Self-guided:** individuals that participate in physical activities on their own (e.g., pool, gymnasium, group exercise classes, fitness areas, cardiovascular equipment)
- **Professionally-guided:** individuals whose physical activities are designed and supervised by professionally qualified exercise staff* (e.g., individual or group personal training and/or other structured/supervised classes and programs)

**Professionally qualified exercise staff refers to appropriately trained individuals who possess academic training, practical and clinical knowledge, skills, and abilities commensurate with the credentials defined in Appendix D in the ACSM's Guidelines, 8th ed.*

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## **PART ONE (Procedures)**

### *Self-Guided*

1. Does your organization require completion of a written pre-activity screening device for participants in self-guided programs?  Yes  No  Don't Know
  
2. If **no**, please check any of the following that apply or supports your response to Question #1 and then **skip to question # 8.**
  - No purpose or need for screening
  - (Lack of) time and staffing
  - Barrier to participation (for members)
  - Members have personal responsibility for health and actions
  - Legal implications
  - Company, Organization, Franchise Policy
  - Other \_\_\_\_\_
  
3. If **yes**, which device do you use?
  - PAR-Q
  - AHA/ACSM Health/Fitness Facility Preparticipation Screening Questionnaire
  - Custom/in-house developed instrument
  - Health Risk Appraisal
  - Health History Questionnaire
  - Other \_\_\_\_\_
  
4. If **yes**, who administers the device?
  - Self-administered  Front Desk Staff  Professionally qualified exercise staff\*
  - Other \_\_\_\_\_
  
5. If **yes**, who interprets the information provided on the device?
  - Self-administered  Front Desk Staff  Professionally qualified exercise staff\*
  - Other \_\_\_\_\_
  
6. Does your organization have pre-established criteria that identify individuals as “at-risk” prior to their participation in self-guided programs?  Yes  No  Don't Know
  
7. Does your organization require medical clearance for individuals who are classified as “at-risk” and are participating in self-guided programs?  Yes  No  Don't Know

*Professionally Guided*

8. Does your organization require completion of a written pre-activity screening device for participants in professionally guided programs?  Yes  No  Don't Know

9. If **no**, please check any of the following that apply or supports your response to Question #1 and then **skip to Question # 1 in PART TWO.**

- No purpose or need for screening
- (Lack of) time and staffing
- Barrier to participation (for members)
- Members have personal responsibility for health and actions
- Legal implications
- Company, Organization, Franchise Policy
- Other \_\_\_\_\_

10. If **yes**, which device do you use?

- PAR-Q
- AHA/ACSM Health/Fitness Facility Pre-participation Screening Questionnaire
- Custom/in-house developed instrument
- Health Risk Appraisal
- Health History Questionnaire
- Other \_\_\_\_\_

11. If **yes**, who administers the device?

- Self-administered  Front Desk Staff  Professionally qualified exercise staff\*
- Other \_\_\_\_\_

12. If **yes**, who interprets the information provided on the device?

- Self-administered  Front Desk Staff  Professionally qualified exercise staff\*
- Other \_\_\_\_\_

13. Does your organization have pre-established criteria that identify individuals as “at-risk” prior to their participation in professionally guided programs?  Yes  No  Don't Know

14. Does your organization require medical clearance for individuals who are classified as “at-risk” and are participating in professionally guided programs?  Yes  No  Don’t Know

**PART TWO (Familiarity, Perceptions, and Perceptions of Management)**

1. How familiar are you with pre-activity screening standards and guidelines in each of the following publications?

a. ACSM’s Guidelines for Exercise Testing and Prescription, 8<sup>th</sup> ed. (2009)

Very familiar  Familiar  Somewhat familiar  Not familiar

b. ACSM’s Health/Fitness Facility Standards and Guidelines, 3<sup>rd</sup> ed. (2007)

Very familiar  Familiar  Somewhat familiar  Not familiar

c. AHA/ACSM Joint Position Statement – Recommendations for Cardiovascular Screening, Staffing, and Emergency Policies at Health/Fitness Facilities (1998)

Very familiar  Familiar  Somewhat familiar  Not familiar

2. In your opinion, how familiar is the management at your facility with pre-activity screening standards and guidelines in each of the following publications?

a. ACSM’s Guidelines for Exercise Testing and Prescription, 8<sup>th</sup> ed. (2009)

Very familiar  Familiar  Somewhat familiar  Not familiar

b. ACSM’s Health/Fitness Facility Standards and Guidelines, 4<sup>th</sup> ed. (2012)

Very familiar  Familiar  Somewhat familiar  Not familiar

c. AHA/ACSM Joint Position Statement – Recommendations for Cardiovascular Screening, Staffing, and Emergency Policies at Health/Fitness Facilities (1998)

Very familiar  Familiar  Somewhat familiar  Not familiar

3. How important is it to you that you/your organization follow published standards and guidelines for pre-activity for pre-activity screening?

Very Important     Important     Somewhat important     Not important

4. In your opinion, how important is it to your management that you/your organization follow published standards and guidelines for pre-activity for pre-activity screening?

Very Important     Important     Somewhat important     Not important

5. Does your organization implement any of the following published standards & guidelines for pre-activity screening? Please mark all that apply.

- a. ACSM's Guidelines for Exercise Testing and Prescription, 8<sup>th</sup> ed. (2009)
- b. ACSM's Health/Fitness Facility Standards and Guidelines, 4<sup>th</sup> ed. (2012)
- c. AHA/ACSM Joint Position Statement – Recommendations for Cardiovascular Screening, Staffing, and Emergency Policies at Health/Fitness Facilities (1998)
- d. NONE OF THE ABOVE

6. If you marked “**a. ACSM Guidelines for Exercise Testing and Prescription, 8<sup>th</sup> ed. (2009)**” for question #19, please answer the following three items:

- a. Does your organization's screening device include a section for diagnosed medical conditions?  
 Yes     No     Don't Know
- b. Does your organization's screening device include a section for identifying signs and symptoms?  
 Yes     No     Don't Know
- c. Does your organization's screening device include a section for identifying risk factors?  
 Yes     No     Don't Know
- d. Does your organization risk stratify individuals into low, moderate, and high categories after they are screened?  
 Yes     No     Don't Know
- e. Does your organization make recommendations for physician clearance/medical evaluation and follow up to?  
 Yes     No     Don't Know
- f. Does your organization follow up to make sure physician clearance/medical evaluation was completed?  
 Yes     No     Don't Know

7. What role do you play in the decision making for issues related pre-activity screening procedures?
- Primary decision maker
  - Assist and/or contribute in decision making process
  - No involvement
  - Other
- 

8. How often do trainings and/or discussions take place within your organization related to pre-activity screening policies, processes, or procedures?

Very Often       Often       Seldom       Never

9. Did your undergraduate and/or graduate academic program(s) include/cover pre-activity screening?

Yes       No       Don't Know

10. In your opinion, what was your perception of how adequately this information was covered in your academic program(s)?

Very Adequate       Adequate       Somewhat adequate       Not adequate

11. If you use pre-activity screening procedures within your facility, how confident are you in conducting these procedures (e.g., administering device, interpreting information, risk stratification, medical clearance recommendation)?

Very Confident       Confident       Somewhat Confident       Not confident

### **PART THREE (Knowledge of law and legal implications)**

1. Are you aware of any legal cases in which the failure to conduct pre-activity screening resulted in a negligent claim against a facility?

Yes       No

2. In your opinion, are health/fitness facilities that do not conduct pre-activity screening at increased risk of a negligence claim or lawsuit?

Yes       No       Don't Know

3. Do you believe that pre-activity screening could minimize the incidence of potentially life threatening events?

Yes       No       Don't Know

4. How much training and education have you received regarding legal implications involved with pre-activity screening?  
 Significant training    Some training    Little/No training

**PART FOUR (Demographics)**

1. **Gender**

- Male    Female

2. **Age**

- 20-29    30-39    40-49    50-59    60+

3. **Professional experience**

- <1year    1-3 years    4-6 years    7-9 years    10+years

4. **Job Title:**

- Fitness Specialist    Fitness Director    Exercise Physiologist    Other

5. **Years in current job/position**

- <1year    1-3 years    4-6 years    7-9 years    10+years

6. **Level of education**

- B.A./B.S    M.A./M.S.    Ph.D. or Ed.D.    Other \_\_\_\_\_

7. **Health/Fitness Facility Setting**

- Academic    Community    Commercial    Corporate    Government

## B2. Web-based Version of Dissertation Survey

### Dissertation Survey (Web-based Version)



### **A National Investigation of Pre-Activity Health Screening Procedures in Fitness Facilities: Perspectives from ACSM Certified Health Fitness Specialists**

*Principal Investigator:*  
Aaron Craig, Ph.D. Candidate  
acraig2@mail.usf.edu  
813.600.8066

## INFORMED CONSENT TO PARTICIPATE IN RESEARCH

Information to Consider Before Taking Part in this Research Study as required by USF's IRB.

### **IRB Study # Pro00008849**

Researchers at the University of South Florida (USF) study many topics. To do this, we need the help of people who agree to take part in a research study. This form tells you about this online research study. We are asking you to take part in a research study that is called: A National Investigation of Pre-Activity Health Screening Procedures in Fitness Facilities: Perspectives from ACSM Certified Health Fitness Specialists.

The person who is in charge of this research study is Aaron Craig. This person is called the Principal Investigator. The research will be done by collecting your responses online through an electronic survey.

### **PURPOSE OF THE STUDY**

The purpose of this study is to investigate perspectives of the following from American College of Sports Medicine certified Health Fitness Specialists : 1) procedures within facilities, 2) guests and personal training programs, 3) familiarity, opinions and perceptions of management, 4) legal issues and 5) demographics.

You are being asked because you are one of a select few health fitness professionals who has earned the ACSM HFS® credential.

### **STUDY PROCEDURES**

If you take part in this study, you will be asked to complete an electronic survey which may take 10-15 minutes to complete. Your responses will be collected directly into the Survey Gizmo database.

### **VOLUNTARY PARTICIPATION/WITHDRAWAL**

You should only take part in this study if you want to volunteer. You should not feel that there is any pressure to take part in the study. You are free to participate in this research or withdraw at any time. There will be no penalty or loss of benefits you are entitled to receive if you stop taking part in this study.

### **ALTERNATIVES**

You have the alternative to choose not to participate in this research study.

### **BENEFITS**

We are unsure if you will receive any benefits by taking part in this research study.

#### **RISKS OR DISCOMFORT**

This research is considered to be minimal risk. That means that the risks associated with this study are the same as what you face every day. There are no known additional risks to those who take part in this study.

#### **COMPENSATION**

At the completion of the survey, you will have an opportunity to enter drawing for a chance to win one (1) of three (3) \$100 gift cards.

#### **PRIVACY & CONFIDENTIALITY**

We must keep your study records as confidential as possible. It is possible, although unlikely, that unauthorized individuals could gain access to your responses because you are responding online. Survey Gizmo will not – under any circumstances – sell or rent Customer or Respondent Information to any third party. Your results will be password protected and may be stored for up to 5 years after the Final Report is filed with the IRB.

However, certain people may need to see your study records. By law, anyone who looks at your records must keep them completely confidential. The only people who will be allowed to see these records are the research team, including the Principal Investigator, the Advising Professor, and Committee Statistician.

#### **CONTACT INFORMATION**

If you have any questions, please contact the USF IRB at 974-5638 or the Principal Investigator at 813-600-8066.

We may publish what we learn from this study. If we do, we will not let anyone know your name. We will not publish anything else that would let people know who you are. You can [print](#) a copy of this consent form for your records. If you agree, please proceed with the survey.

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### **NOTE:**

- Due to the nature of the survey, **only** forward progress is allowed (i.e., there is no "back" button) throughout the survey. Please be sure to carefully review the responses to each question before you click the "NEXT" button. To help ensure accurate data collection, please do NOT use your browser's "BACK ARROW" throughout the survey.
- If you'd like to print a copy of the definitions for your reference throughout the survey, click the "print" link at the bottom of the page, OR if you're using Chrome, Mozilla Firefox, or Safari as your web browser, the definitions of the terms are also available when you hover over the [underlined](#) terms throughout the survey.
- If you begin the survey and need to stop before completing it, you may click the "Save and continue survey later" link that appears at the bottom of each page of the survey.

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### **Instructions**

1. Review all of the definitions below prior to beginning the survey.
2. Respond to each question as instructed throughout the survey.

### **Definitions**

*ACSMs Guidelines for Exercise Testing and Prescription, 9th ed.:*

- **Health fitness professional:** an individual who possesses a minimum of a bachelor's degree in an exercise science area, and has the knowledge and skills in the following domains:
  1. Health and Fitness Assessment
  2. Exercise Prescription and Implementation
  3. Exercise Counseling and Behavioral Strategies
  4. Legal/Professional
  5. Management
- **Risk classification:** a process by which individuals are classified into one of the three risk categories (i.e., low, moderate, high) based upon the presence or absence of 1) cardiovascular, pulmonary, and/or metabolic disease, 2) signs or symptoms, and 3) CVD risk factors
- **Low risk:** Classification of an individual who is asymptomatic and has <2 CVD risk factors
- **Moderate risk:** Classification of an individual who is asymptomatic and has ≥2 risk factors
- **High risk:** Classification of an individual who has known disease and/or is symptomatic

**ACSMs Guidelines for Exercise Testing and Prescription, 8th ed.:**

- **Self-guided screening:** Screening is conducted by participants with little or no direction or supervision from an exercise or health fitness professional. For example, they might complete a self-administered device such as the PAR-Q and based on their responses they might be alerted to consult their physician before participation in physical activity
- **Professionally-guided screening:** Screening is conducted by an appropriately trained health fitness professional that possesses a certification equivalent to the ACSM HFS or higher. This screening involves a more advanced process than self-guided that includes (a) the review of a detailed health/medical history form in order to determine risk classification and b) depending on risk classification (and/or other existing medical conditions) obtaining medical clearance

**Additional Definitions:**

- **At Risk:** For purposes of this survey an "at risk" participant is defined as someone with known disease (e.g., cardiac, pulmonary or metabolic) or with signs/symptoms and/or risk factors associated with cardiac, pulmonary, or metabolic disease. Participants with other medical conditions (e.g., pregnancy, orthopedic injury) may also be considered "at risk"
- **Fitness Facility:** any fitness facility that offers health and fitness programs and services
- **New Participants:** individuals who, for the first time, have decided to participate in your program and services or join as a member
- **Guests:** Individuals who pay a "guest fee" to use your facility one-time, or on a pay-as-you go basis, or are the guest of the facility or another member

*Click here to [print](#) definitions.*

**1. I am currently employed (part-time or full-time) in a fitness facility.**

- Yes
- No

**2. In addition to you, are there any employees (co-workers) in your facility who possess the ACSM HFS certification?**

- Yes
- No
- Don't Know

Please provide the information requested below for the facility at which you work.

NOTE: This information will only be used to compare responses at like facilities and ensure accurate analysis of the data.

Facility Name \*

Street Address \*

City \*

State \*

Zip \*

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3. What role do you play in the decision making related to Pre-activity Health Screening Procedures at your fitness facility?

- Primary decision maker
- Assist, contribute and/or influence decision making process
- No involvement

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4. Are [new participants formally notified](#) or informed of injury risks associated with physical activity (e.g., musculoskeletal injuries, heart attack) prior to participation in your programs and services?

- Yes
- No
- Don't Know

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5. Does your fitness facility require "new participants" to complete a pre-activity screening device prior to their participation?

- Yes, our new participants are required
- No
- The majority of our new participants are required, but not all are not required
- The majority of our new participants are not required, but some might be required to complete pre-activity screening procedures
- Don't know

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6. From the following items, please select the major reason that best describes why your fitness facility does not require all or the majority of new participants to complete pre-activity health screening device.

- There is no purpose or need for screening
- Screening takes up too much staff time (or lack of staff resources)
- Participants would perceive completing screening as a barrier that might cause them to not join the facility or participate in activities

- Participants have responsibility for their own health and actions – our facility does not have this responsibility
  - Legal counsel advice, e.g., we have been advised not to conduct screening because it might increase legal liability
  - Fitness facility/franchise policy
  - Other, please specify:  \*
- 

7. Have you made an effort to encourage management (e.g., top manager at your facility) to consider conducting Pre-activity Health Screening Procedures at your facility?

- Yes
  - No
  - Not applicable (e.g., I am the manager)
- 

8. For each item listed below, select the answer that corresponds to the information your new participants receive (either verbally or in writing) prior to completing your Pre-activity Health Screening Procedures (PHSP)?

|                                                                             | Yes                   | No                    | Don't Know            |
|-----------------------------------------------------------------------------|-----------------------|-----------------------|-----------------------|
| Information regarding the <b>purpose</b> of PHSP                            | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Information regarding the <b>steps involved</b> in the PHSP                 | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Information regarding the <b>benefits</b> of PHSP                           | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Information regarding the <b>potential risks</b> of not completing the PHSP | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

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9. Which of the following best describes the type of Pre-activity Health Screening Procedures your fitness facility uses to screen "new participants"?

- [Self-guided](#)
  - [Professionally-guided](#)
  - We offer both self-guided and professionally guided Pre-activity Health Screening
- 

10. Which "self-guided" screening device do you use?

- PAR-Q and You
  - AHA/ACSM Health/Fitness Facility Preparticipation Health Screening Questionnaire
  - Custom/In-House Developed Instrument
  - Don't Know
  - Other, please specify  \*
- 

11. From the following statements which one best describes your "self-guided" screening procedures:

- The participant is **encouraged** by a staff member to review and complete the screening device, self-interprets the information as stated on the form, keeps the form and decides for himself/herself whether to seek medical clearance or consult with his/her physician.

- The participant is **required** to complete the screening device, and a staff member interprets the information and if this interpretation classifies the participant **at risk** (based on criteria established on the screening device or by your fitness facility) the participant is **encouraged** by a staff member to obtain medical clearance or to consult with his/her physician.
- The participant is **required** to complete the screening device and a staff member interprets the information and if this interpretation classifies the participant "at risk" (based on criteria established on the screening device or by your fitness facility), the participant is **required** to obtain medical clearance.
- Other, please specify  \*

**12. Please respond to the following items regarding self-guided screening procedures - Our facility has a policy that personal information obtained from the screening device is kept:**

|                                                                                                             | Yes                   | No                    | Don't Know            |
|-------------------------------------------------------------------------------------------------------------|-----------------------|-----------------------|-----------------------|
| Private - respecting participant's right to maintain control over his/her personal information              | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Confidential - only authorized individuals have access to personal information                              | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Secure - physical, technical, and/or administrative safeguards are in place to protect personal information | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

**13. How often do you have your participants complete your self-guided screening procedures?**

- Initially only (e.g., when they join for the first time)
- Initially and annually thereafter (e.g., when they renew their membership)
- Initially and when a participant informs a staff member of a change in health status
- Don't know
- Other, please specify  \*

**14. Which professionally-guided screening device do you use?**

- PAR-Q and You
- AHA/ACSM Health/Fitness Facility Preparticipation Screening Questionnaire
- Custom/In-House Developed Instrument
- Specific, ready-made screening tool e.g., Health Risk Appraisal (HRA) or Health History Questionnaire (HHQ)
- Don't Know
- Other, please specify:  \*

**15. Please respond to the following items regarding professionally-guided screening procedures - Our facility has a policy that personal information obtained from the screening device is kept:**

|                                                                                                | Yes                   | No                    | Don't Know            |
|------------------------------------------------------------------------------------------------|-----------------------|-----------------------|-----------------------|
| Private - respecting participant's right to maintain control over his/her personal information | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Confidential - only authorized individuals have access to personal information                 | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

Secure - physical, technical, and/or administrative safeguards are in place to protect personal information

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**16. From the information on the screening device, does your fitness facility have pre-established criteria that identify participants as [at risk](#) prior to their participation?**

- Yes
- No
- Don't know

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**17. Who primarily interprets the information provided on the device and makes the determination if a participant is "at risk"?**

- Front Desk Staff
- [Health fitness professional](#)
- Health care or medical professional (e.g., a licensed professional such as a nurse, physician, physician assistant)
- Other, please specify:  \*

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**18. If a participant is classified as "at risk", is he/she required to obtain medical clearance?**

- Yes
- No
- Don't know

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**19. For participants identified as "at-risk", do you provide them with a medical clearance form for their medical care provider to complete and sign?**

- Yes
- No
- Don't Know

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**20. How often do your participants complete your [professionally-guided](#) screening procedures?**

- Initially only (e.g., when they join for the first time)
- Initially and annually thereafter (e.g., when they renew their membership)
- Initially and when a participant informs a staff member of a change in health status
- Don't know
- Other, please specify  \*

---

**21. For new participants who refuse to complete your required professionally guided screening procedures (e.g.,**

complete a screening device and/or obtain medical clearance if needed) which of the following reflects your facility's policy?

- New participants are excluded from participation in program offerings
  - New participants are allowed to participate in program offerings, but first they must sign a document acknowledging their refusal to complete preactivity screening procedures
  - Other, please specify  \*
- 

22. Which publication was primarily used when developing and implementing your "professionally guided" screening procedures?

- ACSM's Guidelines for Exercise Testing and Prescription
  - ACSM's Health/Fitness Facility Standards and Guidelines
  - AHA/ACSM Joint Position Statement – Recommendations for Cardiovascular Screening, Staffing, and Emergency Policies at Health/Fitness Facilities
  - Other, please specify:  \*
  - None
  - Don't know
- 

23. Does your fitness facility's screening device include questions for a [new participant](#) to answer indicating known cardiovascular, pulmonary, and metabolic disease?

- Yes
  - No
  - Don't Know
- 

24. Does your fitness facility's screening device include questions for a "new participant" to answer indicating signs and symptoms suggestive of cardiovascular, pulmonary, and metabolic disease?

- Yes
  - No
  - Don't Know
- 

Please indicate which of the following major signs/symptoms from *ACSM's Guidelines for Exercise Testing and Prescription* are included on your screening device - check all that apply.

- Pain; discomfort (or other angina equivalent) in the chest, neck, jaws, arms, or other areas that may result from ischemia
- Shortness of breath at rest or with mild exertion
- Dizziness or syncope
- Orthopnea or paroxysmal nocturnal dyspnea
- Ankle edema
- Palpitations or tachycardia

- Intermittent claudication
  - Known heart murmur
  - Unusual fatigue or shortness of breath with usual activities
- 

25. Does your fitness facility's screening device include questions for a "new participant" to answer indicating cardiovascular disease risk factors?

- Yes
  - No
  - Don't know
- 

Please indicate which risk factors from ACSM's Guidelines for Exercise Testing and Prescription are included on your screening device - check all that apply.

- Age
  - Family history
  - Cigarette smoking
  - Sedentary lifestyle
  - Obesity
  - Hypertension
  - Dyslipidemia
  - Prediabetes
  - High-density lipoprotein (60mg/dl or greater)
- 

26. Does a staff member (or other designated individual) at your fitness facility classify "new participants" into [low](#), [moderate](#), and [high](#) risk classification categories after interpreting the data collected from a screening device?

- Yes
  - No
  - Don't know
- 

27. Which of the following statements best describes your Pre-activity Health Screening Procedures for [guests](#)?

- Guests receive a screening device such as the PAR-Q and are **required** to complete it
  - Guests receive a screening device such as the PAR-Q and are **encouraged** to complete it
  - Guests are **not** provided a screening device to complete
  - Don't know
  - Other, please specify:  \*
-

28. Does your fitness facility require guests to sign a waiver or some other protective legal document such as an informed consent?

- Yes
  - No
  - Don't Know
- 

29. Which of the following best describes the hiring practices for your personal training program?

- All of our personal trainers are hired as employees
  - All of our personal trainers are hired as independent contractors
  - We hire both employees and independent contractors to provide personal training
  - We do not offer personal training
- 

30. Which of the following best describes your facility's policy regarding clients completing Pre-activity Health Screening Procedures (PHSP)?

- Clients of personal trainers are **required** to complete PHSP
  - Clients of personal trainers are **encouraged** to complete PHSP
  - Clients of personal trainers are **neither** required nor encouraged to complete Pre-activity Health Screening Procedures (PHSP)
  - Don't Know
  - Other, please specify:  \*
- 

31. Which of the following **best** describes the specific Pre-activity Health Screening Procedures (PHSP) that personal trainers follow?

- Personal trainers are **required** to follow specific PHSP as established by our fitness facility
  - Personal trainers can determine their own PHSP
  - Don't Know
  - Other, please specify:  \*
- 

32. Please respond to the statements below regarding your personal training program's screening procedures.

|                                                                               | Yes                   | No                    | Don't Know            |
|-------------------------------------------------------------------------------|-----------------------|-----------------------|-----------------------|
| Clients of personal trainers are required to complete a screening device      | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Pre-established criteria are used to identify <a href="#">at risk</a> clients | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| At risk clients are required to obtain medical clearance                      | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

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Please respond to the statement below regarding your **personal training program's** screening procedures.

33. Our facility has a policy that clients' personal information obtained from the screening device for personal

training is kept:

|                                                                                                             | Yes                   | No                    | Don't Know            |
|-------------------------------------------------------------------------------------------------------------|-----------------------|-----------------------|-----------------------|
| Private - respecting participant's right to maintain control over his/her personal information              | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Confidential - only authorized individuals have access to personal information                              | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Secure - physical, technical, and/or administrative safeguards are in place to protect personal information | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

34. What is your level of familiarity with pre-activity health screening standards and guidelines in each of the following publications?

|                                                                                                                                                 | Very Familiar         | Familiar              | Somewhat Familiar     | Not Familiar          |
|-------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| ACSM's Guidelines for Exercise Testing and Prescription                                                                                         | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| ACSM's Health/Fitness Facility Standards and Guidelines                                                                                         | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| AHA/ACSM Joint Position Statement – Recommendations for Cardiovascular Screening, Staffing, and Emergency Policies at Health/Fitness Facilities | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

35. How important is to you that your fitness facility adheres to published standards and guidelines for pre-activity health screening?

Very Important                     
  Important                     
  Somewhat Important                     
  Not Important

36. Please use the rating scale below to indicate the response which best reflects your level of agreement with the following statements.

|                                                                                                                                                                        | Strongly Agree        | Agree                 | Disagree              | Strongly Disagree     |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| Data obtained in pre-activity health screening should be used when designing an individualized exercise program.                                                       | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Pre-activity Health Screening Procedures that include requiring medical clearance for <a href="#">at risk</a> participants can lead to medical intervention/treatment. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Conducting pre-activity screening procedures enhances the quality of our program.                                                                                      | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Conducting pre-activity screening procedures enhances the professional reputation of our program.                                                                      | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Pre-activity Health Screening helps ensure the safety of our participants                                                                                              | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

37. How confident are you in conducting [professionally-guided](#) pre-activity screening procedures?

Very Confident                     
  Confident                     
  Somewhat Confident                     
  Not Confident

38. Did your undergraduate and/or graduate academic courses include content covering Pre-activity Health

**Screening Procedures?**

- Yes
  - No
  - Don't Know
- 

**39. How adequate was the pre-activity health screening information covered in your academic program(s)?**

- Very Adequate
  - Adequate
  - Somewhat adequate
  - Not adequate
- 

**40. How important is it to the management (e.g., top manager at your facility) of your fitness facility that it adheres to published standards and guidelines for pre-activity health screening?**

- Very Important
  - Important
  - Somewhat important
  - Not important
  - Don't Know
- 

**41. How familiar is the management (e.g., top manager at your facility) at your facility with pre-activity health screening procedures provided in each of the following publications?**

|                                                                                                                                                  | Very Familiar         | Familiar              | Somewhat Familiar     | Not Familiar          | Don't Know            |
|--------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| ACSM's Guidelines for Exercise Testing and Prescription                                                                                          | <input type="radio"/> |
| ACSM's Health/Fitness Facility Standards and Guidelines                                                                                          | <input type="radio"/> |
| AHA/ACSM Joint Position Statement – Recommendations for Cardiovascular Screening, Staffing, and Emergency Policies at Health/Fitness Facilities? | <input type="radio"/> |

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**42. Are you aware of any legal cases in which the failure to conduct Pre-activity Health Screening Procedures resulted in a negligence claim or lawsuit against a fitness facility?**

- Yes
  - No
  - Don't Know
- 

**43. Are fitness facilities that do not conduct Pre-activity Health Screening Procedures at increased risk of a negligence claim or lawsuit?**

- Yes
  - No
  - Don't Know
- 

**44. Do you believe that Pre-activity Health Screening Procedures could minimize the incidence of serious or potentially life threatening events?**

- Yes
  - No
  - Don't Know
- 

**45. How adequate was your preparation (e.g., formal education and/or training) regarding legal implications involved with Pre-activity Health Screening Procedures?**

- |                       |                       |                       |                       |
|-----------------------|-----------------------|-----------------------|-----------------------|
| Very Adequate         | Adequate              | Somewhat adequate     | Not adequate          |
| <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
- 

**46. To your knowledge, how many cardiac events (e.g., cardiac deaths, cardiac arrests, heart attacks in which CPR/AED and/or activating EMS was needed) have occurred within your facility within the last 5 years?**

- 0
  - 1-2
  - 3-4
  - 5-6
  - 7 or more
  - Don't know
- 

**47. Gender**

- Male
  - Female
- 

**48. Age**

- 20-29
  - 30-39
  - 40-49
  - 50-59
  - 60 or older
- 

**49. Years of professional experience in the field**

- <1 year
- 1 year - < 3 years
- 3 years - < 5 years
- 5 years - < 10 years
- 10 years - < 15 years

- 15 years - < 20 years
  - 20 years or more
- 

50. Please indicate the highest academic degree level you have obtained.

- Associate
  - Bachelor's
  - Master's
  - Doctorate
  - Other
- 

For highest degree earned, please input your degree information in the spaces provided below.

Name of degree \*

Concentration/Specialization \*

51. Please select the option below that **best** reflects your current position within your facility.

- Fitness Manager/Owner (top management)
  - Fitness Director (middle management)
  - Assistant Director or Program Coordinator
  - Fitness Staff (e.g., personal trainer, group exercise leader, fitness floor supervisor)
  - Exercise/Fitness Specialist or Exercise Physiologist
  - Health Educator, Health Promotion Specialist, Nutritionist, or Wellness Coach
  - Other, please specify your position/title:  \*
- 

52. In your current position, on average, how many hours per week do you work?

- 10-20 hours
  - 21-30 hours
  - 31-40 hours
  - 41-50 hours
  - 50 or more hours
- 

53. Please select the option below that **best** reflects the setting of your current facility.

- University/College – Campus Recreation/Wellness and Recreational Sports

- Community, non-profit -YMCA/YWCA, JCC
  - Commercial, for profit – Health clubs, personal training or group exercise studios, sports performance centers
  - Hospital/Clinical – Fitness facilities affiliated with a hospital, Cardiac Rehab, Physical Therapy
  - Corporate – Employer sponsored fitness/wellness (private businesses and government agencies)
  - Government – Military, fire/police, city/county parks and recreation
- 

54. Please provide any comments regarding pre-activity screening procedures and/or the purposes of this study.

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**Thank you so much for your valuable time and feedback.**

You have now completed the Dissertation Survey!

As a reminder, your responses to this survey will remain private, secure, and confidential!

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**So what's in it for YOU?**

**For participating in this study, you:**

**\*Have earned a chance to win a \$50 gift card**

**\*May request a summary of the results of the study**

**Simply proceed to the NEXT page -->**

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### **B3. IRB Documentation**



RESEARCH INTEGRITY AND COMPLIANCE  
Institutional Review Boards, FWA No. 00001669  
12901 Bruce B. Downs Blvd., MDC035 • Tampa, FL 33612-4799  
(813) 974-5638 • FAX (813) 974-7091

1/15/2014

Aaron Craig  
School of Physical Education & Exercise Science  
4202 E. Fowler Ave  
Tampa, FL 33620

RE: **Exempt Certification**

IRB#: Pro00008849

Title: A National Investigation of Pre-Activity Health Screening Procedures in Fitness  
Facilities: Perspectives from American College of Sports Medicine Certified Health  
Fitness Specialists

**Study Approval Period: 1/15/2014 to 1/15/2019**

Dear Ms. Craig:

On 1/15/2014, the Institutional Review Board (IRB) determined that your research meets USF requirements and Federal Exemption criteria as outlined in the federal regulations at 45CFR46.101(b):

(2) Research involving the use of educational tests (cognitive, diagnostic, aptitude, achievement), survey procedures, interview procedures or observation of public behavior, unless:  
(i) information obtained is recorded in such a manner that human subjects can be identified, directly or through identifiers linked to the subjects; and (ii) any disclosure of the human subjects' responses outside the research could reasonably place the subjects at risk of criminal or civil liability or be damaging to the subjects' financial standing, employability, or reputation.

As the principal investigator for this study, it is your responsibility to ensure that this research is conducted as outlined in your application and consistent with the ethical principles outlined in the Belmont Report and with USF IRB policies and procedures. Please note that changes to this protocol may disqualify it from exempt status. Please note that you are responsible for notifying the IRB prior to implementing any changes to the currently approved protocol.

The Institutional Review Board will maintain your exemption application for a period of five years from the date of this letter or for three years after a Final Progress Report is received, whichever is longer. If you wish to continue this protocol beyond five years, you will need to submit a new application at least 60 days prior to the end of your exemption approval period. Should you complete this study prior to the end of the five-year period, you must submit a request to close the study.

We appreciate your dedication to the ethical conduct of human subject research at the University of South Florida and your continued commitment to human research protections. If you have any questions regarding this matter, please call 813-974-5638.

Sincerely,

A handwritten signature in black ink, appearing to read 'Kristen Salomon', followed by a horizontal line.

Kristen Salomon, Ph.D., Vice Chairperson  
USF Institutional Review Board



Aaron Craig <acraig2@mail.usf.edu>

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**eIRB: Amendment Approved**

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**eirb@research.usf.edu** <eirb@research.usf.edu>  
Reply-To: eirb@research.usf.edu  
To: acraig2@mail.usf.edu

Mon, Aug 11, 2014 at 8:19 AM



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**IRB Amendment Approved**

**To:** Aaron Craig  
**RE:** Amendment 3 for IRB Study #Pro00008849  
A National Investigation of PHSP in Fitness Facilities: Perspectives from ACSM HFSs  
**PI:** Aaron Craig  
**Link:** [Ame3\\_Pro00008849](#)

You are receiving this notification because the above listed amendment has received Approval by the IRB. To begin your review, navigate to the project workspace by clicking the Link above.

---

***DO NOT REPLY:** To ensure a timely response, please direct correspondence to **Research Integrity & Compliance** either through your project's workspace or the contact information below.*

**University of South Florida**  
Research Integrity & Compliance, USF Research & Innovation  
3702 Spectrum Blvd Suite 165 - Tampa, FL 33612

Template:\_000 - IRB Amendment: Approved



Aaron Craig <acraig2@mail.usf.edu>

---

**eIRB: Amendment Approved**

**eirb@research.usf.edu** <eirb@research.usf.edu>  
Reply-To: eirb@research.usf.edu  
To: acraig2@mail.usf.edu

Tue, Aug 5, 2014 at 3:07 PM



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**IRB Amendment Approved**

**To:** Aaron Craig  
**RE:** Amendment 2 for IRB Study #Pro00008849  
A National Investigation of PHSP in Fitness Facilities: Perspectives from ACSM HFSs  
**PI:** Aaron Craig  
**Link:** [Ame2\\_Pro00008849](#)

You are receiving this notification because the above listed amendment has received Approval by the IRB. To begin your review, navigate to the project workspace by clicking the Link above.

---

*DO NOT REPLY:* To ensure a timely response, please direct correspondence to **Research Integrity & Compliance** either through your project's workspace or the contact information below.

**University of South Florida**  
Research Integrity & Compliance, USF Research & Innovation  
3702 Spectrum Blvd Suite 165 - Tampa, FL 33612

Template:\_000 - IRB Amendment: Approved



Aaron Craig <acraig2@mail.usf.edu>

---

**eIRB: Amendment Approved**

**eirb@research.usf.edu** <eirb@research.usf.edu>  
Reply-To: eirb@research.usf.edu  
To: acraig2@mail.usf.edu

Wed, Feb 26, 2014 at 9:29 AM



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**IRB Amendment Approved**

**To:** Aaron Craig  
**RE:** Amendment 1 for IRB Study #Pro00008849  
A National Investigation of PHSP in Fitness Facilities: Perspectives from ACSM HFSs  
**PI:** Aaron Craig  
**Link:** [Ame1\\_Pro00008849](#)

You are receiving this notification because the above listed amendment has received Approval by the IRB. To begin your review, navigate to the project workspace by clicking the Link above.

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*DO NOT REPLY:* To ensure a timely response, please direct correspondence to **Research Integrity & Compliance** either through your project's workspace or the contact information below.

**University of South Florida**  
Research Integrity & Compliance, USF Research & Innovation  
3702 Spectrum Blvd Suite 165 - Tampa, FL 33612

Template:\_000 - IRB Amendment: Approved

**COLLABORATIVE INSTITUTIONAL TRAINING INITIATIVE (CITI)  
HUMAN RESEARCH CURRICULUM COMPLETION REPORT**

Printed on 11/02/2013

|                        |                                                                                          |
|------------------------|------------------------------------------------------------------------------------------|
| <b>LEARNER</b>         | Aaron Craig (ID: 319022)<br>712 Parsons Pointe Street<br>Seffner<br>FL 33584-7803<br>USA |
| <b>DEPARTMENT</b>      | COEDU- School of Phys. Ed., Wellness, & Sport Stud                                       |
| <b>PHONE</b>           | 813-974-4716                                                                             |
| <b>INSTITUTION</b>     | University of South Florida                                                              |
| <b>EXPIRATION DATE</b> | 11/02/2015                                                                               |

**SOCIAL / BEHAVIORAL INVESTIGATORS AND KEY PERSONNEL**

|                      |                    |
|----------------------|--------------------|
| <b>COURSE/STAGE:</b> | Refresher Course/2 |
| <b>PASSED ON:</b>    | 11/02/2013         |
| <b>REFERENCE ID:</b> | 11678329           |

| REQUIRED MODULES                                                       | DATE COMPLETED |
|------------------------------------------------------------------------|----------------|
| SBE Refresher 1 – Defining Research with Human Subjects                | 11/02/13       |
| SBE Refresher 1 – Privacy and Confidentiality                          | 11/02/13       |
| SBE Refresher 1 – Assessing Risk                                       | 11/02/13       |
| SBE Refresher 1 – Research with Children                               | 11/02/13       |
| SBE Refresher 1 – International Research                               | 11/02/13       |
| SBE Refresher 2 – Federal Regulations for Protecting Research Subjects | 11/02/13       |
| SBE Refresher 2 – Defining Research with Human Subjects                | 11/02/13       |
| SBE Refresher 2 – Research with Children                               | 11/02/13       |
| SBE Refresher 2 – Research in the Public Schools                       | 11/02/13       |
| SBE Refresher 2 – International Research                               | 11/02/13       |
| SBE Refresher 1 – History and Ethical Principles                       | 11/02/13       |
| SBE Refresher 1 – Federal Regulations for Protecting Research Subjects | 11/02/13       |
| SBE Refresher 1 – Informed Consent                                     | 11/02/13       |
| SBE Refresher 1 – Research with Prisoners                              | 11/02/13       |
| SBE Refresher 1 – Research in Educational Settings                     | 11/02/13       |
| SBE Refresher 1 – Instructions                                         | 11/02/13       |
| SBE Refresher 2 - Instructions                                         | 11/02/13       |
| SBE Refresher 2 – Informed Consent                                     | 11/02/13       |
| SBE Refresher 2 – Privacy and Confidentiality                          | 11/02/13       |
| SBE Refresher 2 – Assessing Risk                                       | 11/02/13       |
| SBE Refresher 2 – Research with Prisoners                              | 11/02/13       |
| Completing the SBR 201 Refresher Course                                | 11/02/13       |
| SBE Refresher 2 – History and Ethical Principles                       | 11/02/13       |

For this Completion Report to be valid, the learner listed above must be affiliated with a CITI Program participating institution or be a paid Independent Learner. Falsified information and unauthorized use of the CITI Program course site is unethical, and may be considered research misconduct by your institution.

Paul Braunschweiger Ph.D.  
Professor, University of Miami  
Director Office of Research Education  
CITI Program Course Coordinator

## **B4. Pilot Study Recruitment E-mails**

### **Pilot Email 1: Steps 1 & 2**

**Subject:** Pilot Study for A. Craig's Dissertation – Steps 1 & 2

**Attachment:** Cover Letter

Dear ACSM Certified Health/Fitness Specialist,

Thank you for agreeing to assist with the pilot study for my dissertation, *A National Investigation of Pre-Activity Health Screening Procedures in Fitness Facilities: Perspectives from ACSM Certified Health Fitness Specialists*.

The purpose of the pilot study is to validate the survey instrument before it is used in the actual study. As a pilot study participant, you will be asked to complete three (3) steps: 1) review the *Cover Letter*, 2) complete the *Dissertation Survey (for Pilot Participants)*, *Drawing & Summary of Results*, and *Pilot Study: Follow up Survey* electronically, and 3) complete the *Validation of Dissertation Survey Instrument*.

**Once you have completed Steps 1 & 2, you will immediately be sent the next email with directions for completing Step 3 of the Pilot Study.**

#### Instructions:

**Step 1:** Please click on the [Cover Letter](#) and then review it before moving to the next step. Reviewing this *Cover Letter* should help provide context to guide your experience through the pilot study just as if you were a participant in the actual study. **NOTE:** This *Cover Letter* will be sent out via email from the ACSM Certification office to participants in the Dissertation study.

**Step 2:** Please click on the link provided below which should automatically direct you to the *Dissertation Survey (for Pilot Participants)* in the default web browser. **NOTE:** There will be a two (2) second delay after you complete the first survey and then you will be redirected to the next survey, and so on. **Complete all three (3) electronic surveys: 1) *Dissertation Survey for Pilot Participants*, *Drawing & Summary of Results* and 3) *Pilot Study: Follow up Survey*.**

NOTE: When you complete the *Dissertation Survey (for Pilot Participants)* in Survey Gizmo, please do so just as if you are a participant in the actual study. Upon completion, you will be directed to the *Drawing & Summary of Results* survey which will provide you an opportunity to enter a drawing (for a \$100 gift card). Although there is no incentive for participation in the Pilot Study, this part of the process also needs to be piloted.

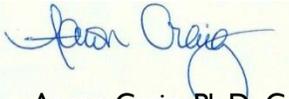
Please complete the survey no later than **Friday, April 11, 2014**.

Please click [here](#) to begin the survey.

Throughout this entire process, it is important for you to know that all of **your responses will remain private, secure, and confidential**. Thank you, again, for your willingness to participate in the pilot study. I look forward to receiving your feedback.

If you have questions, concerns, or need additional information, please feel free to contact me at (813) 600-8066 or [acraig2@mail.usf.edu](mailto:acraig2@mail.usf.edu).

Sincerely,

A handwritten signature in blue ink that reads "Aaron Craig". The signature is written in a cursive style and is placed on a light yellow rectangular background.

Aaron Craig, Ph.D. Candidate

### **Pilot Email 2: Step 3**

**Subject:** Pilot Study for A. Craig's Dissertation – Step 3

**Attachments:** 1) Cover Letter, 2)Dissertation Survey, 3)Validation of Survey Instrument

Dear ACSM Certified Health/Fitness Specialist,

Thank you for completing the **Steps 1 & 2** in the pilot study process! To complete the **Step 3** of the Pilot Study, please read the instructions below.

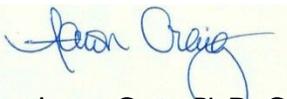
Instructions:

1. Click on [Cover Letter](#) and [Dissertation Survey](#) which should open these two files in a separate tab in your web browser. Please download, print or prepare to review electronically as points of reference to help you with the validation process.

**NOTE:** the version of the *Dissertation Survey* that you will be reviewing in this step contains the same questions that were in the electronic version of the survey you took using Survey Gizmo. However, the electronic version of the survey populated questions based upon the responses you provided to the previous questions.. Although, you may not recognize all of the questions in the attached *Dissertation Survey*, please review the entire document and provide feedback for each question as directed below.

2. Click on [Validation of Dissertation Survey Instrument](#) which is where you will be asked to respond to questions and provide feedback that will be used to improve the survey instrument and streamline the study procedures. NOTE: it is preferred that you type in your responses into the *Validation of Dissertation Survey Instrument* which is a fillable pdf file. However, if you prefer to print it out and manually write in your responses, this is also acceptable.
3. Once you've completed the *Validation of Dissertation Survey Instrument*, please save, attach, and send the file to me via email at [acraig2@mail.usf.edu](mailto:acraig2@mail.usf.edu). NOTE: if you printed and manually wrote in your responses, please scan your final document and send along via email to [acraig2@mail.usf.edu](mailto:acraig2@mail.usf.edu). Thank you again for your time and participation in the Pilot Study. If you have questions, concerns, or need additional information, please feel free to contact me at (813) 600-8066.

Sincerely,



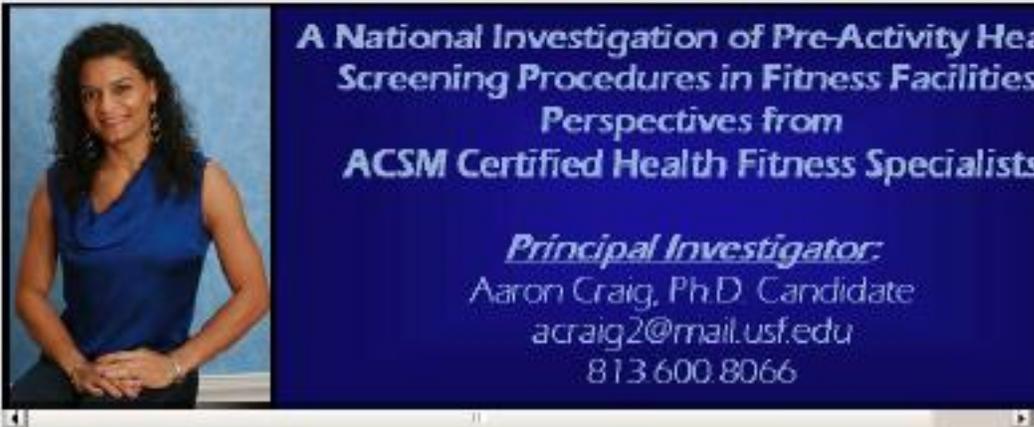
Aaron Craig, Ph.D. Candidate

## B5. Dissertation Survey (for Pilot Participants)

### Dissertation Survey (for Pilot Participants)

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Page description:



**A National Investigation of Pre-Activity Health Screening Procedures in Fitness Facilities**  
**Perspectives from ACSM Certified Health Fitness Specialists**

*Principal Investigator:*  
Aaron Craig, Ph.D. Candidate  
acraig2@mail.usf.edu  
813 600 8066

## **INFORMED CONSENT TO PARTICIPATE IN RESEARCH**

Information to Consider Before Taking Part in this Research Study as required by USF's IRB.

### **IRB Study # Pro00008849**

Researchers at the University of South Florida (USF) study many topics. To do this, we need the help of people who agree to take part in a research study. This form tells you about this online research study. We are asking you to take part in a research study that is called: A National Investigation of Pre-Activity Health Screening Procedures in Fitness Facilities: Perspectives from ACSM Certified Health Fitness Specialists.

The person who is in charge of this research study is Aaron Craig. This person is called the Principal Investigator. The research will be done by collecting your responses online through an electronic survey.

### **PURPOSE OF THE STUDY**

The purpose of this study is to investigate perspectives of the following from American College of Sports Medicine certified Health Fitness Specialists : 1) procedures within facilities, 2) guests and personal training programs, 3) familiarity, opinions and perceptions of management, 4) legal issues and 5) demographics.

You are being asked because you are one of a select few health fitness professionals who has earned the ACSM HFS® credential.

### **STUDY PROCEDURES**

If you take part in this study, you will be asked to complete an electronic survey which may take 10-15 minutes to complete. Your responses will be collected directly into the Survey Gizmo database.

### **VOLUNTARY PARTICIPATION/WITHDRAWAL**

You should only take part in this study if you want to volunteer. You should not feel that there is any pressure to take part in the study. You are free to participate in this research or withdraw at any time. There will be no penalty or loss of benefits you are entitled to receive if you stop taking part in this study.

### **ALTERNATIVES**

You have the alternative to choose not to participate in this research study.

### **BENEFITS**

We are unsure if you will receive any benefits by taking part in this research study.

### **RISKS OR DISCOMFORT**

This research is considered to be minimal risk. That means that the risks associated with this study are the same as what you face every day. There are no known additional risks to those who take part in this study.

### **COMPENSATION**

At the completion of the survey, you will have an opportunity to enter drawing for a chance to win one (1) of three (3) \$100 gift cards.

## PRIVACY & CONFIDENTIALITY

We must keep your study records as confidential as possible. It is possible, although unlikely, that unauthorized individuals could gain access to your responses because you are responding online. Survey Gizmo will not – under any circumstances – sell or rent Customer or Respondent Information to any third party. Your results will be password protected and may be stored for up to 5 years after the Final Report is filed with the IRB.

However, certain people may need to see your study records. By law, anyone who looks at your records must keep them completely confidential. The only people who will be allowed to see these records are the research team, including the Principal Investigator, the Advising Professor, and Committee Statistician.

## CONTACT INFORMATION

If you have any questions, please contact the USF IRB at 974-5638 or the Principal Investigator at 813-600-8066.

We may publish what we learn from this study. If we do, we will not let anyone know your name. We will not publish anything else that would let people know who you are. You can [print](#) a copy of this consent form for your records. If you agree, please proceed with the survey.

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## Page description:

### NOTE:

- Due to the nature of the survey, **only** forward progress is allowed (i.e., there is no "back" button) throughout the survey. Please be sure to carefully review the responses to each question before you click the "NEXT" button. To help ensure accurate data collection, please do NOT use your browser's "BACK ARROW" throughout the survey.
- Definitions of terms used throughout the survey appear on the next page.
- If you'd like to print a copy of the definitions for your reference throughout the survey, click the "print" link at the bottom of the page, OR if you're using Chrome, Mozilla Firefox, or Safari as your web browser, the definitions of the terms are also available when you hover over the underlined terms throughout the survey.
- If you begin the survey and need to stop before completing it, you may click the "Save and continue survey later" link that appears at the top of each page of the survey.

## Instructions

1. Review all of the definitions below prior to beginning the survey.
2. Respond to each question as instructed throughout the survey.

## Definitions

*ACSM's Guidelines for Exercise Testing and Prescription, 9th ed.:*

- **Health fitness professional:** an individual who possesses a minimum of a bachelor's degree in an exercise science area, and has the knowledge and skills in the following domains:
  1. Health and Fitness Assessment
  2. Exercise Prescription and Implementation
  3. Exercise Counseling and Behavioral Strategies
  4. Legal/Professional
  5. Management
- **Risk classification:** a process by which individuals are classified into one of the three risk categories (i.e., low, moderate, high) based upon the presence or absence of 1) cardiovascular, pulmonary, and/or metabolic disease, 2) signs or symptoms, and 3) CVD risk factors
- **Low risk:** Classification of an individual who is asymptomatic and has <2 CVD risk factors
- **Moderate risk:** Classification of an individual who is asymptomatic and has ≥2 risk factors
- **High risk:** Classification of an individual who has known disease and/or is symptomatic

*ACSM's Guidelines for Exercise Testing and Prescription, 8th ed.:*

- **Self-guided screening:** Screening is conducted by participants with little or no direction or supervision from an exercise or health fitness professional. For example, they might complete a self-administered device such as the PAR-Q and based on their responses they might be alerted to consult their physician before participation in physical activity
- **Professionally-guided screening:** Screening is conducted by an appropriately trained health fitness professional that possesses a certification equivalent to the ACSM HFS or higher. This screening involves a more advanced process than self-guided that includes (a) the review of a detailed health/medical history form in order to determine risk classification and b) depending on risk classification (and/or other existing medical conditions) obtaining medical clearance

### Additional Definitions:

- **At Risk:** For purposes of this survey an "at risk" participant is defined as someone with known disease (e.g., cardiac, pulmonary or metabolic) or with signs/symptoms and/or risk factors associated with cardiac, pulmonary, or metabolic disease. Participants with other medical conditions (e.g., pregnancy, orthopedic injury) may also be considered "at risk"
- **Fitness Facility:** any fitness facility that offers health and fitness programs and services
- **New Participants:** individuals who, for the first time, have decided to participate in your program and

services or join as a member

- **Guests:** Individuals who pay a "guest fee" to use your facility one-time, or on a pay-as-you go basis, or are the guest of the facility or another member

*Click here to [print](#) definitions.*

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**Page description:**

Before beginning the survey, please input your LAST NAME.

NOTE: this information will only be used to compare your responses in the test-retest reliability portion of the Pilot Study.

Last Name

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**Page description:**

**Part 1: Pre-activity Health Screening Procedures and New Participants**

**NOTE:** Please click **YES** to Question #1 below even if you are not currently employed (part or full-time) in a fitness facility. Clicking **NO** will disqualify and prevent you from completing the remainder of the Pilot Study.

1. I am currently employed (part-time or full-time) in a fitness facility.

Yes

No

2. In addition to you, are there any employees (co-workers) in your facility who possess the ACSM HFS certification?

- Yes
- No
- Don't Know

To prevent duplication and ensure accurate analysis of the data, please provide the information requested below for the facility at which you work.

Facility Name \*

Street Address \*

City \*

State \*

Zip \*

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**Page description:**

3. What role do you play in the decision making related to Pre-activity Health Screening Procedures at your fitness facility?

- Primary decision maker
- Assist, contribute and/or influence decision making process
- No involvement
- Other  \*

4. Are [new participants formally notified](#) or informed of injury risks associated with physical activity (e.g., musculoskeletal injuries, heart attack) prior to participation in your programs and services?

- Yes
- No
- Don't Know

5. Does your fitness facility **require** "new participants" to complete a pre-activity screening device prior to their participation?

- Yes, our new participants are required
- No
- The majority of our new participants are required, but not all are not required
- The majority of our new participants are not required, but some might be required to complete pre-activity screening procedures
- Don't know

6. From the following items, please select **the major** reason that best describes why your fitness facility does not require all or the majority of new participants to complete pre-activity health screening device.

- There is no purpose or need for screening
- Screening takes up too much staff time (or lack of staff resources)
- Participants would perceive completing screening as a barrier that might cause them to not join the facility or participate in activities
- Participants have responsibility for their own health and actions – our facility does not have this responsibility
- Legal counsel advice, e.g., we have been advised not to conduct screening because it might increase legal liability
- Fitness facility/franchise policy
- Other, please specify:  \*

7. Have you made an effort to encourage management (e.g., top manager at your facility) to consider conducting Pre-activity Health Screening Procedures at your facility?

- Yes
- No
- Not applicable (e.g., I am the manager)

8. For each item listed below, select the answer that corresponds to the information your new participants receive (either verbally or in writing) **prior** to completing your Pre-activity Health Screening Procedures (PHSP)?

|                                                                             | Yes                   | No                    | Don't Know            |
|-----------------------------------------------------------------------------|-----------------------|-----------------------|-----------------------|
| Information regarding the <b>purpose</b> of PHSP                            | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Information regarding the <b>steps involved</b> in the PHSP                 | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Information regarding the <b>benefits</b> of PHSP                           | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Information regarding the <b>potential risks</b> of not completing the PHSP | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

9. Which of the following **best** describes the type of Pre-activity Health Screening Procedures your fitness facility uses to screen "new participants"?

- [Self-guided](#)
- [Professionally-guided](#)
- We offer both self-guided and professionally guided Pre-activity Health Screening

10. Which "self-guided" screening device do you use?

- PAR-Q and You
- AHA/ACSM Health/Fitness Facility Preparticipation Health Screening Questionnaire
- Custom/In-House Developed Instrument
- Don't Know
- Other, please specify  \*

11. From the following statements which one best describes your "self-guided" screening procedures:

- The participant is **encouraged** by a staff member to review and complete the screening device, self-interprets the information as stated on the form, keeps the form and decides for himself/herself whether to seek medical clearance or consult with his/her physician.
- The participant is **required** to complete the screening device, and a staff member interprets the information and if this interpretation classifies the participant **at risk** (based on criteria established on the screening device or by your fitness facility) the participant is **encouraged** by a staff member to obtain medical clearance or to consult with his/her physician.
- The participant is **required** to complete the screening device and a staff member interprets the information and if this interpretation classifies the participant "at risk" (based on criteria established on the screening device or by your fitness facility), the participant is **required** to obtain medical clearance.
- Other, please specify  \*

12. Please respond to the following items regarding **self-guided** screening procedures - Our facility has a policy that personal information obtained from the screening device is kept:

|                                                                                                             | Yes                   | No                    | Don't Know            |
|-------------------------------------------------------------------------------------------------------------|-----------------------|-----------------------|-----------------------|
| Private - respecting participant's right to maintain control over his/her personal information              | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Confidential - only authorized individuals have access to personal information                              | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Secure - physical, technical, and/or administrative safeguards are in place to protect personal information | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

13. How often do you have your participants complete your self-guided screening procedures?

- Initially only (e.g., when they join for the first time)
- Initially and annually thereafter (e.g., when they renew their membership)
- Initially and when a participant informs a staff member of a change in health status
- Don't know
- Other, please specify  \*

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**Page description:**

14. Which [professionally-guided](#) screening device do you use?

- PAR-Q and You
- AHA/ACSM Health/Fitness Facility Preparticipation Screening Questionnaire
- Custom/In-House Developed Instrument
- Specific, ready-made screening tool e.g., Health Risk Appraisal (HRA) or Health History Questionnaire (HHQ)
- Don't Know
- Other, please specify:  \*

15. Please respond to the following items regarding **professionally-guided** screening procedures - Our facility has a policy that personal information obtained from the screening device is kept:

|                                                                                                             | Yes                   | No                    | Don't Know            |
|-------------------------------------------------------------------------------------------------------------|-----------------------|-----------------------|-----------------------|
| Private - respecting participant's right to maintain control over his/her personal information              | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Confidential - only authorized individuals have access to personal information                              | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Secure - physical, technical, and/or administrative safeguards are in place to protect personal information | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

**Page description:**

16. From the information on the screening device, does your fitness facility have pre-established criteria that identify participants as [at risk](#) prior to their participation?

- Yes
- No
- Don't know

17. Who **primarily** interprets the information provided on the device and makes the determination if a participant is "at risk"?

- Front Desk Staff
- [Health fitness professional](#)
- Health care or medical professional (e.g., a licensed professional such as a nurse, physician, physician assistant)
- Other, please specify:  \*

18. If a participant is classified as "at risk", is he/she **required** to obtain medical clearance?

- Yes
- No
- Don't know

19. For participants identified as "at-risk", do you provide them with a medical clearance form for their medical care provider to complete and sign?

- Yes
- No
- Don't Know

20. How often do your participants complete your [professionally-guided](#) screening procedures?

- Initially only (e.g., when they join for the first time)
- Initially and annually thereafter (e.g., when they renew their membership)
- Initially and when a participant informs a staff member of a change in health status
- Don't know
- Other, please specify  \*

21. Which publication was **primarily** used when developing and implementing your "professionally guided" screening procedures?

- ACSM's Guidelines for Exercise Testing and Prescription
- ACSM's Health/Fitness Facility Standards and Guidelines
- AHA/ACSM Joint Position Statement – Recommendations for Cardiovascular Screening, Staffing, and Emergency Policies at Health/Fitness Facilities
- Other, please specify:  \*
- None
- Don't know

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**Page description:**

22. Does your fitness facility's screening device include questions for a [new participant](#) to answer indicating known cardiovascular, pulmonary, and metabolic disease?

- Yes
- No
- Don't Know

23. Does your fitness facility's screening device include questions for a "new participant" to answer indicating signs and symptoms suggestive of cardiovascular, pulmonary, and metabolic disease?

- Yes
- No
- Don't Know

24. Does your fitness facility's screening device include questions for a "new participant" to answer indicating cardiovascular disease risk factors?

- Yes
- No
- Don't know

25. Does a staff member (or other designated individual) at your fitness facility classify "new participants" into [low](#), [moderate](#), and [high](#) risk classification categories after interpreting the data collected from a screening device?

- Yes
- No
- Don't know

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**Page description:**

**Part 2: Pre-activity Health Screening for Guests and Personal training Programs**

26. Which of the following statements **best** describes your Pre-activity Health Screening Procedures for [guests](#)?

- Guests receive a screening device such as the PAR-Q and are **required** to complete it
- Guests receive a screening device such as the PAR-Q and are **encouraged** to complete it
- Guests are **not** provided a screening device to complete
- Don't know
- Other, please specify:

27. Does your fitness facility **require** guests to sign a waiver or some other protective legal document such as an informed consent?

- Yes
- No
- Don't Know

28. Which of the following best describes the hiring practices for your personal training program?

- All of our personal trainers are hired as employees
- All of our personal trainers are hired as independent contractors
- We hire both employees and independent contractors to provide personal training
- We do not offer personal training

29. Which of the following best describes your facility's policy regarding personal trainers having their clients complete Pre-activity Health Screening Procedures (PHSP)?

- Personal trainers are **required** to complete PHSP with their clients
- Personal trainers are **encouraged** to complete PHSP with their clients
- Personal trainers are **neither** required nor encouraged to complete Pre-activity Health Screening Procedures (PHSP) with their clients
- Don't Know
- Other, please specify:  \*

30. Which of the following **best** describes the specific Pre-activity Health Screening Procedures (PHSP) that personal trainers follow?

- Personal trainers are **required** to follow specific PHSP as established by our fitness facility
- Personal trainers can determine their own PHSP
- Don't Know
- Other, please specify:

31. Which of the procedures below are the personal trainers at your facility **required** to follow?

|                                                                                   | Yes                   | No                    | Don't Know            |
|-----------------------------------------------------------------------------------|-----------------------|-----------------------|-----------------------|
| Personal trainers have clients complete a screening device                        | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Using pre-established criteria, personal trainers identify <b>at risk</b> clients | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Personal trainers have their at risk clients obtain medical clearance             | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

32. Please respond to the following items regarding **personal training program's** screening procedures - Our facility has a policy that personal information obtained from the screening device is kept:

|                                                                                                             | Yes                   | No                    | Don't Know            |
|-------------------------------------------------------------------------------------------------------------|-----------------------|-----------------------|-----------------------|
| Private - respecting participant's right to maintain control over his/her personal information              | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Confidential - only authorized individuals have access to personal information                              | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Secure - physical, technical, and/or administrative safeguards are in place to protect personal information | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

**Page description:**  
**Part 3: Familiarity, Opinions, and Perceptions of Management**

33. What is your level of familiarity with pre-activity health screening standards and guidelines in each of the following publications?

|                                                                                                                                                 | Very Familiar         | Familiar              | Somewhat Familiar     | Not Familiar          |
|-------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| ACSM's Guidelines for Exercise Testing and Prescription                                                                                         | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| ACSM's Health/Fitness Facility Standards and Guidelines                                                                                         | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| AHA/ACSM Joint Position Statement – Recommendations for Cardiovascular Screening, Staffing, and Emergency Policies at Health/Fitness Facilities | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

**Page description:**

34. How important is that your fitness facility follows published standards and guidelines for pre-activity health screening?

Very Important                      Important                      Somewhat Important                      Not Important

35. Please use the rating scale below to indicate the response which **best** reflects your level of agreement with the following statements.

|                                                                                                                                                                        | Strongly Agree        | Agree                 | Disagree              | Strongly Disagree     |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| Data obtained in pre-activity health screening should be used when designing an individualized exercise program.                                                       | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Pre-activity Health Screening Procedures that include requiring medical clearance for <a href="#">at risk</a> participants can lead to medical intervention/treatment. | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Conducting pre-activity screening procedures enhances the quality of our program.                                                                                      | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Conducting pre-activity screening procedures enhances the professional reputation of our program.                                                                      | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Pre-activity Health Screening helps ensure the safety of our participants                                                                                              | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

**Page description:**

36. How confident are you in conducting [professionally-guided](#) pre-activity screening procedures?

Very Confident     
  Confident     
  Somewhat Confident     
  Not Confident

37. Did your undergraduate and/or graduate academic courses include content covering Pre-activity Health Screening Procedures?

- Yes
- No
- Don't Know

38. How adequate was the pre-activity health screening information covered in your academic program(s)?

- |                       |                       |                       |                       |
|-----------------------|-----------------------|-----------------------|-----------------------|
| Very Adequate         | Adequate              | Somewhat adequate     | Not adequate          |
| <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

---

**Page description:**

39. How important is it to the management (e.g., top manager at your facility) of your fitness facility that it follows published standards and guidelines for pre-activity health screening?

- |                       |                       |                       |                       |
|-----------------------|-----------------------|-----------------------|-----------------------|
| Very Important        | Important             | Somewhat important    | Not important         |
| <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

40. How familiar is the management (e.g., top manager at your facility) at your facility with pre-activity health screening procedures provided in each of the following publications?

|                                                                                                                                                  | Very Familiar         | Familiar              | Somewhat Familiar     | Not Familiar          |
|--------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| ACSM's Guidelines for Exercise Testing and Prescription                                                                                          | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| ACSM's Health/Fitness Facility Standards and Guidelines                                                                                          | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| AHA/ACSM Joint Position Statement – Recommendations for Cardiovascular Screening, Staffing, and Emergency Policies at Health/Fitness Facilities? | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

**Page description:**  
**Part 4: Legal Issues**

41. Are you aware of any legal cases in which the failure to conduct Pre-activity Health Screening Procedures resulted in a negligence claim or lawsuit against a fitness facility?

- Yes
- No
- Don't Know

42. Are fitness facilities that do not conduct Pre-activity Health Screening Procedures at increased risk of a negligence claim or lawsuit?

- Yes
- No
- Don't Know

43. Do you believe that Pre-activity Health Screening Procedures could minimize the incidence of serious or potentially life threatening events?

- Yes
- No
- Don't Know

44. How adequate was your training and/or education regarding legal implications involved with Pre-activity Health Screening Procedures?

- |                       |                       |                       |                       |
|-----------------------|-----------------------|-----------------------|-----------------------|
| Very Adequate         | Adequate              | Somewhat adequate     | Not adequate          |
| <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

45. To your knowledge, how many cardiac events (e.g., cardiac deaths, cardiac arrests, heart attacks in which CPR/AED and/or activating EMS was needed) have occurred within your facility within the last 5 years?

- 0
- 1-2
- 3-4
- 5-6
- 7 or more
- Don't know

**Page description:**  
Part 5: Demographics

**46. Gender**

- Male
- Female

**47. Age**

- 20-29
- 30-39
- 40-49
- 50-59
- 60 or older

**48. Years of professional experience in the field**

- <1 year
- 1 year - < 3 years
- 3 years - < 5 years
- 5 years - <10 years
- 10 years - <15 years
- 15 years - < 20 years
- 20 years or more

49. Please indicate the highest academic degree level you have obtained.

- Associate
- Bachelor's
- Master's
- Doctorate
- Other

For highest degree earned, please input your degree information in the spaces provided below.

Name of degree \*

Concentration/Specialization \*

---

**Page description:**

50. Please select the option below that **best** reflects your **current position** within your facility.

- Fitness Manager/Owner (top management)
- Fitness Director (middle management)
- Assistant Director or Program Coordinator
- Fitness Staff (e.g., personal trainer, wellness coach, group exercise leader, fitness floor supervisor)
- Other, please specify:

Please specify the details of your position.

Specific Position/Title \*

51. In your current position, on average, how many hours per week do you work?

- 10-20 hours
- 21-30 hours
- 31-40 hours
- 41-50 hours
- 50 or more hours

52. Please select the option below that **best** reflects the **setting** of your current position.

- University/ College – Campus Recreation/Wellness and Recreational Sports
- Community, non-profit -YMCA/YWCA, JCC
- Commercial, for profit – Health clubs, personal training or group exercise studios, sports performance centers
- Hospital/clinical – Fitness facilities affiliated with a hospital, Cardiac Rehab, Physical Therapy
- Corporate – Employer sponsored fitness/wellness (private businesses and government agencies)
- Government – Military, fire/police, city/county parks and recreation
- Other, please specify:

Please specify the details of your facility setting of your current position.

Facility setting: \*

**Thank you so much for your valuable time and feedback.**

You have now completed the Dissertation Survey!

As a reminder, your responses to the survey will remain private, secure, and confidential!

---

**So what's in it for YOU?**

For participating in this study, you:

\*Have earned a chance to win a \$100 gift card

\*May request a summary of the results of the study

Simply proceed to the NEXT page -->

## B6. Drawing & Summary of Results Survey

# Drawing & Summary of Results

---

1. Enter me into the drawing for a chance to win a \$100 gift card.

- Yes
- No

2. Please send me a summary of the results of the study.

- Yes
- No

Please enter your email address.

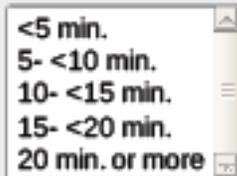
Email Address \*

## B7. Pilot Follow-up Survey

# Pilot Study: Follow up survey

---

1. How long did it take you to complete the Dissertation Survey?



<5 min.  
5- <10 min.  
10- <15 min.  
15- <20 min.  
20 min. or more

2. The length of the Dissertation Survey was:

- Too short
- About right
- Too long
- Other, please specify:  \*

Would the length of the survey be a determining factor in whether participants complete the entire survey?

- Yes
- No
- Don't Know
- Other, please specify:  \*

3. Did you use the print feature/option for the the informed consent on Page 1 of the survey?

- Yes
- No

4. Was the "NOTE:" helpful on Page 2 of the survey? See a copy of the "NOTE" below for reference.

- Yes
- No

**NOTE:**

- Due to the nature of the survey, only forward progress is allowed (i.e., there is no "back" button) throughout the survey. Please be sure to carefully review the responses to each question before you click the "NEXT" button. To help ensure accurate data collection, please do NOT use your browser's "BACK ARROW" throughout the survey.
- Definitions of terms used throughout the survey appear on the next page.
- If you'd like to print a copy of the definitions for your reference throughout the survey, click the "print" link at the bottom of the page, OR if you're using Chrome, Mozilla Firefox, or Safari as your web browser, the definitions of the terms are also available when you hover over the undefined terms throughout the survey.
- If you begin the survey and need to stop before completing it, you may click the "Save and continue survey later" link that appears at the top of each page of the survey.

5. What suggestions would you make to improve this section (i.e. NOTE)?

6. Did you use the print feature/option for the definitions of terms on Page 3 of the survey?

- Yes
- No

7. Did you use the "Save & Close" feature/option at any point throughout the survey?

- Yes
- No

8. Did you hover over any of the [blue underlined](#) terms to see the definition of the term(s) throughout the survey?

- Yes
- No

9. Please select the response which best explains why you did not hover over the [blue underlined](#) terms to see/use the definitions.

- I didn't know/notice that they were there (i.e., didn't see them)
- I printed out a copy of the definitions and used that, instead
- Other  \*

10. Do you feel that the definitions/[blue underlined](#) terms were helpful throughout the survey?

- Yes
- No

Comments

11. Did you have any technical problems accessing the Dissertation Survey ~~directly~~ from the link provided in the initial email/cover letter that you received?

- Yes
- No

Comments

How did you resolve it/them?

12. Which internet browser did you use to complete the Dissertation Survey?

- Internet Explorer
- Mozilla Firefox
- Safari
- Google Chrome
- Other  \*

13. Did you experience any other technical issues/difficulties?

- Yes
- No

Please describe the additional technical issue(s) you encountered.

14. Upon completion of the Dissertation Survey, did the "Thank You" message appear?

- Yes
- No

15. After the "Thank You" message, were you automatically redirected to the Drawing and Summary of Results page?

- Yes
- No

16. Did you answer "YES" to either question regarding the drawing or summary of results?

- Yes
- No, I answered "NO" to both questions

17. Did you feel assured that your responses to the Dissertation Survey were not connected to your responses for the drawing/summary of results questions?

- Yes
- No

18. Currently we are offering Dissertation Study participants three (3) \$100 gift cards as an incentive to complete the dissertation survey. However, there may be a better combination of chances/incentives. Which of the following options do you think would be the **strongest** incentive to encourage completion of the Dissertation Survey?

- 6 - \$50 gift cards
- 4- \$75 gift cards
- 3- \$100 gift cards
- No incentive would make a difference in encouraging participants to complete the survey

19. Please provide any additional comments and/or suggestions to improve the overall survey, process, study, etc.

**NOTE:** You may use the space provided below and/or use the "upload" button to attach the file (png,gif,jpg,doc,xls,docx,xlsx,pdf,txt) into this question.

No file selected

Comments

---

### THANK YOU!

Your responses for Pilot Study: Follow up Survey have been collected.  
You should receive an email for completing Step 3 shortly.

In the meantime, should you have questions, concerns, or need additional information,  
feel free to contact me at:

*Ms. Aaron Craig*  
**acraig2@mail.usf.edu**  
**813.600.8066**

## B8. Validation of Dissertation Survey Instrument

**Instructions:** Please input your email address and last name in the space provided below. Then use the *Cover Letter* and *Dissertation Survey*, respectively, as points of reference as you respond to Questions 1-20 below.

**Email address:** \_\_\_\_\_ **Last name:** \_\_\_\_\_

**Please reference the Cover Letter as you respond to the following questions:**

1. Did the information in the cover letter clearly describe the purpose of the study?  
Yes  
No, please specify: \_\_\_\_\_
2. Were the instructions in the cover letter clear?  
Yes  
No, please specify: \_\_\_\_\_
3. Please provide comments and/or suggestions to improve the cover letter.  
Comments: \_\_\_\_\_  
\_\_\_\_\_

**Please reference Questions 1-25 (Procedures) on the *Dissertation Survey* as you respond to the following:**

4. Were there any questions in this part of the survey that you did not understand?  
Yes, please describe: \_\_\_\_\_  
No
5. Do you believe that the questions accurately measure what they were intended to measure?  
Yes  
No, please specify: \_\_\_\_\_
6. Please provide comments and/or suggestions to improve any of the questions this section.  
Comments: \_\_\_\_\_  
\_\_\_\_\_

**Please reference Questions 26-32 (PHSP for Guests and Personal Training Programs) on the *Dissertation Survey* as you respond to the following:**

7. Were there any questions in this part of the survey that you did not understand?  
Yes, please describe: \_\_\_\_\_  
No
8. Do you believe that the questions accurately measure what they were intended to measure?  
Yes  
No, please specify: \_\_\_\_\_
9. Please provide comments and/or suggestions to improve any of the questions this section.  
Comments: \_\_\_\_\_  
\_\_\_\_\_

---

**Please reference Questions 33-40 (Familiarity, Opinions, and Perceptions of Management) on the *Dissertation Survey* as you respond to the following:**

10. Were there any questions in this part of the survey that you did not understand?  
Yes, please describe: \_\_\_\_\_  
No
11. Do you believe that the questions accurately measure what they were intended to measure?  
Yes  
No, please specify: \_\_\_\_\_
12. Did you have any issues with the questions that included Likert Scales regarding familiarity, agreement, importance, and confidence (i.e., Questions 33-36, 38-40)?  
Yes, please describe: \_\_\_\_\_  
No
13. Please provide comments and/or suggestions to improve any of the questions this section.  
Comments: \_\_\_\_\_  
\_\_\_\_\_

**Please reference Questions 41-45 (Legal Issues) on the *Dissertation Survey* as you respond to the following:**

14. Were there any questions in this part of the survey that you did not understand?  
Yes, please describe: \_\_\_\_\_  
No
15. Do you believe that the questions accurately measure what they were intended to measure?  
Yes  
No, please specify: \_\_\_\_\_
16. Did you have any concerns/issues with the question that included Likert Scales regarding adequacy (i.e., Question 44)?  
Yes, please describe: \_\_\_\_\_  
No
17. Please provide comments and/or suggestions to improve any of the questions this section.  
Comments: \_\_\_\_\_  
\_\_\_\_\_



## B9. Pilot Study: Summary Report



Online Surveys, Data Collection and Integration  
www.SurveyGizmo.com

### Summary Report - Apr 13, 2014

Survey: Dissertation Survey (for Pilot Participants)

#### Email Address

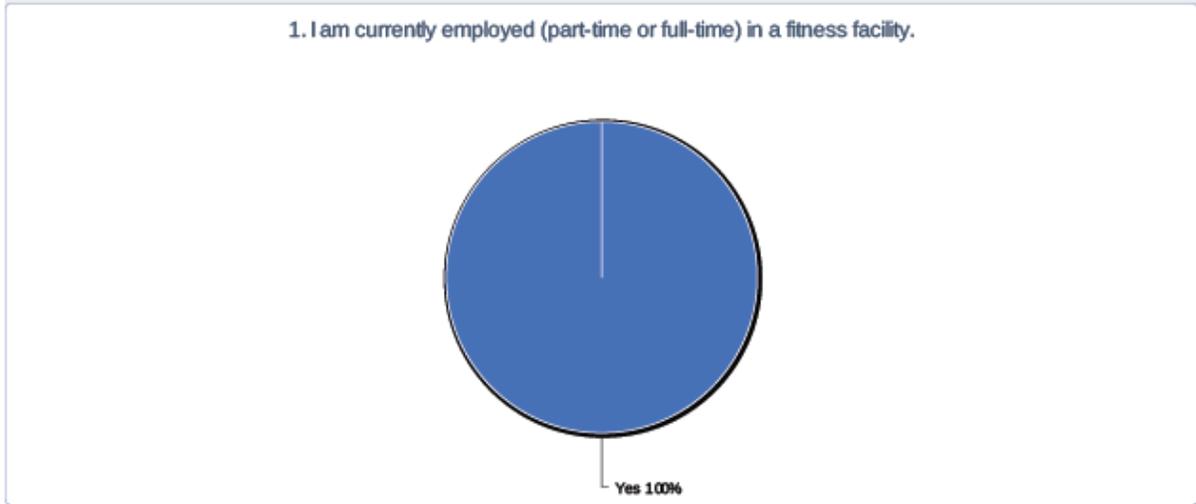
| Count | Response                     |
|-------|------------------------------|
| 1     | Darla.obrien13@gmail.com     |
| 1     | Dlabbat1@progressive.com     |
| 1     | KDH7@hotmail.com             |
| 1     | amie.russell@yahoo.com       |
| 1     | annefries7@yahoo.com         |
| 1     | artorre2@mail.usf.edu        |
| 1     | cmcowan27@verizon.net        |
| 1     | dayna.buethe@yahoo.com       |
| 1     | hollymolly28@hotmail.com     |
| 1     | jana@janafit.com             |
| 1     | juliebug82@yahoo.com         |
| 1     | kmooore1@progressive.com     |
| 1     | lew_croft@yahoo.com          |
| 1     | mannycalo@hotmail.com        |
| 1     | mbartolomei25@gmail.com      |
| 1     | melanie.colon@plusone.com    |
| 1     | ndgrillo@medifit.com         |
| 1     | nicolassantacruz@hotmail.com |
| 1     | thedowning4@gmail.com        |
| 1     | xrcize@verizon.net           |

Before beginning the survey, please input your LAST NAME. NOTE: this information will only be used to compare your responses in the test/re-test reliability portion of the Pilot Study.

| Value     | Count | Percent % | Statistics      |   |
|-----------|-------|-----------|-----------------|---|
| Last Name | 0     | 0.0%      | Total Responses | 0 |

Before beginning the survey, please input your LAST NAME.NOTE: this information will only be used for tracking purposes in the Pilot Study.

| Count | Response          |
|-------|-------------------|
| 1     | Bartolomei        |
| 1     | Buethe            |
| 1     | Calo              |
| 1     | Colon             |
| 1     | Cowan             |
| 1     | DGrillo           |
| 1     | Downing           |
| 1     | Dunson-Martin     |
| 1     | Friesel-McQuiniff |
| 1     | Huff              |
| 1     | Labbate           |
| 1     | Lampasona         |
| 1     | Moore             |
| 2     | O'Brien           |
| 1     | Osimo             |
| 1     | Petrak            |
| 1     | Russell           |
| 1     | Santacruz         |
| 1     | Torres            |

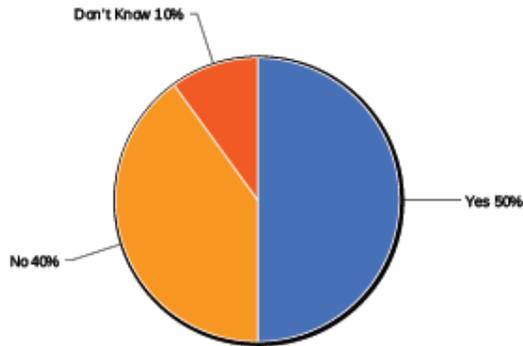


1. I am currently employed (part-time or full-time) in a fitness facility.

| Value | Count | Percent % |
|-------|-------|-----------|
| Yes   | 20    | 100.0%    |
| No    | 0     | 0.0%      |

| Statistics      |    |
|-----------------|----|
| Total Responses | 20 |

2. In addition to you, are there any employees (co-workers) in your facility who possess the ACSM HFS certification?



2. In addition to you, are there any employees (co-workers) in your facility who possess the ACSM HFS certification?

| Value      | Count | Percent % |
|------------|-------|-----------|
| Yes        | 10    | 50.0%     |
| No         | 8     | 40.0%     |
| Don't Know | 2     | 10.0%     |

| Statistics      |    |
|-----------------|----|
| Total Responses | 20 |

Facility Name

| Count | Response                                                     |
|-------|--------------------------------------------------------------|
| 1     | Cardiac Rehab                                                |
| 2     | Carillon Wellness Center                                     |
| 1     | Cheval athletic club                                         |
| 1     | Citi Fitness Center                                          |
| 1     | Florida Hospital Tampa                                       |
| 1     | Florida Hospital of Wesley Chapel                            |
| 1     | Health and Wellness Center at Florida Hospital Wesley Chapel |
| 1     | Health and Wellness Center, MacDill AFB                      |
| 1     | NetPark Fitness Center                                       |
| 1     | Progressive Insurance                                        |
| 1     | Progressive Insurance Corporate                              |

### Street Address

| Count | Response                             |
|-------|--------------------------------------|
| 1     | 14100 Fivay Rd                       |
| 1     | 2600 Bruce B Downs Blvd              |
| 1     | 2700 healing way dr                  |
| 1     | 3100 E Fletcher Ave                  |
| 1     | 3800 Citigroup Center, C-1-08        |
| 2     | 4030 Crescent Park Drive             |
| 1     | 4142 Cheval Blvd.                    |
| 1     | 5701 E. Hillsborough Ave. Suite 1228 |
| 1     | 8115 Cypress Stand St.               |
| 1     | 900 Carillon Parkway                 |
| 1     | 901 Ulmerton Rd                      |

### City

| Count | Response       |
|-------|----------------|
| 1     | Hudson         |
| 1     | Lutz           |
| 2     | Riverview      |
| 2     | St. Petersburg |
| 4     | Tampa          |
| 1     | Wesley Chapel  |
| 1     | wesley chapel  |

### State

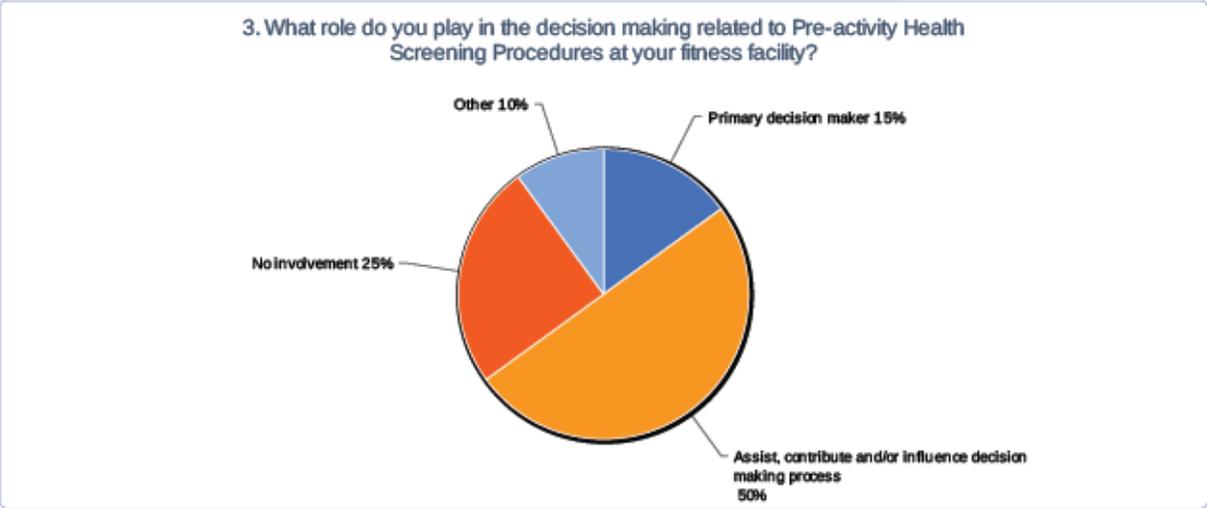
| Count | Response |
|-------|----------|
| 8     | FL       |
| 3     | FI       |
| 1     | I        |

### Zip

| Count | Response |
|-------|----------|
| 2     | 33544    |
| 1     | 33558    |
| 2     | 33578    |
| 2     | 33610    |
| 1     | 33613    |
| 1     | 33621    |
| 2     | 33716    |
| 1     | 34667    |

In addition to you, are there any employees (co-workers) in your facility who possess the ACSM RFS certification?

| Value      | Count | Percent % | Statistics      |   |
|------------|-------|-----------|-----------------|---|
| Yes        | 0     | 0.0%      | Total Responses | 0 |
| No         | 0     | 0.0%      |                 |   |
| Don't Know | 0     | 0.0%      |                 |   |



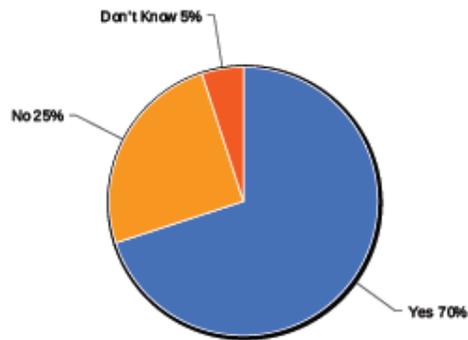
3. What role do you play in the decision making related to Pre-activity Health Screening Procedures at your fitness facility?

| Value                                                       | Count | Percent % | Statistics      |    |
|-------------------------------------------------------------|-------|-----------|-----------------|----|
| Primary decision maker                                      | 3     | 15.0%     | Total Responses | 20 |
| Assist, contribute and/or influence decision making process | 10    | 50.0%     |                 |    |
| No involvement                                              | 5     | 25.0%     |                 |    |
| Other                                                       | 2     | 10.0%     |                 |    |

| Open-Text Response Breakdown for "Other"             | Count |
|------------------------------------------------------|-------|
| I screen only the members that I will be training    | 1     |
| Make a recommendation but no power to make decision. | 1     |

4. Are new participants formally notified or informed of injury risks associated with physical activity (e.g., musculoskeletal injuries, heart attack) prior to participation in your programs and services?

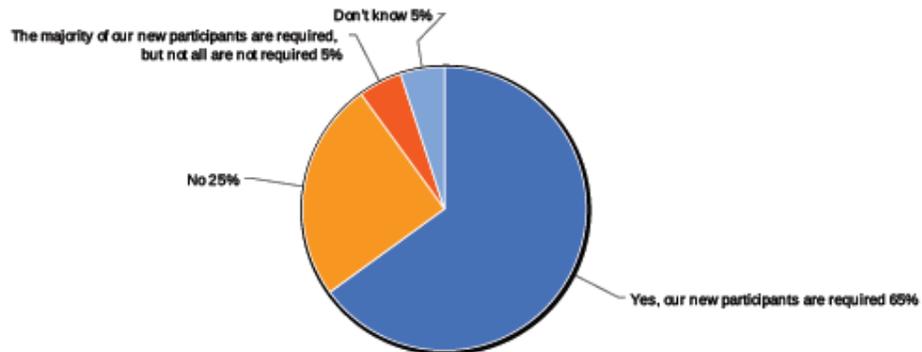


4. Are new participants formally notified or informed of injury risks associated with physical activity (e.g., musculoskeletal injuries, heart attack) prior to participation in your programs and services?

| Value      | Count | Percent % |
|------------|-------|-----------|
| Yes        | 14    | 70.0%     |
| No         | 5     | 25.0%     |
| Don't Know | 1     | 5.0%      |

| Statistics      |    |
|-----------------|----|
| Total Responses | 20 |

5. Does your fitness facility require "new participants" to complete a pre-activity screening device prior to their participation?



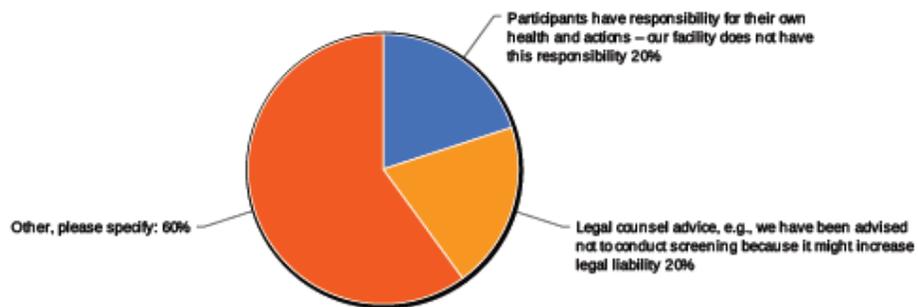
5. Does your fitness facility require "new participants" to complete a pre-activity screening device prior to their participation?

| Value                                                                                                                           | Count | Percent % |
|---------------------------------------------------------------------------------------------------------------------------------|-------|-----------|
| Yes, our new participants are required                                                                                          | 13    | 65.0%     |
| No                                                                                                                              | 5     | 25.0%     |
| The majority of our new participants are required, but not all are not required                                                 | 1     | 5.0%      |
| The majority of our new participants are not required, but some might be required to complete pre-activity screening procedures | 0     | 0.0%      |
| Don't know                                                                                                                      | 1     | 5.0%      |

| Statistics      |    |
|-----------------|----|
| Total Responses | 20 |

6. From the following items, please select the major reason that best describes why your fitness facility does not require all or the majority of new participants to complete pre-activity health screening device.



6. From the following items, please select the major reason that best describes why your fitness facility does not require all or the majority of new participants to complete pre-activity health screening device.

| Value                                                                                                                                     | Count | Percent % |
|-------------------------------------------------------------------------------------------------------------------------------------------|-------|-----------|
| There is no purpose or need for screening                                                                                                 | 0     | 0.0%      |
| Screening takes up too much staff time (or lack of staff resources)                                                                       | 0     | 0.0%      |
| Participants would perceive completing screening as a barrier that might cause them to not join the facility or participate in activities | 0     | 0.0%      |
| Participants have responsibility for their own health and actions – our facility does not have this responsibility                        | 1     | 20.0%     |
| Legal counsel advice, e.g., we have been advised not to conduct screening because it might increase legal liability                       | 1     | 20.0%     |
| Fitness facility/franchise policy                                                                                                         | 0     | 0.0%      |
| Other, please specify:                                                                                                                    | 3     | 60.0%     |

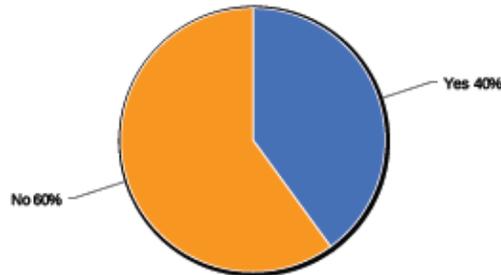
  

| Statistics      |   |
|-----------------|---|
| Total Responses | 5 |

| Open-Text Response Breakdown for "Other, please specify:"                                                                                              |  | Count |
|--------------------------------------------------------------------------------------------------------------------------------------------------------|--|-------|
| I don't know                                                                                                                                           |  | 1     |
| It has not been a priority                                                                                                                             |  | 1     |
| Our participants are required to fill out a PAR-Q form. We offer the fitness assessment but it is not required. They can choose to do it or not do it. |  | 1     |

7. Have you made an effort to encourage management (e.g., top manager at your facility) to consider conducting Pre-activity Health Screening Procedures at your facility?



7. Have you made an effort to encourage management (e.g., top manager at your facility) to consider conducting Pre-activity Health Screening Procedures at your facility?

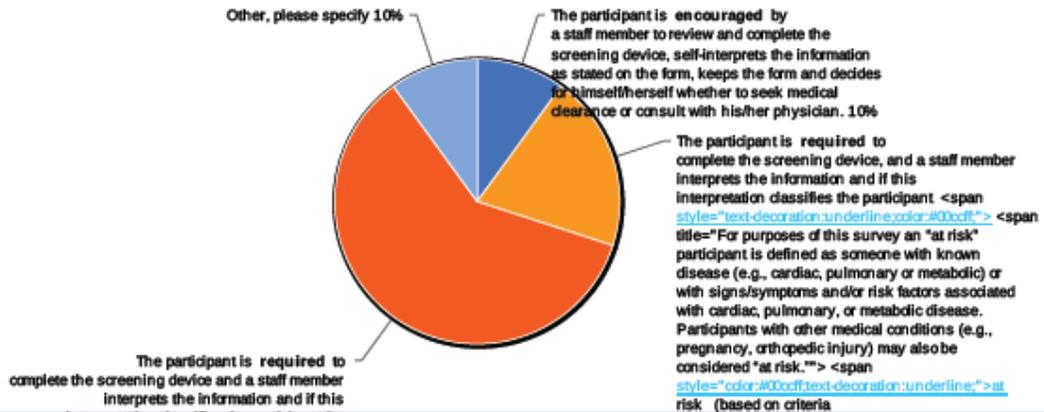
| Value                                   | Count | Percent % |
|-----------------------------------------|-------|-----------|
| Yes                                     | 2     | 40.0%     |
| No                                      | 3     | 60.0%     |
| Not applicable (e.g., I am the manager) | 0     | 0.0%      |

| Statistics      |   |
|-----------------|---|
| Total Responses | 5 |

8. For each item listed below, select the answer that corresponds to the information your new participants receive (either verbally or in writing) prior to completing your Pre-activity Health Screening Procedures (PHSP)?

|                                                                      | Yes         | No         | Don't Know | Responses |
|----------------------------------------------------------------------|-------------|------------|------------|-----------|
| Information regarding the purpose of PHSP                            | 78.6%<br>11 | 21.4%<br>3 | 0.0%<br>0  | 14        |
| Information regarding the steps involved in the PHSP                 | 85.7%<br>12 | 14.3%<br>2 | 0.0%<br>0  | 14        |
| Information regarding the benefits of PHSP                           | 57.1%<br>8  | 7.1%<br>1  | 35.7%<br>5 | 14        |
| Information regarding the potential risks of not completing the PHSP | 71.4%<br>10 | 14.3%<br>2 | 14.3%<br>2 | 14        |

11. From the following statements which one best describes your "self-guided" screening procedures:



11. From the following statements which one best describes your "self-guided" screening procedures:

| Value                                                                                                                                                                                                                                                                                                                                                                                  | Count | Percent % |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|-----------|
| The participant is encouraged by a staff member to review and complete the screening device, self-interprets the information as stated on the form, keeps the form and decides for himself/herself whether to seek medical clearance or consult with his/her physician.                                                                                                                | 1     | 10.0%     |
| The participant is required to complete the screening device, and a staff member interprets the information and if this interpretation classifies the participant <u>at risk</u> (based on criteria established on the screening device or by your fitness facility) the participant is encouraged by a staff member to obtain medical clearance or to consult with his/her physician. | 2     | 20.0%     |
| The participant is required to complete the screening device and a staff member interprets the information and if this interpretation classifies the participant "at risk" (based on criteria established on the screening device or by your fitness facility), the participant is required to obtain medical clearance.                                                               | 6     | 60.0%     |
| Other, please specify                                                                                                                                                                                                                                                                                                                                                                  | 1     | 10.0%     |

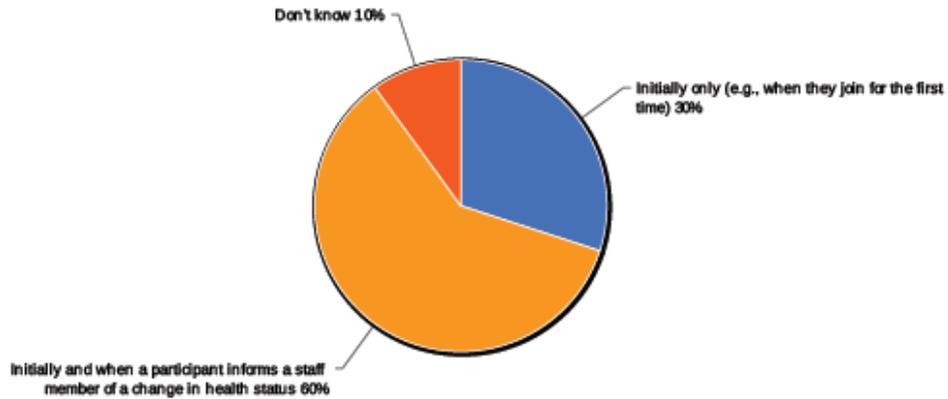
| Statistics      |    |
|-----------------|----|
| Total Responses | 10 |

| Open-Text Response Breakdown for "Other, please specify"                                                                                                                          | Count |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|
| Participant is encouraged by staff but do not keep the PAR-Q. If high risk, they are contacted and highly encouraged to seek medical clearance or consult with his/her physician. | 1     |

12. Please respond to the following items regarding self-guided screening procedures - Our facility has a policy that personal information obtained from the screening device is kept:

|                                                                                                             | Yes        | No         | Don't Know | Responses |
|-------------------------------------------------------------------------------------------------------------|------------|------------|------------|-----------|
| Private - respecting participant's right to maintain control over his/her personal information              | 66.7%<br>6 | 0.0%<br>0  | 33.3%<br>3 | 9         |
| Confidential - only authorized individuals have access to personal information                              | 77.8%<br>7 | 22.2%<br>2 | 0.0%<br>0  | 9         |
| Secure - physical, technical, and/or administrative safeguards are in place to protect personal information | 80.0%<br>8 | 20.0%<br>2 | 0.0%<br>0  | 10        |

13. How often do you have your participants complete your self-guided screening procedures?

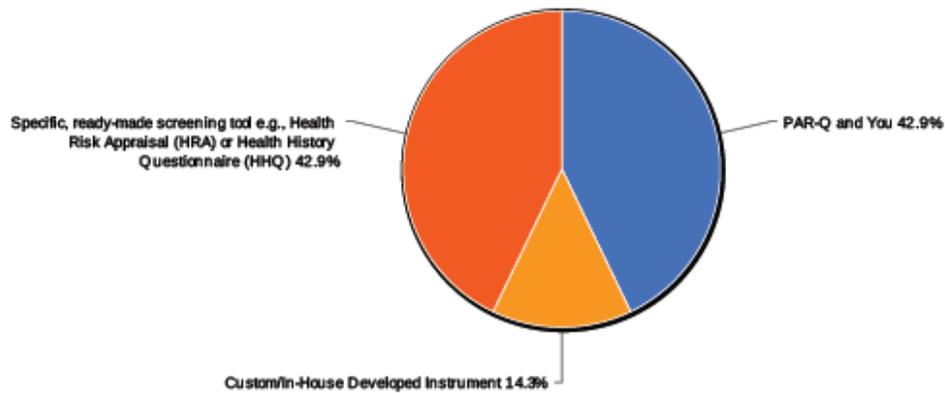


13. How often do you have your participants complete your self-guided screening procedures?

| Value                                                                                | Count | Percent % |
|--------------------------------------------------------------------------------------|-------|-----------|
| Initially only (e.g., when they join for the first time)                             | 3     | 30.0%     |
| Initially and annually thereafter (e.g., when they renew their membership)           | 0     | 0.0%      |
| Initially and when a participant informs a staff member of a change in health status | 6     | 60.0%     |
| Don't know                                                                           | 1     | 10.0%     |
| Other, please specify                                                                | 0     | 0.0%      |

| Statistics      |    |
|-----------------|----|
| Total Responses | 10 |

14. Which professionally-guided screening device do you use?



14. Which professionally-guided screening device do you use?

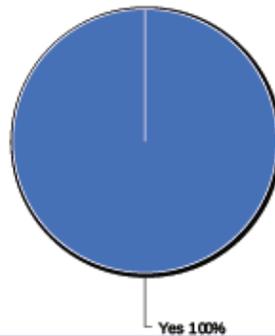
| Value                                                                                                       | Count | Percent % |
|-------------------------------------------------------------------------------------------------------------|-------|-----------|
| PAR-Q and You                                                                                               | 3     | 42.9%     |
| AHA/ACSM Health/Fitness Facility Preparticipation Screening Questionnaire                                   | 0     | 0.0%      |
| Custom/In-House Developed Instrument                                                                        | 1     | 14.3%     |
| Specific, ready-made screening tool e.g., Health Risk Appraisal (HRA) or Health History Questionnaire (HHQ) | 3     | 42.9%     |
| Don't Know                                                                                                  | 0     | 0.0%      |
| Other, please specify:                                                                                      | 0     | 0.0%      |

| Statistics      |   |
|-----------------|---|
| Total Responses | 7 |

15. Please respond to the following items regarding professionally-guided screening procedures - Our facility has a policy that personal information obtained from the screening device is kept:

|                                                                                                             | Yes         | No         | Don't Know | Responses |
|-------------------------------------------------------------------------------------------------------------|-------------|------------|------------|-----------|
| Private - respecting participant's right to maintain control over his/her personal information              | 85.7%<br>6  | 14.3%<br>1 | 0.0%<br>0  | 7         |
| Confidential - only authorized individuals have access to personal information                              | 100.0%<br>7 | 0.0%<br>0  | 0.0%<br>0  | 7         |
| Secure - physical, technical, and/or administrative safeguards are in place to protect personal information | 100.0%<br>7 | 0.0%<br>0  | 0.0%<br>0  | 7         |

16. From the information on the screening device, does your fitness facility have pre-established criteria that identify participants as at risk prior to their participation?

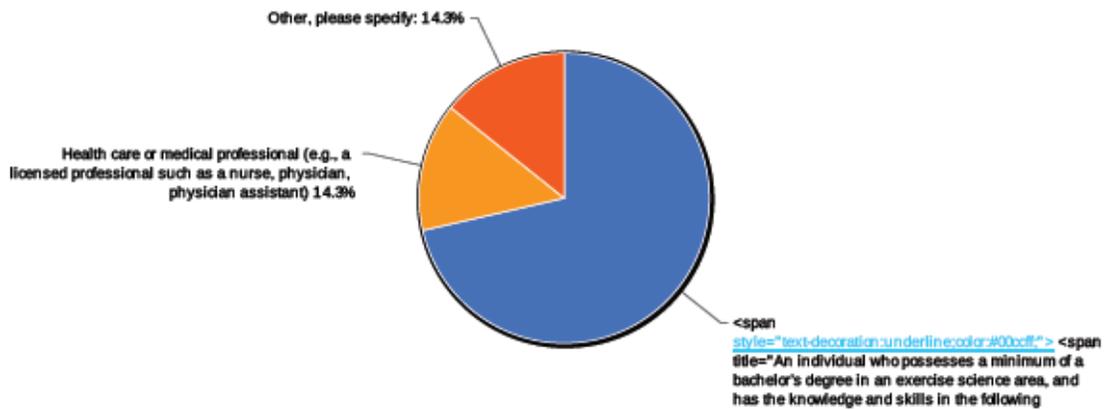


16. From the information on the screening device, does your fitness facility have pre-established criteria that identify participants as at risk prior to their participation?

| Value      | Count | Percent % |
|------------|-------|-----------|
| Yes        | 7     | 100.0%    |
| No         | 0     | 0.0%      |
| Don't know | 0     | 0.0%      |

| Statistics      |   |
|-----------------|---|
| Total Responses | 7 |

17. Who primarily interprets the information provided on the device and makes the determination if a participant is "at risk"?



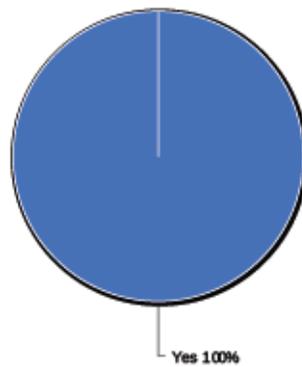
17. Who primarily interprets the information provided on the device and makes the determination if a participant is "at risk"?

| Value                                                                                                               | Count | Percent % | Statistics      |   |
|---------------------------------------------------------------------------------------------------------------------|-------|-----------|-----------------|---|
| Front Desk Staff                                                                                                    | 0     | 0.0%      | Total Responses | 7 |
| <a href="#">Health fitness professional</a>                                                                         | 5     | 71.4%     |                 |   |
| Health care or medical professional (e.g., a licensed professional such as a nurse, physician, physician assistant) | 1     | 14.3%     |                 |   |
| Other, please specify:                                                                                              | 1     | 14.3%     |                 |   |

| Open-Text Response Breakdown for "Other, please specify:" | Count |
|-----------------------------------------------------------|-------|
| our system flags us                                       | 1     |

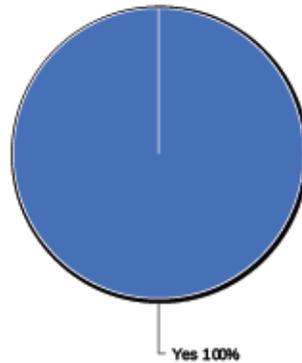
18. If a participant is classified as "at risk", is he/she required to obtain medical clearance?



18. If a participant is classified as "at risk", is he/she required to obtain medical clearance?

| Value      | Count | Percent % | Statistics      |   |
|------------|-------|-----------|-----------------|---|
| Yes        | 7     | 100.0%    | Total Responses | 7 |
| No         | 0     | 0.0%      |                 |   |
| Don't know | 0     | 0.0%      |                 |   |

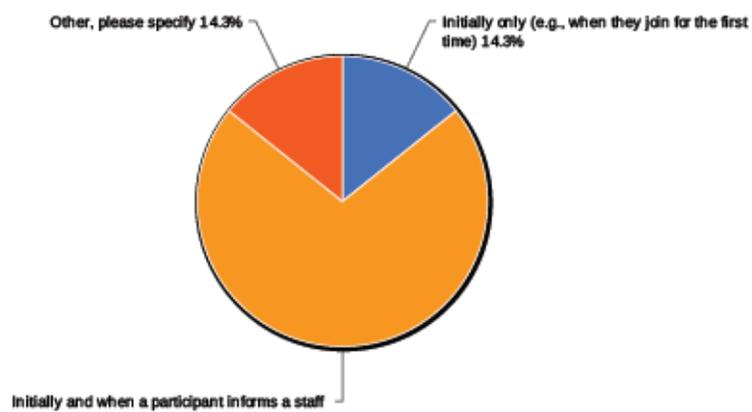
19. For participants identified as "at-risk", do you provide them with a medical clearance form for their medical care provider to complete and sign?



19. For participants identified as "at-risk", do you provide them with a medical clearance form for their medical care provider to complete and sign?

| Value      | Count | Percent % | Statistics      |   |
|------------|-------|-----------|-----------------|---|
| Yes        | 7     | 100.0%    | Total Responses | 7 |
| No         | 0     | 0.0%      |                 |   |
| Don't Know | 0     | 0.0%      |                 |   |

20. How often do your participants complete your professionally-guided screening procedures?



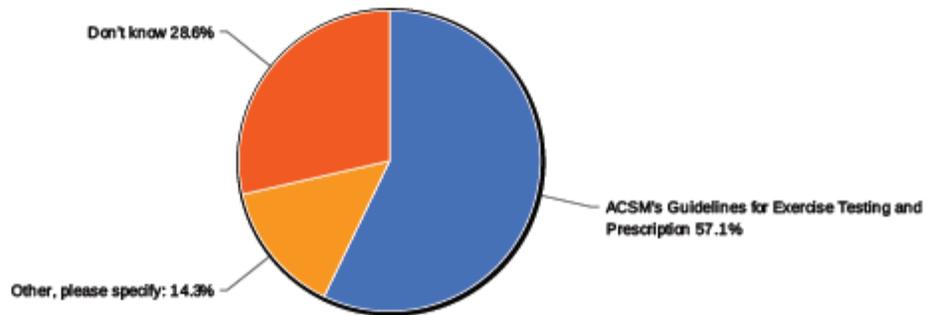
20. How often do your participants complete your professionally-guided screening procedures?

| Value                                                                                | Count | Percent % | Statistics      |   |
|--------------------------------------------------------------------------------------|-------|-----------|-----------------|---|
| Initially only (e.g., when they join for the first time)                             | 1     | 14.3%     | Total Responses | 7 |
| Initially and annually thereafter (e.g., when they renew their membership)           | 0     | 0.0%      |                 |   |
| Initially and when a participant informs a staff member of a change in health status | 5     | 71.4%     |                 |   |
| Don't know                                                                           | 0     | 0.0%      |                 |   |
| Other, please specify                                                                | 1     | 14.3%     |                 |   |

| Open-Text Response Breakdown for "Other, please specify" | Count |
|----------------------------------------------------------|-------|
| Case by case basis                                       | 1     |

21. Which publication was primarily used when developing and implementing your "professionally guided" screening procedures?



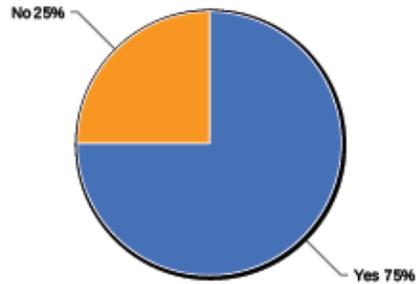
21. Which publication was primarily used when developing and implementing your "professionally guided" screening procedures?

| Value                                                                                                                                           | Count | Percent % | Statistics      |   |
|-------------------------------------------------------------------------------------------------------------------------------------------------|-------|-----------|-----------------|---|
| ACSM's Guidelines for Exercise Testing and Prescription                                                                                         | 4     | 57.1%     | Total Responses | 7 |
| ACSM's Health/Fitness Facility Standards and Guidelines                                                                                         | 0     | 0.0%      |                 |   |
| AHA/ACSM Joint Position Statement – Recommendations for Cardiovascular Screening, Staffing, and Emergency Policies at Health/Fitness Facilities | 0     | 0.0%      |                 |   |
| Other, please specify:                                                                                                                          | 1     | 14.3%     |                 |   |
| None                                                                                                                                            | 0     | 0.0%      |                 |   |
| Don't know                                                                                                                                      | 2     | 28.6%     |                 |   |

| Open-Text Response Breakdown for "Other, please specify:" | Count |
|-----------------------------------------------------------|-------|
| varies certification resources                            | 1     |

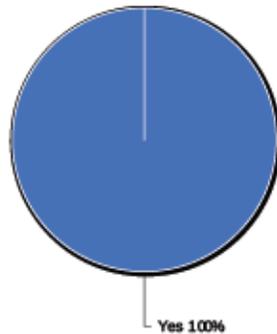
22. Does your fitness facility's screening device include questions for a new participant to answer indicating known cardiovascular, pulmonary, and metabolic disease?



22. Does your fitness facility's screening device include questions for a new participant to answer indicating known cardiovascular, pulmonary, and metabolic disease?

| Value      | Count | Percent % | Statistics      |   |
|------------|-------|-----------|-----------------|---|
| Yes        | 3     | 75.0%     | Total Responses | 4 |
| No         | 1     | 25.0%     |                 |   |
| Don't Know | 0     | 0.0%      |                 |   |

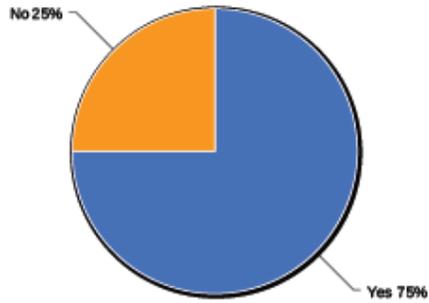
23. Does your fitness facility's screening device include questions for a "new participant" to answer indicating signs and symptoms suggestive of cardiovascular, pulmonary, and metabolic disease?



23. Does your fitness facility's screening device include questions for a "new participant" to answer indicating signs and symptoms suggestive of cardiovascular, pulmonary, and metabolic disease?

| Value      | Count | Percent % | Statistics      |   |
|------------|-------|-----------|-----------------|---|
| Yes        | 4     | 100.0%    | Total Responses | 4 |
| No         | 0     | 0.0%      |                 |   |
| Don't Know | 0     | 0.0%      |                 |   |

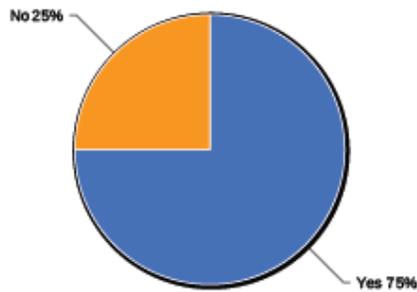
24. Does your fitness facility's screening device include questions for a "new participant" to answer indicating cardiovascular disease risk factors?



24. Does your fitness facility's screening device include questions for a "new participant" to answer indicating cardiovascular disease risk factors?

| Value      | Count | Percent % | Statistics      |   |
|------------|-------|-----------|-----------------|---|
| Yes        | 3     | 75.0%     | Total Responses | 4 |
| No         | 1     | 25.0%     |                 |   |
| Don't know | 0     | 0.0%      |                 |   |

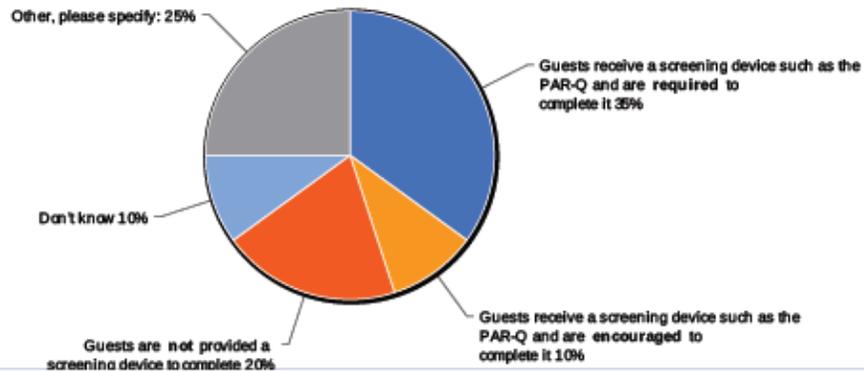
25. Does a staff member (or other designated individual) at your fitness facility classify "new participants" into low, moderate, and high risk classification categories after interpreting the data collected from a screening device?



25. Does a staff member (or other designated individual) at your fitness facility classify "new participants" into low, moderate, and high risk classification categories after interpreting the data collected from a screening device?

| Value      | Count | Percent % | Statistics      |   |
|------------|-------|-----------|-----------------|---|
| Yes        | 3     | 75.0%     | Total Responses | 4 |
| No         | 1     | 25.0%     |                 |   |
| Don't know | 0     | 0.0%      |                 |   |

26. Which of the following statements best describes your Pre-activity Health Screening Procedures for guests?



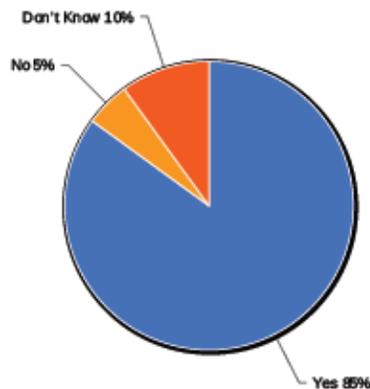
26. Which of the following statements best describes your Pre-activity Health Screening Procedures for guests?

| Value                                                                                 | Count | Percent % |
|---------------------------------------------------------------------------------------|-------|-----------|
| Guests receive a screening device such as the PAR-Q and are required to complete it   | 7     | 35.0%     |
| Guests receive a screening device such as the PAR-Q and are encouraged to complete it | 2     | 10.0%     |
| Guests are not provided a screening device to complete                                | 4     | 20.0%     |
| Don't know                                                                            | 2     | 10.0%     |
| Other, please specify:                                                                | 5     | 25.0%     |

| Statistics      |    |
|-----------------|----|
| Total Responses | 20 |

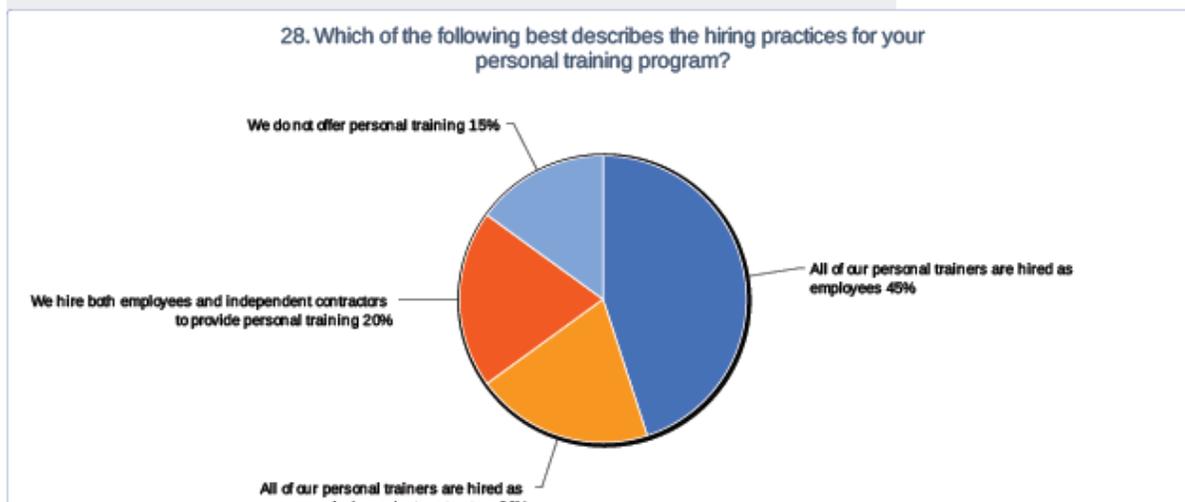
| Open-Text Response Breakdown for "Other, please specify:" | Count |
|-----------------------------------------------------------|-------|
| Health Hx Questionaire                                    | 1     |
| Informed consent / general liability                      | 1     |
| do not allow guests                                       | 1     |
| participation requires filling out the screening tools    | 1     |
| we do not allow guests                                    | 1     |

27. Does your fitness facility require guests to sign a waiver or some other protective legal document such as an informed consent?



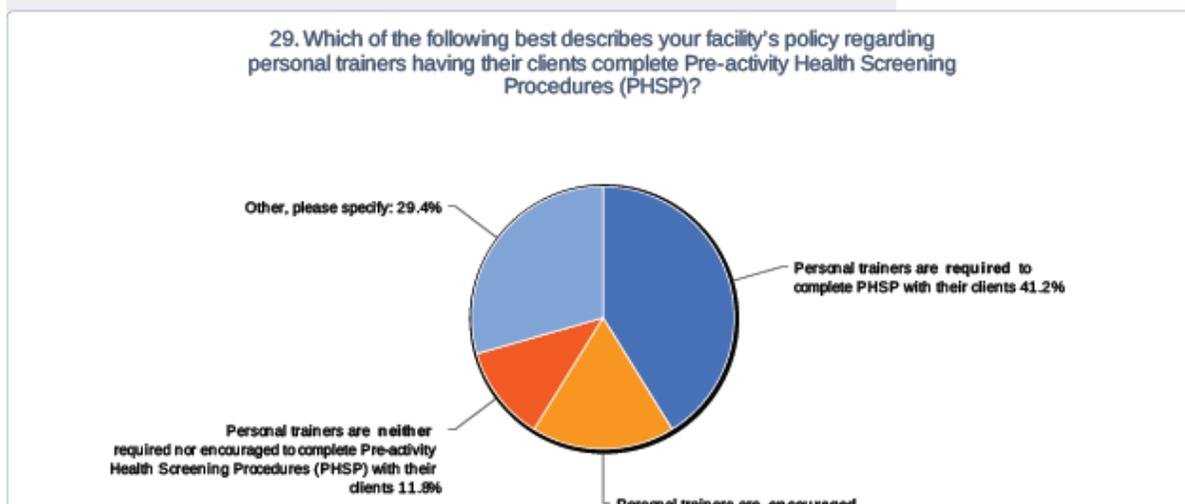
27. Does your fitness facility require guests to sign a waiver or some other protective legal document such as an informed consent?

| Value      | Count | Percent % | Statistics      |    |
|------------|-------|-----------|-----------------|----|
| Yes        | 17    | 85.0%     | Total Responses | 20 |
| No         | 1     | 5.0%      |                 |    |
| Don't Know | 2     | 10.0%     |                 |    |



28. Which of the following best describes the hiring practices for your personal training program?

| Value                                                                           | Count | Percent % | Statistics      |    |
|---------------------------------------------------------------------------------|-------|-----------|-----------------|----|
| All of our personal trainers are hired as employees                             | 9     | 45.0%     | Total Responses | 20 |
| All of our personal trainers are hired as independent contractors               | 4     | 20.0%     |                 |    |
| We hire both employees and independent contractors to provide personal training | 4     | 20.0%     |                 |    |
| We do not offer personal training                                               | 3     | 15.0%     |                 |    |

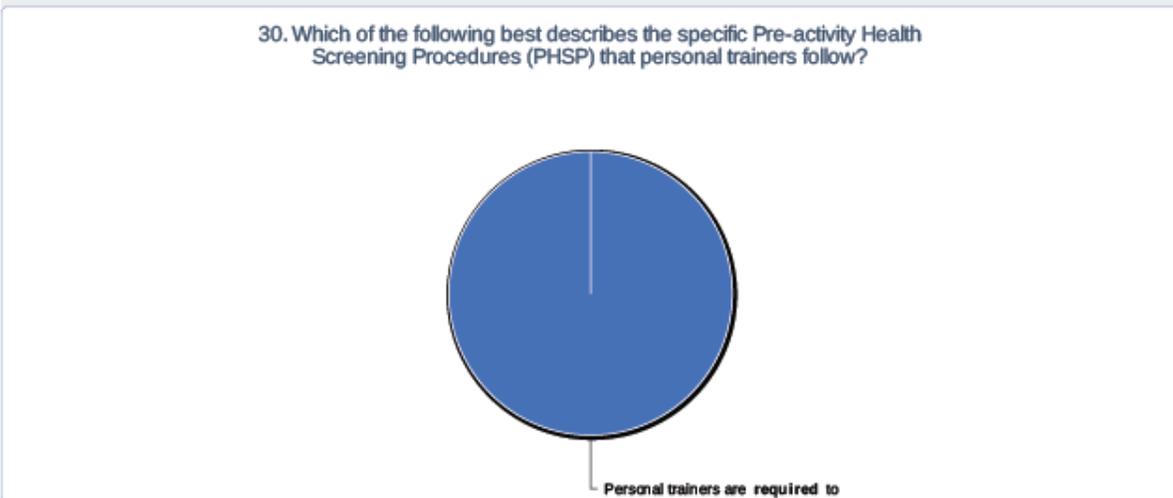


29. Which of the following best describes your facility's policy regarding personal trainers having their clients complete Pre-activity Health Screening Procedures (PHSP)?

| Value                                                                                                                                | Count | Percent % |
|--------------------------------------------------------------------------------------------------------------------------------------|-------|-----------|
| Personal trainers are required to complete PHSP with their clients                                                                   | 7     | 41.2%     |
| Personal trainers are encouraged to complete PHSP with their clients                                                                 | 3     | 17.7%     |
| Personal trainers are neither required nor encouraged to complete Pre-activity Health Screening Procedures (PHSP) with their clients | 2     | 11.8%     |
| Don't Know                                                                                                                           | 0     | 0.0%      |
| Other, please specify:                                                                                                               | 5     | 29.4%     |

| Statistics      |    |
|-----------------|----|
| Total Responses | 17 |

| Open-Text Response Breakdown for "Other, please specify:"                                                                                                                                                                         | Count |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|
| All clients complete prior to meeting with trainer, trainer reviews and confirms where applicable                                                                                                                                 | 1     |
| Any PT clients are members and have already completed the PHSP with a HFS.                                                                                                                                                        | 1     |
| they are completed before they get with the personal trainer. it is required at sign up                                                                                                                                           | 1     |
| PHSP are self-guided at time of membership sign-up or when participant informs staff of change in health condition.                                                                                                               | 1     |
| All clients must be members, and are required to complete a PHSP prior to membership. The personal trainer does not complete the PHSP with clients, but personal trainers must look over the PHSP prior to working with a client. | 1     |



30. Which of the following best describes the specific Pre-activity Health Screening Procedures (PHSP) that personal trainers follow?

| Value                                                                                         | Count | Percent % |
|-----------------------------------------------------------------------------------------------|-------|-----------|
| Personal trainers are required to follow specific PHSP as established by our fitness facility | 7     | 100.0%    |
| Personal trainers can determine their own PHSP                                                | 0     | 0.0%      |
| Don't Know                                                                                    | 0     | 0.0%      |
| Other, please specify:                                                                        | 0     | 0.0%      |

| Statistics      |   |
|-----------------|---|
| Total Responses | 7 |

31. Which of the procedures below are the personal trainers at your facility required to follow?

|                                                                            | Yes         | No        | Don't Know | Responses |
|----------------------------------------------------------------------------|-------------|-----------|------------|-----------|
| Personal trainers have clients complete a screening device                 | 100.0%<br>6 | 0.0%<br>0 | 0.0%<br>0  | 6         |
| Using pre-established criteria, personal trainers identify at risk clients | 83.3%<br>5  | 0.0%<br>0 | 16.7%<br>1 | 6         |
| Personal trainers have their at risk clients obtain medical clearance      | 85.7%<br>6  | 0.0%<br>0 | 14.3%<br>1 | 7         |

32. Please respond to the following items regarding personal training program's screening procedures - Our facility has a policy that personal information obtained from the screening device is kept:

|                                                                                                             | Yes        | No        | Don't Know | Responses |
|-------------------------------------------------------------------------------------------------------------|------------|-----------|------------|-----------|
| Private - respecting participant's right to maintain control over his/her personal information              | 83.3%<br>5 | 0.0%<br>0 | 16.7%<br>1 | 6         |
| Confidential - only authorized individuals have access to personal information                              | 83.3%<br>5 | 0.0%<br>0 | 16.7%<br>1 | 6         |
| Secure - physical, technical, and/or administrative safeguards are in place to protect personal information | 85.7%<br>6 | 0.0%<br>0 | 14.3%<br>1 | 7         |

33. What is your level of familiarity with pre-activity health screening standards and guidelines in each of the following publications?

|                                                                                                                                                 | Very Familiar | Familiar   | Somewhat Familiar | Not Familiar | Responses |
|-------------------------------------------------------------------------------------------------------------------------------------------------|---------------|------------|-------------------|--------------|-----------|
| ACSM's Guidelines for Exercise Testing and Prescription                                                                                         | 65.0%<br>13   | 25.0%<br>5 | 10.0%<br>2        | 0.0%<br>0    | 20        |
| ACSM's Health/Fitness Facility Standards and Guidelines                                                                                         | 31.6%<br>6    | 42.1%<br>8 | 15.8%<br>3        | 10.5%<br>2   | 19        |
| AHA/ACSM Joint Position Statement – Recommendations for Cardiovascular Screening, Staffing, and Emergency Policies at Health/Fitness Facilities | 10.5%<br>2    | 47.4%<br>9 | 26.3%<br>5        | 15.8%<br>3   | 19        |
| Health/Fitness Facilities?                                                                                                                      | 0.0%<br>0     | 0.0%<br>0  | 0.0%<br>0         | 0.0%<br>0    | 0         |

Which response best reflects the level importance regarding your fitness facility following published standards and guidelines for pre-activity health screening?

| Value              | Count | Percent % |
|--------------------|-------|-----------|
| Very Important     | 0     | 0.0%      |
| Important          | 0     | 0.0%      |
| Somewhat important | 0     | 0.0%      |
| Not important      | 0     | 0.0%      |

| Statistics      |   |
|-----------------|---|
| Total Responses | 0 |

What is your level of familiarity with pre-activity health screening standards and guidelines in each of the following publications?

|                                                                                                                                                 | Very Familiar | Familiar  | Somewhat Familiar | Not Familiar | Responses |
|-------------------------------------------------------------------------------------------------------------------------------------------------|---------------|-----------|-------------------|--------------|-----------|
| ACSM's Guidelines for Exercise Testing and Prescription                                                                                         | 0.0%<br>0     | 0.0%<br>0 | 0.0%<br>0         | 0.0%<br>0    | 0         |
| ACSM's Health/Fitness Facility Standards and Guidelines                                                                                         | 0.0%<br>0     | 0.0%<br>0 | 0.0%<br>0         | 0.0%<br>0    | 0         |
| AHA/ACSM Joint Position Statement – Recommendations for Cardiovascular Screening, Staffing, and Emergency Policies at Health/Fitness Facilities | 0.0%<br>0     | 0.0%<br>0 | 0.0%<br>0         | 0.0%<br>0    | 0         |
| Health/Fitness Facilities?                                                                                                                      | 0.0%<br>0     | 0.0%<br>0 | 0.0%<br>0         | 0.0%<br>0    | 0         |

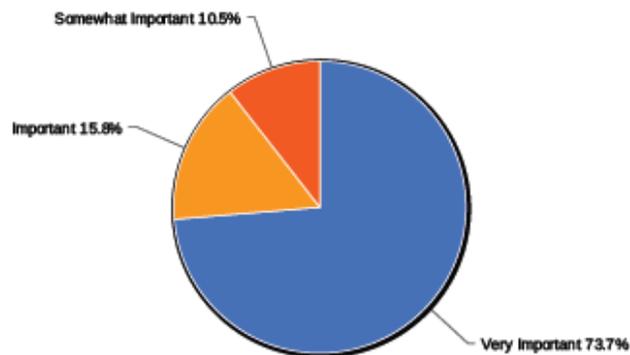
Which response best reflects the level importance regarding your fitness facility following published standards and guidelines for pre-activity health screening?

| Value              | Count | Percent % | Statistics      |   |
|--------------------|-------|-----------|-----------------|---|
| Very Important     | 0     | 0.0%      | Total Responses | 0 |
| Important          | 0     | 0.0%      |                 |   |
| Somewhat important | 0     | 0.0%      |                 |   |
| Not important      | 0     | 0.0%      |                 |   |

Please use the rating scale below to indicate the response which best reflects your opinion for each statement regarding pre-activity screening.

|                                                                                                                  | Very Important | Important | Somewhat Important | Not Important | Responses |
|------------------------------------------------------------------------------------------------------------------|----------------|-----------|--------------------|---------------|-----------|
| Pre-activity helps ensure the safety of our participants.                                                        | 0.0%<br>0      | 0.0%<br>0 | 0.0%<br>0          | 0.0%<br>0     | 0         |
| To utilize the data obtained in pre-activity health screening when designing an individualized exercise program. | 0.0%<br>0      | 0.0%<br>0 | 0.0%<br>0          | 0.0%<br>0     | 0         |
| Your fitness facility follows published standards and guidelines for pre-activity health screening.              | 0.0%<br>0      | 0.0%<br>0 | 0.0%<br>0          | 0.0%<br>0     | 0         |

34. How important is that your fitness facility adheres to published standards and guidelines for pre-activity health screening?



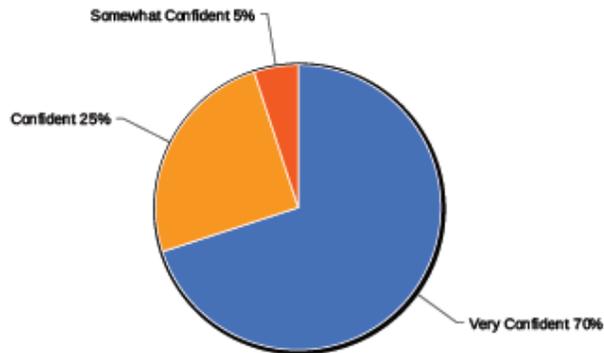
34. How important is that your fitness facility adheres to published standards and guidelines for pre-activity health screening?

| Value              | Count | Percent % | Statistics      |    |
|--------------------|-------|-----------|-----------------|----|
| Very Important     | 14    | 73.7%     | Total Responses | 19 |
| Important          | 3     | 15.8%     |                 |    |
| Somewhat Important | 2     | 10.5%     |                 |    |
| Not Important      | 0     | 0.0%      |                 |    |

35. Please use the rating scale below to indicate the response which best reflects your level of agreement with the following statements.

|                                                                                                                                                        | Strongly Agree | Agree      | Disagree   | Strongly Disagree | Responses |
|--------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|------------|------------|-------------------|-----------|
| Data obtained in pre-activity health screening should be used when designing an individualized exercise program.                                       | 100.0%<br>20   | 0.0%<br>0  | 0.0%<br>0  | 0.0%<br>0         | 20        |
| Pre-activity Health Screening Procedures that include requiring medical clearance for at risk participants can lead to medical intervention/treatment. | 75.0%<br>15    | 20.0%<br>4 | 5.0%<br>1  | 0.0%<br>0         | 20        |
| Conducting pre-activity screening procedures enhances the quality of our program.                                                                      | 70.0%<br>14    | 25.0%<br>5 | 5.0%<br>1  | 0.0%<br>0         | 20        |
| Conducting pre-activity screening procedures enhances the professional reputation of our program.                                                      | 70.0%<br>14    | 20.0%<br>4 | 10.0%<br>2 | 0.0%<br>0         | 20        |
| Pre-activity Health Screening helps ensure the safety of our participants                                                                              | 85.0%<br>17    | 15.0%<br>3 | 0.0%<br>0  | 0.0%<br>0         | 20        |

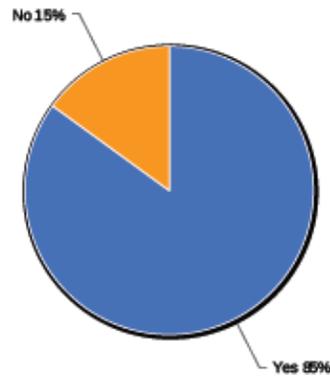
36. How confident are you in conducting professionally-guided pre-activity screening procedures?



36. How confident are you in conducting professionally-guided pre-activity screening procedures?

| Value              | Count | Percent % | Statistics      |    |
|--------------------|-------|-----------|-----------------|----|
| Very Confident     | 14    | 70.0%     | Total Responses | 20 |
| Confident          | 5     | 25.0%     |                 |    |
| Somewhat Confident | 1     | 5.0%      |                 |    |
| Not Confident      | 0     | 0.0%      |                 |    |

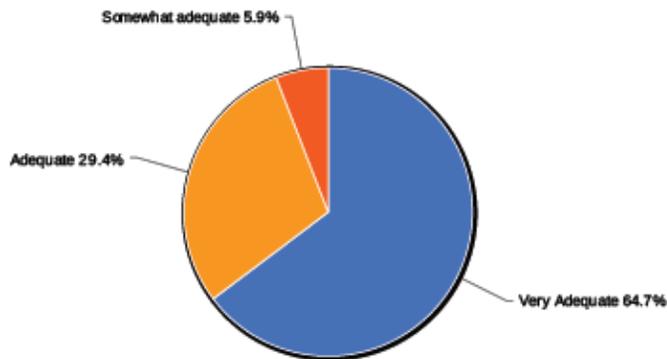
37. Did your undergraduate and/or graduate academic courses include content covering Pre-activity Health Screening Procedures?



37. Did your undergraduate and/or graduate academic courses include content covering Pre-activity Health Screening Procedures?

| Value      | Count | Percent % | Statistics      |    |
|------------|-------|-----------|-----------------|----|
| Yes        | 17    | 85.0%     | Total Responses | 20 |
| No         | 3     | 15.0%     |                 |    |
| Don't Know | 0     | 0.0%      |                 |    |

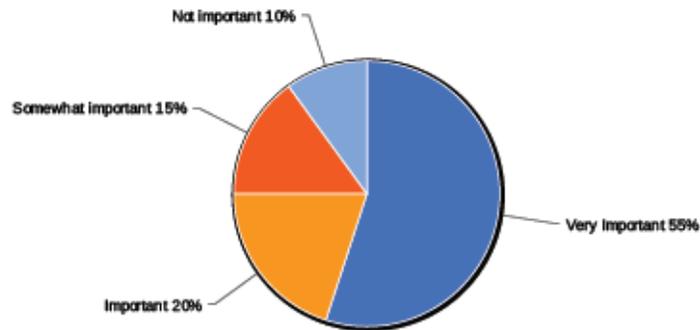
38. How adequate was the pre-activity health screening information covered in your academic program(s)?



38. How adequate was the pre-activity health screening information covered in your academic program(s)?

| Value             | Count | Percent % | Statistics      |    |
|-------------------|-------|-----------|-----------------|----|
| Very Adequate     | 11    | 64.7%     | Total Responses | 17 |
| Adequate          | 5     | 29.4%     |                 |    |
| Somewhat adequate | 1     | 5.9%      |                 |    |
| Not adequate      | 0     | 0.0%      |                 |    |

39. How important is it to the management (e.g., top manager at your facility) of your fitness facility that it adheres to published standards and guidelines for pre-activity health screening?



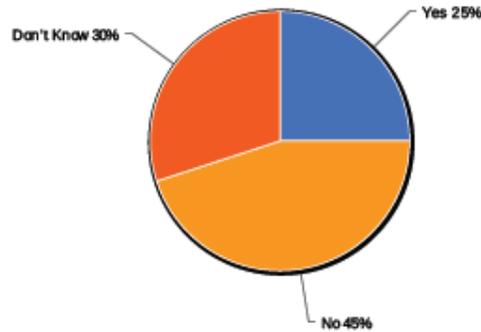
39. How important is it to the management (e.g., top manager at your facility) of your fitness facility that it adheres to published standards and guidelines for pre-activity health screening?

| Value              | Count | Percent % | Statistics      |    |
|--------------------|-------|-----------|-----------------|----|
| Very Important     | 11    | 55.0%     | Total Responses | 20 |
| Important          | 4     | 20.0%     |                 |    |
| Somewhat important | 3     | 15.0%     |                 |    |
| Not important      | 2     | 10.0%     |                 |    |

40. How familiar is the management (e.g., top manager at your facility) at your facility with pre-activity health screening procedures provided in each of the following publications?

|                                                                                                                                                  | Very Familiar | Familiar   | Somewhat Familiar | Not Familiar | Responses |
|--------------------------------------------------------------------------------------------------------------------------------------------------|---------------|------------|-------------------|--------------|-----------|
| ACSM's Guidelines for Exercise Testing and Prescription                                                                                          | 40.0%<br>8    | 10.0%<br>2 | 20.0%<br>4        | 30.0%<br>6   | 20        |
| ACSM's Health/Fitness Facility Standards and Guidelines                                                                                          | 25.0%<br>5    | 15.0%<br>3 | 30.0%<br>6        | 30.0%<br>6   | 20        |
| AHA/ACSM Joint Position Statement – Recommendations for Cardiovascular Screening, Staffing, and Emergency Policies at Health/Fitness Facilities? | 20.0%<br>4    | 20.0%<br>4 | 30.0%<br>6        | 30.0%<br>6   | 20        |

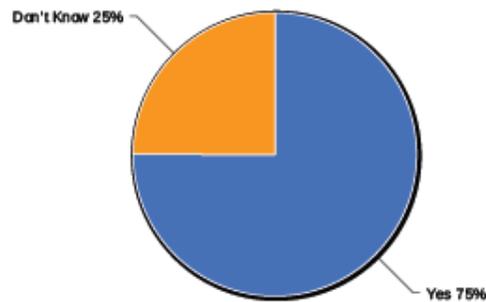
41. Are you aware of any legal cases in which the failure to conduct Pre-activity Health Screening Procedures resulted in a negligence claim or lawsuit against a fitness facility?



41. Are you aware of any legal cases in which the failure to conduct Pre-activity Health Screening Procedures resulted in a negligence claim or lawsuit against a fitness facility?

| Value      | Count | Percent % | Statistics      |    |
|------------|-------|-----------|-----------------|----|
| Yes        | 5     | 25.0%     | Total Responses | 20 |
| No         | 9     | 45.0%     |                 |    |
| Don't Know | 6     | 30.0%     |                 |    |

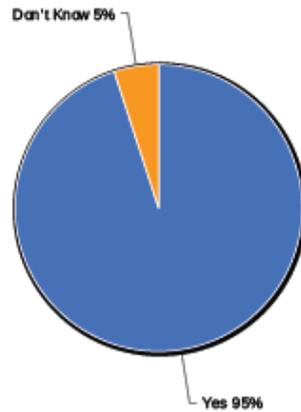
42. Are fitness facilities that do not conduct Pre-activity Health Screening Procedures at increased risk of a negligence claim or lawsuit?



42. Are fitness facilities that do not conduct Pre-activity Health Screening Procedures at increased risk of a negligence claim or lawsuit?

| Value      | Count | Percent % | Statistics      |    |
|------------|-------|-----------|-----------------|----|
| Yes        | 15    | 75.0%     | Total Responses | 20 |
| No         | 0     | 0.0%      |                 |    |
| Don't Know | 5     | 25.0%     |                 |    |

43. Do you believe that Pre-activity Health Screening Procedures could minimize the incidence of serious or potentially life threatening events?

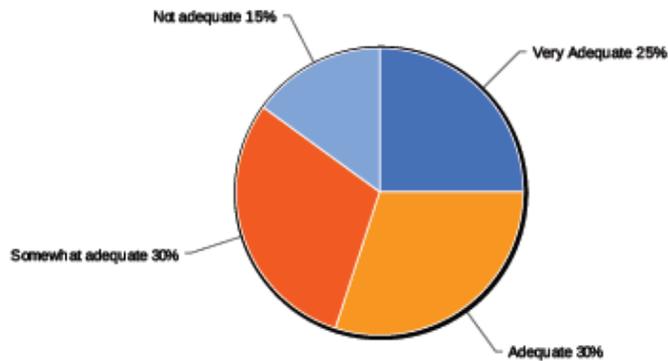


43. Do you believe that Pre-activity Health Screening Procedures could minimize the incidence of serious or potentially life threatening events?

| Value      | Count | Percent % |
|------------|-------|-----------|
| Yes        | 19    | 95.0%     |
| No         | 0     | 0.0%      |
| Don't Know | 1     | 5.0%      |

| Statistics      |    |
|-----------------|----|
| Total Responses | 20 |

44. How adequate was your training and/or education regarding legal implications involved with Pre-activity Health Screening Procedures?



44. How adequate was your training and/or education regarding legal implications involved with Pre-activity Health Screening Procedures?

| Value             | Count | Percent % |
|-------------------|-------|-----------|
| Very Adequate     | 5     | 25.0%     |
| Adequate          | 6     | 30.0%     |
| Somewhat adequate | 6     | 30.0%     |
| Not adequate      | 3     | 15.0%     |

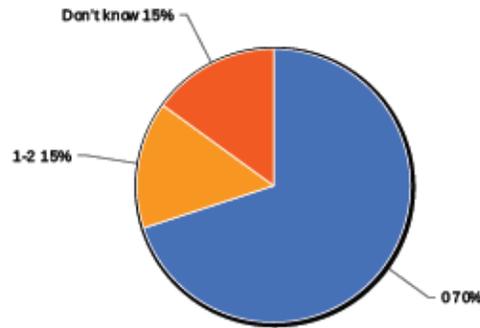
| Statistics      |    |
|-----------------|----|
| Total Responses | 20 |

To your knowledge, how many cardiac events (e.g., cardiac deaths, cardiac arrests, heart attacks in which CPR/AED and/or activating EMS was needed) have occurred within your facility within the last 5 years?

| Value      | Count | Percent % |
|------------|-------|-----------|
| 0          | 0     | 0.0%      |
| 1-2        | 0     | 0.0%      |
| 3-4        | 0     | 0.0%      |
| 5-6        | 0     | 0.0%      |
| 7 or more  | 0     | 0.0%      |
| Don't know | 0     | 0.0%      |

| Statistics      |   |
|-----------------|---|
| Total Responses | 0 |

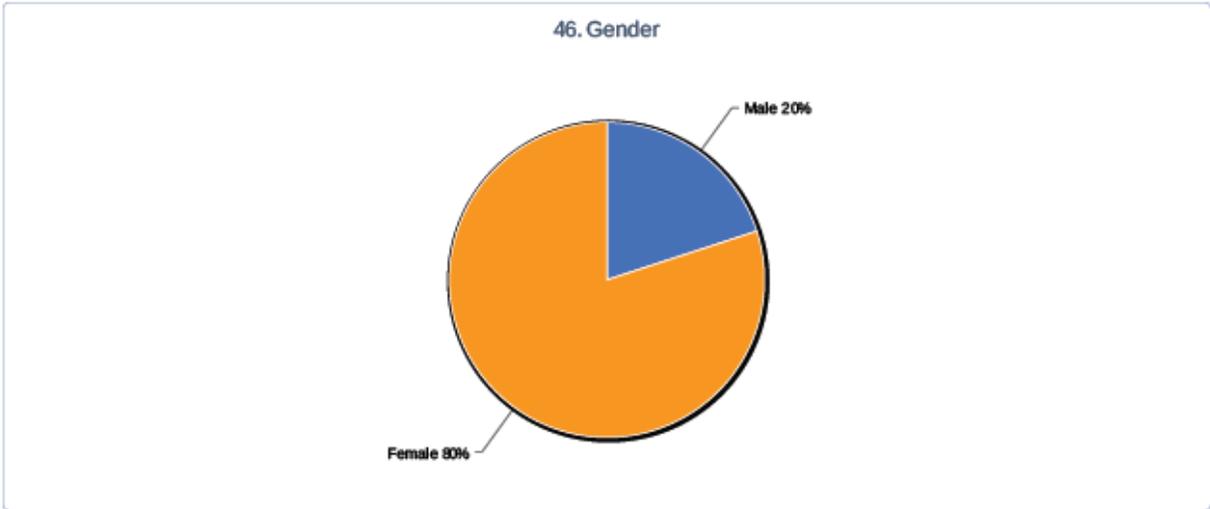
45. To your knowledge, how many cardiac events (e.g., cardiac deaths, cardiac arrests, heart attacks in which CPR/AED and/or activating EMS was needed) have occurred within your facility within the last 5 years?



45. To your knowledge, how many cardiac events (e.g., cardiac deaths, cardiac arrests, heart attacks in which CPR/AED and/or activating EMS was needed) have occurred within your facility within the last 5 years?

| Value      | Count | Percent % |
|------------|-------|-----------|
| 0          | 14    | 70.0%     |
| 1-2        | 3     | 15.0%     |
| 3-4        | 0     | 0.0%      |
| 5-6        | 0     | 0.0%      |
| 7 or more  | 0     | 0.0%      |
| Don't know | 3     | 15.0%     |

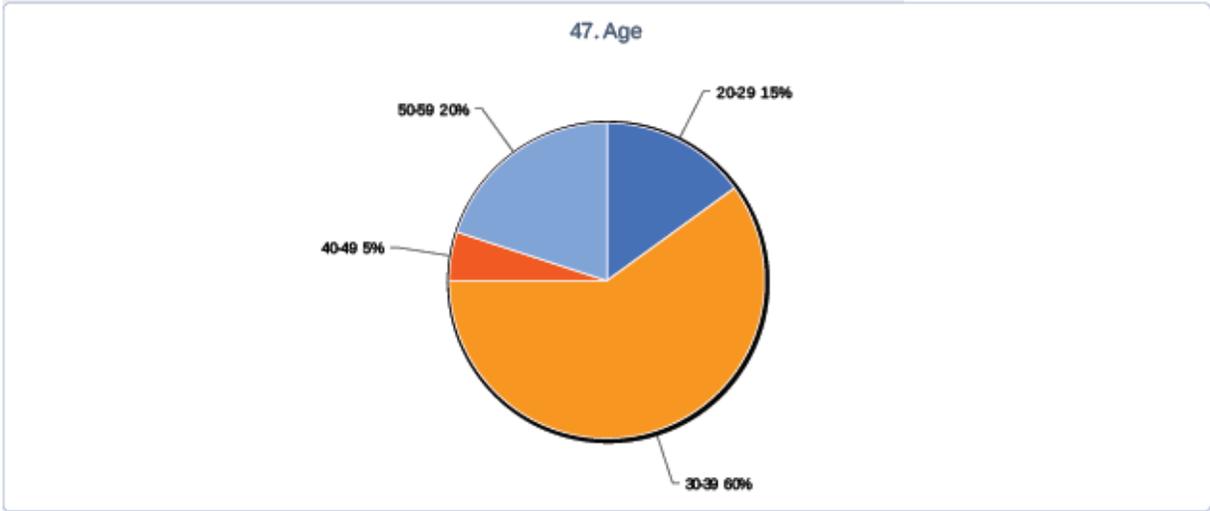
| Statistics      |     |
|-----------------|-----|
| Total Responses | 20  |
| Sum             | 3.0 |
| Avg.            | 0.2 |
| StdDev          | 0.4 |
| Max             | 1.0 |



**46. Gender**

| Value  | Count | Percent % |
|--------|-------|-----------|
| Male   | 4     | 20.0%     |
| Female | 16    | 80.0%     |

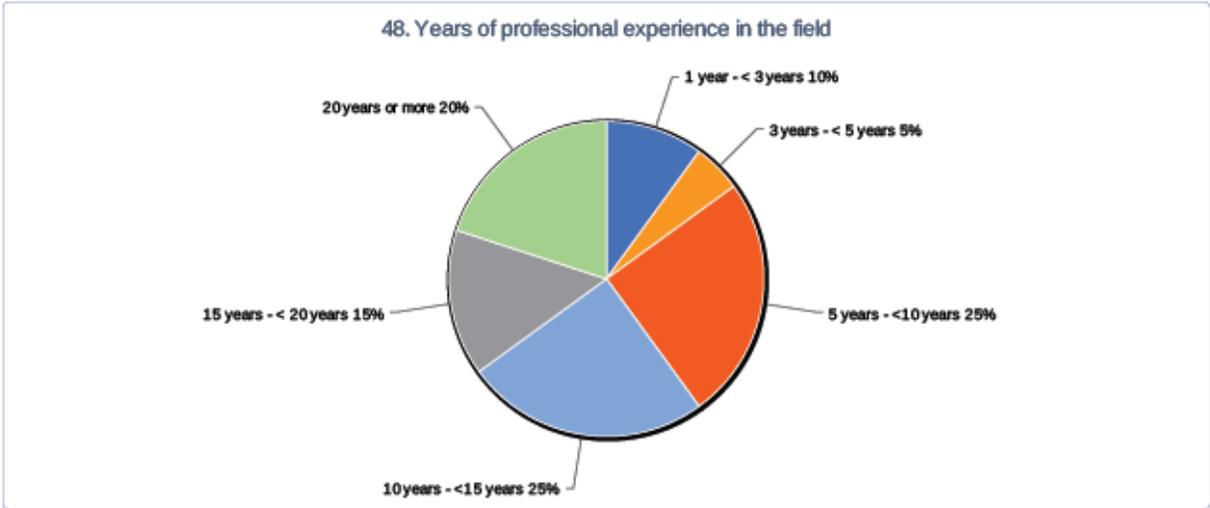
| Statistics      |    |
|-----------------|----|
| Total Responses | 20 |



**47. Age**

| Value       | Count | Percent % |
|-------------|-------|-----------|
| 20-29       | 3     | 15.0%     |
| 30-39       | 12    | 60.0%     |
| 40-49       | 1     | 5.0%      |
| 50-59       | 4     | 20.0%     |
| 60 or older | 0     | 0.0%      |

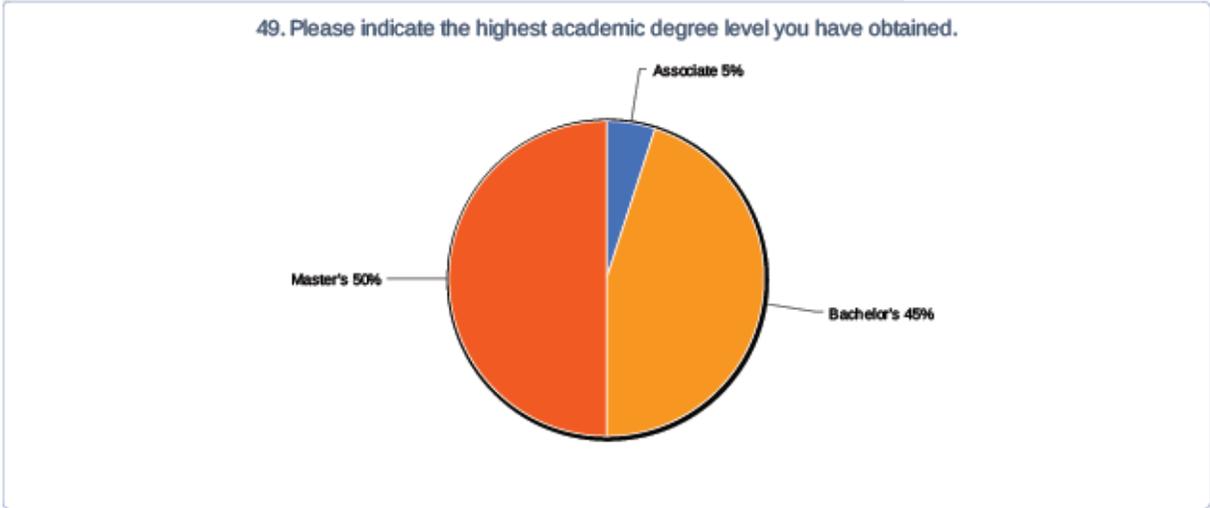
| Statistics      |       |
|-----------------|-------|
| Total Responses | 20    |
| Sum             | 660.0 |
| Avg.            | 33.0  |
| StdDev          | 9.5   |
| Max             | 50.0  |



**48. Years of professional experience in the field**

| Value                 | Count | Percent % |
|-----------------------|-------|-----------|
| <1 year               | 0     | 0.0%      |
| 1 year - < 3 years    | 2     | 10.0%     |
| 3 years - < 5 years   | 1     | 5.0%      |
| 5 years - <10 years   | 5     | 25.0%     |
| 10 years - <15 years  | 5     | 25.0%     |
| 15 years - < 20 years | 3     | 15.0%     |
| 20 years or more      | 4     | 20.0%     |

| Statistics      |       |
|-----------------|-------|
| Total Responses | 20    |
| Sum             | 205.0 |
| Avg.            | 10.3  |
| StdDev          | 6.4   |
| Max             | 20.0  |



49. Please indicate the highest academic degree level you have obtained.

| Value      | Count | Percent % |
|------------|-------|-----------|
| Associate  | 1     | 5.0%      |
| Bachelor's | 9     | 45.0%     |
| Master's   | 10    | 50.0%     |
| Doctorate  | 0     | 0.0%      |
| Other      | 0     | 0.0%      |

| Statistics      |    |
|-----------------|----|
| Total Responses | 20 |

Name of degree

| Count | Response                                  |
|-------|-------------------------------------------|
| 1     | B.S. Human Performance and Fitness        |
| 1     | BFA                                       |
| 1     | BS                                        |
| 1     | Bachelor of Kinesiology                   |
| 1     | Bachelor of Science                       |
| 1     | Bachelor of Science in Education          |
| 1     | Bachelor of Science in Physical Education |
| 1     | Business                                  |
| 2     | Exercise Science                          |
| 1     | Exercise Sciences                         |
| 1     | M.Ed.                                     |
| 2     | Master of Science                         |
| 1     | Masters of Arts Exercise Science          |
| 1     | Masters of Science                        |
| 1     | Physical education                        |
| 1     | Wellness Leadership                       |
| 1     | associates                                |
| 1     | master of arts                            |

### Concentration/Specialization

| Count | Response                        |
|-------|---------------------------------|
| 1     | Education                       |
| 1     | Exercise Physiology             |
| 5     | Exercise Science                |
| 1     | Exercise science and leadership |
| 1     | Health Education                |
| 1     | Health and Fitness              |
| 1     | MBA                             |
| 1     | Minor Nutrition                 |
| 1     | None                            |
| 1     | Nursing                         |
| 1     | Physical education              |
| 1     | Strength and conditioning       |
| 1     | Wellness Leadership             |
| 1     | Women's Health                  |
| 1     | exercise science                |
| 1     | general                         |

### Gender

| Value  | Count | Percent % |
|--------|-------|-----------|
| Male   | 0     | 0.0%      |
| Female | 0     | 0.0%      |

| Statistics      |   |
|-----------------|---|
| Total Responses | 0 |

### Age

| Value      | Count | Percent % |
|------------|-------|-----------|
| 20-29      | 0     | 0.0%      |
| 30-39      | 0     | 0.0%      |
| 40-49      | 0     | 0.0%      |
| 50-59      | 0     | 0.0%      |
| 60 or more | 0     | 0.0%      |

| Statistics      |   |
|-----------------|---|
| Total Responses | 0 |

### Years of professional experience in the health fitness field.

| Value                 | Count | Percent % |
|-----------------------|-------|-----------|
| < 1 year              | 0     | 0.0%      |
| 1 year – < 3 years    | 0     | 0.0%      |
| 3 years – <5 years    | 0     | 0.0%      |
| 5 years – < 10 years  | 0     | 0.0%      |
| 10 years – < 15 years | 0     | 0.0%      |
| 15 years – < 20 years | 0     | 0.0%      |
| 20 or more years      | 0     | 0.0%      |

| Statistics      |   |
|-----------------|---|
| Total Responses | 0 |

Please indicate the highest academic degree level you have obtained.

| Value      | Count | Percent % |
|------------|-------|-----------|
| Associate  | 0     | 0.0%      |
| Bachelor's | 0     | 0.0%      |
| Master's   | 0     | 0.0%      |
| Doctorate  | 0     | 0.0%      |
| Other      | 0     | 0.0%      |

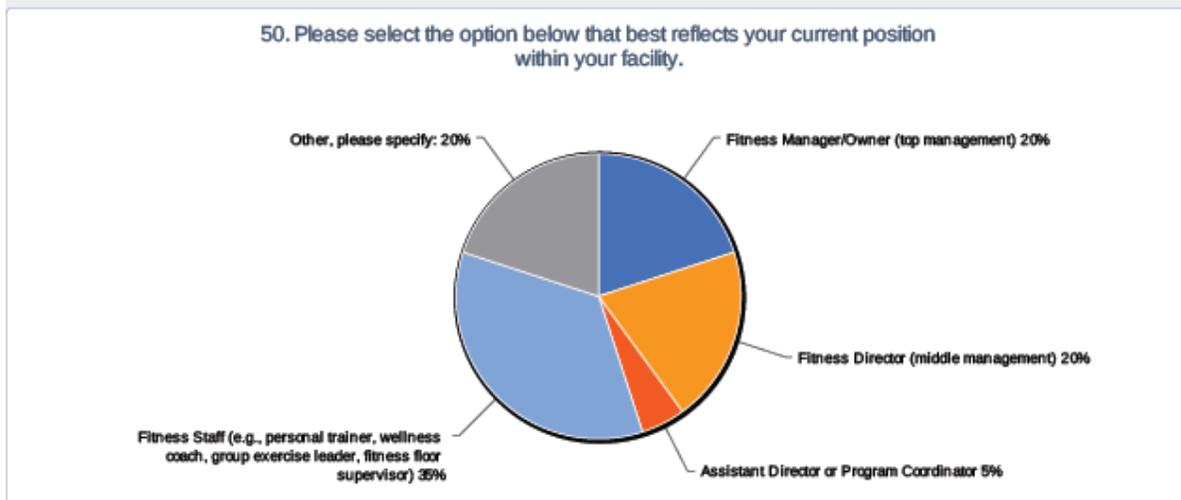
| Statistics      |   |
|-----------------|---|
| Total Responses | 0 |

Name of degree

| Count | Response |
|-------|----------|
|-------|----------|

Concentration/Specialization

| Count | Response |
|-------|----------|
|-------|----------|



50. Please select the option below that best reflects your current position within your facility.

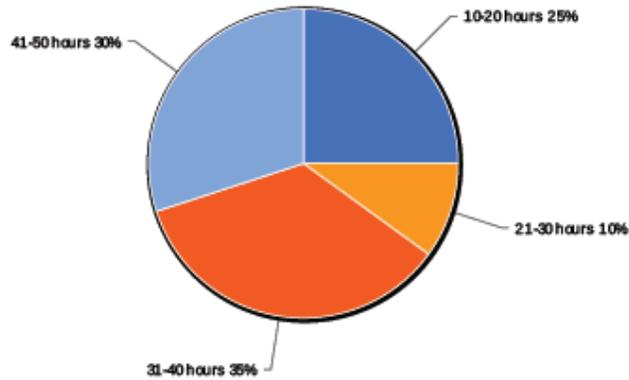
| Value                                                                                                   | Count | Percent % |
|---------------------------------------------------------------------------------------------------------|-------|-----------|
| Fitness Manager/Owner (top management)                                                                  | 4     | 20.0%     |
| Fitness Director (middle management)                                                                    | 4     | 20.0%     |
| Assistant Director or Program Coordinator                                                               | 1     | 5.0%      |
| Fitness Staff (e.g., personal trainer, wellness coach, group exercise leader, fitness floor supervisor) | 7     | 35.0%     |
| Other, please specify:                                                                                  | 4     | 20.0%     |

| Statistics      |    |
|-----------------|----|
| Total Responses | 20 |

Specific Position/Title

| Count | Response                    |
|-------|-----------------------------|
| 2     | Exercise Physiologist       |
| 1     | Front desk/ Member services |
| 1     | Supervisor                  |

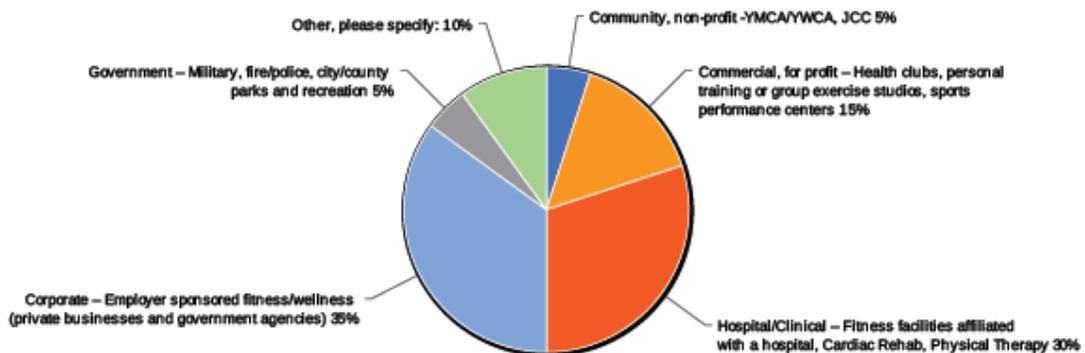
51. In your current position, on average, how many hours per week do you work?



51. In your current position, on average, how many hours per week do you work?

| Value            | Count | Percent % | Statistics      |       |
|------------------|-------|-----------|-----------------|-------|
| 10-20 hours      | 5     | 25.0%     | Total Responses | 20    |
| 21-30 hours      | 2     | 10.0%     | Sum             | 555.0 |
| 31-40 hours      | 7     | 35.0%     | Avg.            | 27.8  |
| 41-50 hours      | 6     | 30.0%     | StdDev          | 11.8  |
| 50 or more hours | 0     | 0.0%      | Max             | 41.0  |

52. Please select the option below that best reflects the setting of your current position.



52. Please select the option below that best reflects the setting of your current position.

| Value                                                                                                          | Count | Percent % | Statistics      |    |
|----------------------------------------------------------------------------------------------------------------|-------|-----------|-----------------|----|
| University/College – Campus Recreation/Wellness and Recreational Sports                                        | 0     | 0.0%      | Total Responses | 20 |
| Community, non-profit - YMCA/YWCA, JCC                                                                         | 1     | 5.0%      |                 |    |
| Commercial, for profit – Health clubs, personal training or group exercise studios, sports performance centers | 3     | 15.0%     |                 |    |
| Hospital/Clinical – Fitness facilities affiliated with a hospital, Cardiac Rehab, Physical Therapy             | 6     | 30.0%     |                 |    |
| Corporate – Employer sponsored fitness/wellness (private businesses and government agencies)                   | 7     | 35.0%     |                 |    |
| Government – Military, fire/police, city/county parks and recreation                                           | 1     | 5.0%      |                 |    |
| Other, please specify:                                                                                         | 2     | 10.0%     |                 |    |

Facility setting:

| Count | Response                 |
|-------|--------------------------|
| 1     | Community fitness center |
| 1     | studio                   |

Please select the option below that best reflects your current position within your facility.

| Value                                                                                                   | Count | Percent % | Statistics      |   |
|---------------------------------------------------------------------------------------------------------|-------|-----------|-----------------|---|
| Fitness Manager/Owner (top management)                                                                  | 0     | 0.0%      | Total Responses | 0 |
| Fitness Director (middle management)                                                                    | 0     | 0.0%      |                 |   |
| Assistant Director or Program Coordinator                                                               | 0     | 0.0%      |                 |   |
| Fitness Staff (e.g., personal trainer, wellness coach, group exercise leader, fitness floor supervisor) | 0     | 0.0%      |                 |   |
| Other, please specify:                                                                                  | 0     | 0.0%      |                 |   |

Specific Position/Title

| Count | Response |
|-------|----------|
|-------|----------|

In your current position, on average, how many hours per week do you work?

| Value      | Count | Percent % | Statistics      |   |
|------------|-------|-----------|-----------------|---|
| < 10       | 0     | 0.0%      | Total Responses | 0 |
| 10-20      | 0     | 0.0%      |                 |   |
| 21-30      | 0     | 0.0%      |                 |   |
| 31-40      | 0     | 0.0%      |                 |   |
| 41-50      | 0     | 0.0%      |                 |   |
| 50 or more | 0     | 0.0%      |                 |   |

Please select the option below that best reflects the setting of your current position.

| Value                                                                                                          | Count | Percent % | Statistics      |   |
|----------------------------------------------------------------------------------------------------------------|-------|-----------|-----------------|---|
| University/ College – Campus Recreation/Wellness and Recreational Sports                                       | 0     | 0.0%      | Total Responses | 0 |
| Community, non-profit -YMCA/YWCA, JCC                                                                          | 0     | 0.0%      |                 |   |
| Commercial, for profit – Health clubs, personal training or group exercise studios, sports performance centers | 0     | 0.0%      |                 |   |
| Hospital/clinical – Fitness facilities affiliated with a hospital, Cardiac Rehab, Physical Therapy             | 0     | 0.0%      |                 |   |
| Corporate – Employer sponsored fitness/wellness (private businesses and government agencies)                   | 0     | 0.0%      |                 |   |
| Government – Military, fire/police, city/county parks and recreation                                           | 0     | 0.0%      |                 |   |
| Other, please specify:                                                                                         | 0     | 0.0%      |                 |   |

Facility setting:

| Count | Response |
|-------|----------|
|       |          |

Time capture - Upon completion of survey

| Count | Response |
|-------|----------|
| 1     | 1166     |
| 1     | 11678    |
| 1     | 1178     |
| 1     | 11911    |
| 1     | 1214     |
| 1     | 1303     |
| 1     | 260981   |
| 1     | 2737     |
| 1     | 34794    |
| 1     | 4471     |
| 1     | 6671     |
| 1     | 678      |
| 1     | 709      |
| 1     | 843      |
| 1     | 880      |
| 1     | 881      |
| 1     | 942      |
| 1     | 94272    |
| 1     | 965      |
| 1     | 998      |

Enter me into the drawing for a chance to win a \$100 gift card.(I understand that I will be asked to provide my email address so that in the case that I win, I may be contacted)

| Value | Count | Percent % |
|-------|-------|-----------|
| Yes   | 0     | 0.0%      |
| No    | 0     | 0.0%      |

| Statistics      |   |
|-----------------|---|
| Total Responses | 0 |

Please send me a summary of the results of the study.(I understand that I will be asked to provide my email address so that I may receive the summary of results.)

| Value | Count | Percent % |
|-------|-------|-----------|
| Yes   | 0     | 0.0%      |
| No    | 0     | 0.0%      |

| Statistics      |   |
|-----------------|---|
| Total Responses | 0 |

### Email Address

| Count | Response |
|-------|----------|
|-------|----------|

### URL Variable: \_iseditlink

| Count | Response |
|-------|----------|
| 2     | true     |

### URL Variable: sguid

| Count | Response  |
|-------|-----------|
| 1     | 100136504 |
| 1     | 100136506 |
| 1     | 100136507 |
| 1     | 100136508 |
| 1     | 100136509 |
| 1     | 100136510 |
| 1     | 100136511 |
| 1     | 100136512 |
| 1     | 100136513 |
| 1     | 100136514 |
| 1     | 100136515 |
| 1     | 100136516 |
| 1     | 100136517 |
| 1     | 100136518 |
| 1     | 100136519 |
| 1     | 100136520 |
| 1     | 100136521 |
| 1     | 100136522 |
| 1     | 100136524 |
| 1     | 100138096 |

## Appendix C: Dissertation Study Recruitment E-mails

**Pre-Study Notification** - Tentative ACSM send on date: 08/22/2014

**Subject:** Coming soon... –Respond and WIN a \$50 gift card

Dear Colleague,

My name is Aaron Craig and I am a PhD Candidate at the University of South Florida (USF) who is conducting a national Investigation of Pre-activity Health Screening Procedures in Fitness Facilities. In the next few days, you will be receiving another email with a link to a survey. You have been selected to participate in this study because you possess the prestigious ACSM HFS certification. Obtaining your expert perspectives on this survey will be crucial to the success of this study.

Once you complete the survey, you will have an opportunity to enter a drawing for a chance to win one of six \$50 gift cards. Thank you in advance for your willingness to support this research study which will be a significant contribution to the profession and to ACSM. Please stay tuned for your chance to win a \$50 gift card.

Sincerely,

A handwritten signature in blue ink that reads "Aaron Craig". The signature is written in a cursive style and is placed on a light yellow rectangular background.

Aaron Craig, Ph. D. Candidate  
ACSM-HFS, Exercise Is Medicine Credential – Level II  
[Acraig2@mail.usf.edu](mailto:Acraig2@mail.usf.edu)

**Cover Letter** -Tentative ACSM send on date: 08/25/2014

**Subject:** ACSM Certified HFSs: Participate in this survey for a chance to win a \$50 gift card

Dear Health Fitness Specialist,

You are receiving this email because you are one of a select few health fitness professionals who has earned the ACSM HFS® credential. My name is Aaron Craig and I am a PhD Candidate at the University of South Florida (USF) who is conducting a study. This study (Pro# 00008849), *A National Investigation of Pre-activity Health Screening Procedures in Fitness Facilities: Perspectives from ACSM Certified Health Fitness Specialists*, has been approved by the USF IRB and is being supervised by Dr. JoAnn Eickhoff-Shemek.

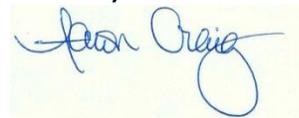
The data from this study will provide unique and invaluable insight into pre-activity health screening practices within our profession and will be a significant contribution to our profession and ACSM. The success of this study is dependent on your participation. **By completing the survey, which will only take you about 10-15 minutes, you will be eligible for a chance to win one of six \$50 gift cards.**

As you respond to each of the questions in the survey, please answer them relative to the fitness facility where you currently work. If you work at more than one facility, please answer the questions relative to the facility where you work the most. If you do not currently work at a facility, you will have an opportunity to respond accordingly at the beginning of the survey.

**The survey will close at XX:XX pm on XX/XX/XXXX. You can be confident that all responses will remain private, secure, and confidential.** Should you have questions or concerns, please feel free to contact me or Dr. Eickhoff-Shemek. Please click [here to take the survey](#).

NOTE: If you experience technical difficulties accessing the survey from the hyperlink provided above, please try first try clearing your web browser's cache and then copy/paste this entire link ( ) into a new web browser. If after taking these steps, you are still experiencing technical issues, please feel free to contact me directly."

Sincerely,



Aaron Craig, Ph.D. Candidate  
[acraig2@mail.usf.edu](mailto:acraig2@mail.usf.edu)  
813.600.8066

JoAnn Eickhoff-Shemek, Ph.D.  
[eickhoff@usf.edu](mailto:eickhoff@usf.edu)  
813-974-4676

**Thank You/Reminder Email:** Tentative ACSM send on date: 08/29/2014  
**Subject:** Did you contribute? Don't miss out on a chance to win \$50

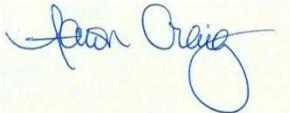
Dear Health Fitness Specialist,

I am writing to say "THANK YOU" to those who have already completed the survey for my dissertation study, **A National Investigation of Pre-Activity Health Screening Procedures in Fitness Facilities: Perspectives from ACSM Certified Health Fitness Specialists**. Hopefully you took advantage of the chance to win one of the six \$500 gift cards!

For those who have not yet completed the survey, I've included the link below for your convenience. This success of this study is highly dependent upon your feedback and responses. Once you complete the survey you will have a chance to enter a drawing for a chance to win one of six \$50 gift cards. Thanks in advance for taking about 10-15 minutes of your time to participate in this research study. **You can be confident that all responses will remain private, secure, and confidential.**

**The survey will close at XX:XX pm on XX/XX/XXXX.** Please click [here](#) to take the survey. NOTE: If you experience technical difficulties accessing the survey from the hyperlink provided above, please try first try clearing your web browser's cache and then copy/paste this entire link ( ) into a new web browser. If after taking these steps, you are still experiencing technical issues, please feel free to contact me directly."

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Aaron Craig, Ph.D. Candidate  
[acraig2@mail.usf.edu](mailto:acraig2@mail.usf.edu)  
813.600.8066

**Final Reminder:** Tentative ACSM send on date: 09/08/2014

**Subject:** Last chance to win \$50

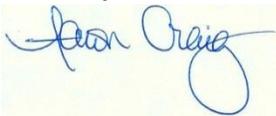
Dear Health Fitness Specialist,

This is a courtesy reminder of how important your feedback is to the success of this study, **A National Investigation of Pre-Activity Health Screening Procedures in Fitness Facilities: Perspectives from ACSM Certified Health Fitness Specialists.**

For those who have not yet completed the survey, I've included the link below for your convenience. Thanks in advance for taking about 10-15 minutes of your time to support this research study. Once you complete the survey you will have a chance to enter a drawing for a chance to win one of six \$50 gift cards. **You can be confident that all responses will remain private, secure, and confidential.**

**LAST CHANCE: The survey will close at XX:XX pm on XX/XX/XXXX.** Please click [here](#) to take the survey and be entered for your chance to win a \$50 gift card. NOTE: If you experience technical difficulties accessing the survey from the hyperlink provided above, please try first try clearing your web browser's cache and then copy/paste this entire link ( ) into a new web browser. If after taking these steps, you are still experiencing technical issues, please feel free to contact me directly."

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Aaron Craig, Ph.D. Candidate

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813.600.8066

## Appendix D: Open-Text Analysis Raw Data and Coding

Q54. Please provide any comments and/or examples of challenges you have experienced while conducting pre-activity health screening procedures.

### I8 In-vivo Codes:

|                                              |                                                                |
|----------------------------------------------|----------------------------------------------------------------|
| No problem                                   | Lack (of Importance to Management)                             |
| Indirectly Related Response                  | Lack (Procedures)                                              |
| Issues w/ medical clearance                  | Lack (Staff preparation/knowledge)                             |
| Application of Guidelines (Bridging the gap) | Lack (Time/Staff)                                              |
| Compliance (Front Desk)                      | Compliance (Members)                                           |
| Consistency (Among branches)                 | Misinformation (currency/updated information)                  |
| Consistency (Among trainers)                 | Misinformation (dishonesty/partial disclosure/forgetting info) |
| Lack (Corporate Client interest)             | Misinformation (misunderstanding Qs)                           |
| Lack (Space)                                 | Unhappy Member (due to requirement to complete)                |

| Response                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 1. | 2.  | 3. | 4. | 5. | 6. | 7. | 8. | 9. | 10. | 11. | 12. | 13. | 14. | 15. | 16. | 17. | 18. |  |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----|-----|----|----|----|----|----|----|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|
| Please provide any comments and/or examples of challenges you have experienced while conducting pre-activity health screening procedures.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |    |     |    |    |    |    |    |    |    |     |     |     |     |     |     |     |     |     |  |
| 893 None, it is a straight forward process and as long as everyone at my place of employment is following the same procedures it is pretty flawless.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | No |     |    |    |    |    | Co |    |    |     |     |     |     |     |     |     |     |     |  |
| 670 I actually work in multiple environments and it would be nice to have the option of identifying both environments because they are totally opposite from each other but both offer preventative services. One we do screening on schedule and with great software to track the data. The other which I refer to in the survey does none of that. In conducting pre-test screening - trust between an instructor is not as strong reflecting a barrier in responses or rather lack of responses by follow up tests participants are much more eager to give honest answers. Overall though I have had no troubles with pre-test screening. | No |     |    |    |    |    |    |    |    |     |     |     |     |     |     | Mis |     |     |  |
| 22 No challenges experienced                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | No |     |    |    |    |    |    |    |    |     |     |     |     |     |     |     |     |     |  |
| 31 Currently there are no issues with the screening                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | No |     |    |    |    |    |    |    |    |     |     |     |     |     |     |     |     |     |  |
| 37 no challenges                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | No |     |    |    |    |    |    |    |    |     |     |     |     |     |     |     |     |     |  |
| 64 I haven't run into any issues with conduction screenings                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | No |     |    |    |    |    |    |    |    |     |     |     |     |     |     |     |     |     |  |
| 101 I haven't experienced any challenges yet, my supervisor has had a solid grasp on the pre-activity health screening.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | No |     |    |    |    |    |    |    |    |     |     |     |     |     |     |     |     |     |  |
| 122 None thus far, however I am still a newbie!                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | No |     |    |    |    |    |    |    |    |     |     |     |     |     |     |     |     |     |  |
| 145 None to speak of as of yet                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | No |     |    |    |    |    |    |    |    |     |     |     |     |     |     |     |     |     |  |
| 182 I do not experience any challenges with my clients.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | No |     |    |    |    |    |    |    |    |     |     |     |     |     |     |     |     |     |  |
| 253 No challenges. We are a corporate gym. Employees sign a waiver before they can use our gym.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | No |     |    |    |    |    |    |    |    |     |     |     |     |     |     |     |     |     |  |
| 349 No problems experienced                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | No |     |    |    |    |    |    |    |    |     |     |     |     |     |     |     |     |     |  |
| 464 The department I'm in uses a consent form that is used for the hospital. My supervisor is the one who does most of the screening. The form we use seems to work well.                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | No |     |    |    |    |    |    |    |    |     |     |     |     |     |     |     |     |     |  |
| 491 I have not had any unusual challenges                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | No |     |    |    |    |    |    |    |    |     |     |     |     |     |     |     |     |     |  |
| 747 None. It has always gone smoothly.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | No |     |    |    |    |    |    |    |    |     |     |     |     |     |     |     |     |     |  |
| 990 I haven't experienced any challenges                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | No |     |    |    |    |    |    |    |    |     |     |     |     |     |     |     |     |     |  |
| 1013 Nothing yet                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | No |     |    |    |    |    |    |    |    |     |     |     |     |     |     |     |     |     |  |
| 1022 No challenges.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | No |     |    |    |    |    |    |    |    |     |     |     |     |     |     |     |     |     |  |
| 1026 I haven't run into any problems                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | No |     |    |    |    |    |    |    |    |     |     |     |     |     |     |     |     |     |  |
| 339 its voluntary for our employees but we lack sophisticated software.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |    | Inc |    |    |    |    |    |    | La | Lac |     |     |     |     |     |     |     |     |  |
| 539 The hospital has not wanted to use our PHSP for our integrative programs. And I don't know why.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |    | Inc |    |    |    |    |    |    |    | Lac |     |     |     |     |     |     |     |     |  |
| 390 Some is done at the time a member becomes a member which I am unfamiliar with. Also, we have an in house medical facility that all new members have a chance to get screened at.                                                                                                                                                                                                                                                                                                                                                                                                                                                          |    | Inc |    |    |    |    |    |    |    |     | Lac |     |     |     |     |     |     |     |  |
| 532 too basic. I am in the process of adjusting the tests to include a balance test and ROM test.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |    | Inc |    |    |    |    |    |    |    |     | Lac |     |     |     |     |     |     |     |  |



|     |                                                                                                                                                                                                                                                                                                                                                                                                                                                       |  |     |  |
|-----|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|-----|--|
| 82  | None                                                                                                                                                                                                                                                                                                                                                                                                                                                  |  | Inc |  |
| 92  | none                                                                                                                                                                                                                                                                                                                                                                                                                                                  |  | Inc |  |
| 94  | Concerning securing the PAR-Q from previous questions. We don't actually hold onto the PAR-Q. The participant signs a form that they either filled out the PAR-Q or decline to fill it out, which is all kept with the PT agreement/contract. If they fill it out the trainer discusses their answers but then the PAR-Q is either shredded or the participant keeps it.                                                                              |  | Inc |  |
| 99  | None                                                                                                                                                                                                                                                                                                                                                                                                                                                  |  | Inc |  |
| 109 | With working in a medical facility we see mostly people who have had extensive medical histories. We need a doctors note on almost everyone who wants to join our gym program unless they have a very low risk for heart disease.                                                                                                                                                                                                                     |  | Inc |  |
| 133 | Na                                                                                                                                                                                                                                                                                                                                                                                                                                                    |  | Inc |  |
| 147 | n/a                                                                                                                                                                                                                                                                                                                                                                                                                                                   |  | Inc |  |
| 168 | No                                                                                                                                                                                                                                                                                                                                                                                                                                                    |  | Inc |  |
| 176 | no standardized testing in our facility                                                                                                                                                                                                                                                                                                                                                                                                               |  | Inc |  |
| 184 | n/a                                                                                                                                                                                                                                                                                                                                                                                                                                                   |  | Inc |  |
| 185 | Previously, our program included collection of HHQ, risk stratification, and medical release. Last year, we changed process to self-screen PAR-Q. Signed rules & guidelines, informed consent, and basic overview of exercise acknowledged by all new members. The shift to PAR-Q has reduced barriers to joining, reduced staff time on this process, and our risk to protect health information. We have had a tremendous growth in our membership. |  | Inc |  |
| 196 | None                                                                                                                                                                                                                                                                                                                                                                                                                                                  |  | Inc |  |
| 203 | n/a                                                                                                                                                                                                                                                                                                                                                                                                                                                   |  | Inc |  |
| 204 | None                                                                                                                                                                                                                                                                                                                                                                                                                                                  |  | Inc |  |
| 218 | None                                                                                                                                                                                                                                                                                                                                                                                                                                                  |  | Inc |  |
| 230 | none                                                                                                                                                                                                                                                                                                                                                                                                                                                  |  | Inc |  |
| 233 | N/A                                                                                                                                                                                                                                                                                                                                                                                                                                                   |  | Inc |  |
| 238 | None                                                                                                                                                                                                                                                                                                                                                                                                                                                  |  | Inc |  |
| 242 | We are a private club facility                                                                                                                                                                                                                                                                                                                                                                                                                        |  | Inc |  |
| 255 | Working in corporate fitness, we need voluntary participation in our health screenings. Often times we need to refer to incentives to get people involved with our health screening programs. Once they take the health screenings, participants work with a health coach to improve results.                                                                                                                                                         |  | Inc |  |
| 258 | none                                                                                                                                                                                                                                                                                                                                                                                                                                                  |  | Inc |  |
| 259 | None that I can think of at this time                                                                                                                                                                                                                                                                                                                                                                                                                 |  | Inc |  |
| 273 | Very helpful for baseline                                                                                                                                                                                                                                                                                                                                                                                                                             |  | Inc |  |
| 286 | I believe they are very important.                                                                                                                                                                                                                                                                                                                                                                                                                    |  | Inc |  |
| 288 | N/A                                                                                                                                                                                                                                                                                                                                                                                                                                                   |  | Inc |  |
| 320 | Learning the techniques of providing a physical exam was challenging                                                                                                                                                                                                                                                                                                                                                                                  |  | Inc |  |
| 322 | No comments                                                                                                                                                                                                                                                                                                                                                                                                                                           |  | Inc |  |

|     |                                                                                                                                                                                                                                     |  |     |
|-----|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|-----|
| 344 | None                                                                                                                                                                                                                                |  | Ind |
| 347 | N/A                                                                                                                                                                                                                                 |  | Ind |
| 354 | There needs to be a pre-activity health screening available tailored to Cancer Exercise Trainers for use in cancer exercise-rehab programs. Would be very helpful that these (even if it is just a general form) exist!             |  | Ind |
| 365 | n/a                                                                                                                                                                                                                                 |  | Ind |
| 368 | N/A                                                                                                                                                                                                                                 |  | Ind |
| 381 | NA                                                                                                                                                                                                                                  |  | Ind |
| 387 | Taking resting blood pressure and finding it in stage 2 hypertension. helped get a client to listen to his doctor and do a sleep study and start taking his medicine regularly.                                                     |  | Ind |
| 393 | None                                                                                                                                                                                                                                |  | Ind |
| 395 | Most of our MR/HR clients indicate to us that their MD is the reason they are coming to our facility. they have been encouraged by them to do some physical activity.                                                               |  | Ind |
| 405 | None other than I always screen. Z                                                                                                                                                                                                  |  | Ind |
| 408 | I have never had to perform a PHSP while working in my current position                                                                                                                                                             |  | Ind |
| 428 | na                                                                                                                                                                                                                                  |  | Ind |
| 431 | We conduct pre-activity screenings for only those individuals that are participating in programs beyond basic membership.                                                                                                           |  | Ind |
| 438 | Lot of people looking for quick-fix weight loss & results, not too concerned with measurements , risk factors, health benefits, etc.                                                                                                |  | Ind |
| 459 | none                                                                                                                                                                                                                                |  | Ind |
| 465 | A                                                                                                                                                                                                                                   |  | Ind |
| 480 | Nothing stands out to me.                                                                                                                                                                                                           |  | Ind |
| 481 | Na                                                                                                                                                                                                                                  |  | Ind |
| 484 | None                                                                                                                                                                                                                                |  | Ind |
| 507 | n/a, personal trainers do pre activity screen. built into physical therapist work flow.                                                                                                                                             |  | Ind |
| 518 | Lack some knowledge and skills in hands on physical evaluation.                                                                                                                                                                     |  | Ind |
| 525 | N/A                                                                                                                                                                                                                                 |  | Ind |
| 543 | We do pre-screen for several specific programs; however in some cases, individuals would go elsewhere for exercise and our thought is that these individuals will be better served with our staff than a for profit fitness center. |  | Ind |
| 558 | None                                                                                                                                                                                                                                |  | Ind |
| 562 | n/a                                                                                                                                                                                                                                 |  | Ind |
| 565 | most clients are eager to complete the screening & compare results at the 6-7 month mark of training. they realize it is only helpful!                                                                                              |  | Ind |
| 566 | X                                                                                                                                                                                                                                   |  | Ind |
| 568 | N/A                                                                                                                                                                                                                                 |  | Ind |



|     |                                                                                                                                                                                                                                                                                                                                                                                                                                                         |  |     |
|-----|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|-----|
|     | One individual had no prior health issues, with no observable indications of possible risk factor, yet suffered a heart attack, at home, early into our Pilates exercise experiences. Likely unrelated to our work, but made me realize the importance of diligence with observation and care of clients at all time.                                                                                                                                   |  |     |
| 725 | He has recovered well and returned to our work, with not further indications of risk.                                                                                                                                                                                                                                                                                                                                                                   |  | Ind |
| 758 | None                                                                                                                                                                                                                                                                                                                                                                                                                                                    |  | Ind |
| 763 | I work less than 10 hours a week                                                                                                                                                                                                                                                                                                                                                                                                                        |  | Ind |
| 786 | None relevant                                                                                                                                                                                                                                                                                                                                                                                                                                           |  | Ind |
| 792 | .                                                                                                                                                                                                                                                                                                                                                                                                                                                       |  | Ind |
| 806 | None                                                                                                                                                                                                                                                                                                                                                                                                                                                    |  | Ind |
| 807 | Too many personal trainers get certified online without formal education & knowledge of the body which causes problems (more injured clients & liability issues)                                                                                                                                                                                                                                                                                        |  | Ind |
| 818 | Individuals outside of the age range- too young or too old                                                                                                                                                                                                                                                                                                                                                                                              |  | Ind |
| 829 | No comments                                                                                                                                                                                                                                                                                                                                                                                                                                             |  | Ind |
| 831 | We have never used a pre activity health screening. But we do talk to all clients during their Intro session to discuss any health concerns they do have.                                                                                                                                                                                                                                                                                               |  | Ind |
| 834 | na                                                                                                                                                                                                                                                                                                                                                                                                                                                      |  | Ind |
| 841 | None                                                                                                                                                                                                                                                                                                                                                                                                                                                    |  | Ind |
| 842 | None                                                                                                                                                                                                                                                                                                                                                                                                                                                    |  | Ind |
| 844 | Relatively painless on implementation. Most folks pass.                                                                                                                                                                                                                                                                                                                                                                                                 |  | Ind |
| 846 | None                                                                                                                                                                                                                                                                                                                                                                                                                                                    |  | Ind |
| 851 | none                                                                                                                                                                                                                                                                                                                                                                                                                                                    |  | Ind |
| 872 | blank                                                                                                                                                                                                                                                                                                                                                                                                                                                   |  | Ind |
| 875 | None                                                                                                                                                                                                                                                                                                                                                                                                                                                    |  | Ind |
| 879 | none                                                                                                                                                                                                                                                                                                                                                                                                                                                    |  | Ind |
| 882 | N/a                                                                                                                                                                                                                                                                                                                                                                                                                                                     |  | Ind |
| 886 | none                                                                                                                                                                                                                                                                                                                                                                                                                                                    |  | Ind |
| 895 | N/A                                                                                                                                                                                                                                                                                                                                                                                                                                                     |  | Ind |
| 901 | N/A                                                                                                                                                                                                                                                                                                                                                                                                                                                     |  | Ind |
| 902 | None                                                                                                                                                                                                                                                                                                                                                                                                                                                    |  | Ind |
| 912 | None                                                                                                                                                                                                                                                                                                                                                                                                                                                    |  | Ind |
| 921 | n/a                                                                                                                                                                                                                                                                                                                                                                                                                                                     |  | Ind |
| 924 | I manage a small fitness center at a senior retirement community. All participants are required to obtain physician's clearance, fill out a medical history questionnaire, and sign informed consent and permission to communicate with their physician if warranted. We are contractors to provide the program and staffing while they provide the space, equipment, and other costs. We work with seniors 63 to 104 years of age from fit to hospice. |  | Ind |
| 950 | None                                                                                                                                                                                                                                                                                                                                                                                                                                                    |  | Ind |

|      |                                                                                                                                                                                                                                                                                                                                  |  |  |  |     |
|------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--|--|-----|
| 958  | Just about all my participants are at risk . I manage older adult fitness centers in senior centers and retirement communities. I have folks from sixties to 100 year olds . All require medical clearance from MD along with sit down orientation and health history screening.                                                 |  |  |  | Inc |
| 964  | I am grateful for ACSM                                                                                                                                                                                                                                                                                                           |  |  |  | Inc |
| 975  | N/A. All patients are evaluated upon entry, if not, D/C from clinic secondary to requirements and recommendations for the benefits of their health.                                                                                                                                                                              |  |  |  | Inc |
| 980  | none                                                                                                                                                                                                                                                                                                                             |  |  |  | Inc |
| 988  | Since we don't conduct them, I haven't run into anything. Most people just sign a walver and we're good. Otherwise, they can't participate.                                                                                                                                                                                      |  |  |  | Inc |
| 1002 | Positive for information gathering for me and for ensuring the safety of clients                                                                                                                                                                                                                                                 |  |  |  | Inc |
| 1004 | Almost every person I encounter is moderate to high risk. Mostly because the majority age for the facility is 60 and older.                                                                                                                                                                                                      |  |  |  | Inc |
| 1016 | I've been hesitant to prohibit a person to exercise due to the need for medical clearance, fearing he/she may not may be discouraged from starting a fitness program.                                                                                                                                                            |  |  |  | Inc |
| 1028 | none                                                                                                                                                                                                                                                                                                                             |  |  |  | Inc |
| 1032 | N/A                                                                                                                                                                                                                                                                                                                              |  |  |  | Inc |
| 1033 | not much                                                                                                                                                                                                                                                                                                                         |  |  |  | Inc |
| 1046 | We require waivers/informed consents when selling non-student memberships. There is no Personal Training Program where the health screening would be prerequisite to participation.                                                                                                                                              |  |  |  | Inc |
| 1048 | N/A                                                                                                                                                                                                                                                                                                                              |  |  |  | Inc |
| 1049 | none to think of                                                                                                                                                                                                                                                                                                                 |  |  |  | Inc |
| 1051 | Length of questions                                                                                                                                                                                                                                                                                                              |  |  |  | Inc |
| 1056 | none that I can think of                                                                                                                                                                                                                                                                                                         |  |  |  | Inc |
| 1058 | they are free at our facility so people do not value the opportunity and results as they should                                                                                                                                                                                                                                  |  |  |  | Inc |
| 1061 | none                                                                                                                                                                                                                                                                                                                             |  |  |  | Inc |
| 1071 | none                                                                                                                                                                                                                                                                                                                             |  |  |  | Inc |
| 1075 | N/A                                                                                                                                                                                                                                                                                                                              |  |  |  | Inc |
| 1084 | none                                                                                                                                                                                                                                                                                                                             |  |  |  | Inc |
| 1085 | I focused on my full time job. However, some answers were different if I was to think of my part time job. It was surprising that the Corporate (YMCAs) do not do any health screenings and I actually got in trouble for asking if we could at least have them sign an informed consent. They believe then we are "more liable" |  |  |  | Inc |
| 1104 | None. Full Assessment and Risk Stratification is done on every patient.                                                                                                                                                                                                                                                          |  |  |  | Inc |
| 1106 | none                                                                                                                                                                                                                                                                                                                             |  |  |  | Inc |
| 1108 | I work with the elderly so it takes some patience and time.                                                                                                                                                                                                                                                                      |  |  |  | Inc |
| 1118 | Only do this with high risk people                                                                                                                                                                                                                                                                                               |  |  |  | Inc |

|      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |     |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |     |     |
|------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|-----|-----|
| 1120 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Inc |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |     |     |
| 1129 | In my position I would not conduct these screenings.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Inc |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |     |     |
| 1148 | The PARQ is helpful for assessing health risks for new members who are looking for an exercise program.                                                                                                                                                                                                                                                                                                                                                                                                                                        | Inc |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |     |     |
| 1165 | The incidence of new patients with uncontrolled hypertension requiring physician contact or transport to the Emergency room has been increasing over the past 18 months.                                                                                                                                                                                                                                                                                                                                                                       | Inc |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |     |     |
| 1176 | I haven't                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Inc |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |     |     |
| 1188 | I don't do them                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Inc |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |     |     |
| 1192 | none at this time                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Inc |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |     |     |
| 1197 | none                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Inc |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |     |     |
| 1202 | N/A                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Inc |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |     |     |
| 1203 | Cannot cite specific examples due to confidentiality agreement.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Inc |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |     |     |
| 1206 | My Formal Education does not reflect my current certifications                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Inc |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |     |     |
| 1222 | I conduct my own pre-activity interviews and fitness screenings. I work in a variety of locations, community based, commercial, and government based, and none of them conduct or require a pre-activity screening. The members sign a waiver and that is it. Legal advice has been to remove all pre-screening activities and only sign the liability waiver.                                                                                                                                                                                 | Inc |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |     |     |
| 1227 | This is an essential component of designing an individualized exercise prescription and/or recommending a group fitness program for patients/clients!!!                                                                                                                                                                                                                                                                                                                                                                                        | Inc |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |     |     |
| 1235 | None                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Inc |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |     |     |
| 1245 | None.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Inc |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |     |     |
| 211  | n/a                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Inc |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |     |     |
| 236  | None                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Inc |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |     |     |
| 599  | None                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Inc |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |     |     |
| 973  | N/a                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Inc |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |     |     |
| 978  | None                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Inc |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |     |     |
| 985  | I work for a small private club that offers a fitness center membership as part of the club membership. I am the only one with a fitness background and although I've implemented a program based on ACSM guidelines it's often difficult to get support from upper management with the follow through. For example one member refused to get medical clearance based on his health history inventory and it was a battle to get him to eventually sign off on a waiver acknowledging that he was aware of his risks by not getting clearance. | Is  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | Lac |     |
| 1023 | I have dealt with management not being educated on the importance of health screening for new members. Therefore, some members who may be classified "at risk" talk my manager out of getting medical clearance.                                                                                                                                                                                                                                                                                                                               | Is  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |     | Lac |
| 460  | Being unfamiliar with different medications; participants getting upset because they are not allowed to use the center without physician clearance                                                                                                                                                                                                                                                                                                                                                                                             | Is  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |     | Lac |



|      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |  |  |  |    |
|------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--|--|----|
| 132  | One person who had a recent history of back pain decided to delay beginning an exercise program with us in order to get clearance from the physician. However, because the person didn't have an acute problem or wasn't sick at the time, the earliest appointment with the physician was several weeks out. I never learned if the person actually persevered through this barrier and began the exercise program; as far as I knew, the person did not. In another case, a person who was taking medication for high blood pressure (and was considered controlled) completed the screening and was going to take a medical release for to the physician's office for a signature (per my previous facility's policy). The physician had been renewing the person's medication for over two years sight unseen, but now the physician wanted to require the person to come for an office visit before signing off for an exercise program. In another example, the participant had a known problem with no restrictions from the previous primary care provider; but when the person changed to a new physician (previous one retired), the new one threw up a roadblock. Normally when new participants complete the pre-activity health screening, I probe deeper into all responses, especially if they indicate known disease. I ask if the person has any restrictions from a physician; I leave the decision on whether or not to begin exercise and/or seek additional physician's clearance up to the prospective participant. |  |  |  | Is |
| 214  | It has happened that our screening device has identified individuals "at risk", which prompts us to notify the individual's primary care provider. The challenge is when the PCP replies with "no limitations in activity". This guidance is totally bogus (negligent?) when I am looking at an application from an uncontrolled diabetic, for example.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |  |  |  | Is |
| 227  | It is hard to get timely medical clearance forms back from the doctors office.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |  |  |  | Is |
| 272  | People's lack of desire/willingness to get a clearance when needed due to cost of paperwork at doctor's office or just the delay it causes in getting started.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |  |  |  | Is |
| 476  | We have viewed numerous hypertension issues even after clearance by a physician                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |  |  |  | Is |
| 605  | Members have been put off by requiring to get doctor clearance.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |  |  |  | Is |
| 660  | Individuals refusing to get medical/physician's clearance because their local gym didn't require it.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |  |  |  | Is |
| 672  | Sometimes it would take a while for a doctors office to fax over our medical clearance form to us (one time it took a month!). Sometimes a new member would get emotional about their measurements (ie weight, body fat, waist circumference, etc).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |  |  |  | Is |
| 733  | Complaints about having to get a Doc's clearance, due to the inconvenience of it, but most people are fine with it since it is required for participation.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |  |  |  | Is |
| 762  | Client not wanting to participate or to get clearance by medical.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |  |  |  | Is |
| 835  | Members do not want to get approval from their physicians if they need cleared for exercise.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |  |  |  | Is |
| 862  | Some individuals do not want to go through the process of obtaining physician clearance prior to using the facility                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |  |  |  | Is |
| 899  | Our members sign general waiver that mentions risk of activity in any of our country club facilities but are not required to complete pre-activity screening. Only training clients are screened at initial meeting by trainer and, if deemed to be at risk, are asked to get medical release. At-Risk training clients who have been asked to get medical clearance prior to participation have considered it a major barrier and on occasion have chosen not to use our facility and go elsewhere since they've already been told by their doctor to exercise and feel it's an unnecessary step. It is extremely difficult to get non-member guests to sign a waiver much less complete a screening prior to facility use.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |  |  |  | Is |
| 948  | Dr offices not responding to forms faxed regarding their patients risk of exercise and any restrictions                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |  |  |  | Is |
| 1124 | I had one potential client whose cardiologist wanted her to have a internal defibrillator implanted. She refused. As a result, he refused to sign her release to work with me.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |  |  |  | Is |
| 1130 | Some people do not come back/quit when I inform them that they need to get medical clearance.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |  |  |  | Is |















