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The Limited Space Model Resource Guide: Teen Edition
An adaption of the National Fitness Competition program for the Boys & Girls Clubs of America

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The Limited Space Model Resource Guide: Teen Edition
An adaption of the National Fitness Competition program for the Boys & Girls Clubs of America

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Abstract

The Limited Space Model Resource Guide: Teen Edition
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By Meredith Moore

Background: Physical inactivity is a growing public health concern because many youth are unable to engage in the recommended amount of physical activity. Access barriers such as safe environments, resources, time and a poor foundation in physical literacy skills hinder some youth from engaging in physical activity. Through the National Fitness Competition program, the Boys & Girls Clubs of America strives to increase the amount of physical activity Club members engage in by helping improve components of physical literacy.

Purpose: The purpose of this project is to provide Boys & Girls Clubs of America with a Resource Guide for the Limited Space Model of the National Fitness Competition. The adaption of the National Fitness Competition will enable Clubs to host the program despite space or equipment limitations and maintain the original program's goal to encourage Club members to develop the components of physical literacy through its activities.

Methods: Because validated physical literacy assessment tests are not yet available for youth, this Resource Guide includes tests to assess health-related physical fitness as a proxy of physical literacy. Some of the tests were selected using validated fitness test batteries such as FITNESSGRAM and ALPHA, whereas others were chosen based on feasibility and the desire to engage participants. Components of the Resource Guide were pilot tested at the BGCA 2016 National Keystone Conference.

Results: The Resource Guide for the Limited Space Model includes implementation instructions and data interpretation for five priority tests and seven additional tests to assess major components of health-related fitness. The results from the pilot test guided revisions to the Resource Guide and suggestions for the program.

Discussion: Identified during the pilot test, the number of volunteers significantly impacts the program's success and the quality of tests the participants perform. The researcher recommends using technology to improve data collection and interpretation of the program. Developing an application, or App, will facilitate test score reporting, increase motivation to engage in physical activity due to self-monitoring, and guide future program implementation efforts.

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Table of Contents

Chapter 1: Introduction 1

Problem Statement 9
Purpose Statement 10
Significance Statement 10
Definition of Terms 10
Abbreviations 11

Chapter 2: Literature Review 12

Physical Activity, Fitness and Literacy for Health 12
Physical Activity for Health 12
Environments for Physical Activity Interventions 13
Measurement 16
Physical Fitness for Health 18
Physical Literacy for Health 19
Measurement 20
Physical Literacy in the United States 22
Boys & Girls Clubs of America 23
Ideal versus Reality 25
Summary 26

Chapter 3: Methods 27

Selecting the Tests 27
Modifying the Tests 32
Developing a Score System 36
Completing the Tests 41
The Pilot Test 42
Data Collection 44

Chapter 4: Results 46

The Resource Guide 46
Pilot Test Analysis 47

Chapter 5: Discussion 54

Resource Guide 54
Pilot Test 54
Strengths 55
Limitations 56
Recommendations 57
Public Health and Policy Implications 59

References 61

Appendix A: Figures 68
Appendix B: Pilot Test Images 88
Appendix C: *The Limited Space Model Resource Guide: Teen Edition* 91

Chapter 1: Introduction

America's youth are experiencing a health crisis. Poor health consequences due to physical inactivity and sedentary behaviors cause financial, individual, and societal costs. Because youth are the future generation, organizations targeting youth are pivotal in providing education, resources, and the opportunity to engage in physical activity and learn about the importance of physical fitness for health for a lifetime of healthy choices.

Physical Inactivity

Physical activity is any body movement that involves muscle action to increase energy expenditure[1]. Physical activity has significant health benefits, which contribute to the prevention of noncommunicable diseases (NCDs) such as cardiovascular disease, cancer, and diabetes[2-4]. The term physical inactivity is used to describe individuals who do not get the recommended level of regular physical activity, which is at least 60 minutes of daily physical activity for youth ages 6-17[4, 5]. Despite the many healthy benefits of being physically active, globally, more than 80% of youth ages 5-17 are insufficiently physically active[2]. Physical inactivity in youth places them at a higher risk of chronic disease later in life compared to youth who engage in the recommended amount of physical activity[3]. The overwhelming amount of physical inactivity in youth has health and financial burdens on the individual and society[3].

Burdens of Physical Inactivity

Health Burdens

Physical inactivity and sedentary lifestyles place individuals at risk for multiple negative health consequences, such as obesity[6, 7]. Childhood obesity, defined as having excess body fat, is a global health emergency, affecting both developing and developed countries[8, 9]. An estimated 170 million children 18 years old or less are estimated to be overweight, defined as having

excess body weight for a particular height from fat, muscle, bone, water or a combination of these factors[8, 9]. According to the World Health Organization (WHO), overweight and obese youth are likely to be obese during their adult years and to develop NCDs such as cardiovascular disease and Type II diabetes[10]. Within the past 30 years, childhood obesity has more than doubled in children and quadrupled in adolescents[9]. Because obesity trends in youth are increasing and are likely to persist into their adult years, adult obesity rates will grow once the youth become adults.

In the United States (US), approximately one in three adults and one in six children and adolescents are obese[11]. Overweight and obese youth have an increased risk of having at least one cardiovascular disease risk factor, cardiovascular disease, Type II diabetes, sleep apnea and certain types of cancers such as colorectal cancer and kidney cancer[10,12]. Evidence also reveals that obese youth are more likely than their normal weight peers to suffer from bone and joint problems, sleep apnea, and social and psychological problems like stigmatization and poor self-esteem[9]. To prevent future issues associated with obesity it is important to promote healthy lifestyles, exercise, and healthy diets in youth.

Regular physical activity in childhood and adolescence has immediate and long-term consequences. According to the United States Centers for Disease Control and Prevention (CDC), regular physical activity improves strength and endurance, helps to build healthy bones and muscles, controls weight, reduces anxiety and stress, increases self-esteem, and may improve blood pressure and cholesterol levels[4]. Healthy youth experience a better quality of life and have less of an impact economically on society due to obesity-related health issues than their overweight or obese peers. A healthy generation is more likely than an overweight or obese generation to be more productive in the workplace and to miss less hours of work due to obesity-

related illnesses, which will improve the nation's economy and decrease the health care expenditures for government programs such as Medicaid and Medicare since the population will be healthier overall[13].

Financial Burdens

The health complications due to physical inactivity also have financial costs which affect individuals, particularly starting during middle-age for adults, and societies[14]. A healthier population benefits the entire nation due to increased production and a decrease in demand for health care due to the negative health consequences of physical inactivity. Health care costs are associated with direct medical costs, productivity costs, transportation costs, and human capital costs[15].

Direct medical costs are spent on the diagnosis and treatment of health consequences of obesity and other negative health outcomes for the adult and youth populations[15]. In the adult population, industries experience productivity costs due to absenteeism and decreased productivity when employees miss work to seek medical care for illnesses or physical complications[15, 16]. In 2012, obesity-related job absenteeism contributed to a $4.3 billion loss to businesses in the US[17]. For obese youth, decreased productivity involves missing school due to poor health. Overweight youth do not perform as well academically as their normal weight peers due to high rates of school absenteeism[15, 18]. In 2014, overweight youth were 1.5 times more likely and obese youth were 1.7 times more likely than their normal-weight peers to miss 11 days or more of school[19]. Overweight or obese youth may experience psychological stress and a lower quality of life from being teased or bullied and having low self-esteem[10, 20]. Also, according to Hammond and Levine, individuals experience transportation costs because more fuel and larger vehicles are required to transport the same number of commuters and travelers each year[15].

Medical costs due to physical inactivity are costly for American society. Through The Patient Protection and Affordable Care Act (ACA) of 2012, insurance coverage expanded to American citizens who previously did not qualify for coverage. The government insurance programs, Medicaid and the State Children's Health Insurance Program (SCHIP), enable children to have insurance coverage based on their family income. The insurance expansion enables American citizens, who previously had to forego health care services due to financial and insurance barriers, to access necessary health care. As a result of the ACA, expected economic growth, and an aging population, spending on health care services is projected to increase faster in 2014-2024 than in recent years[21]. In 2013, the total national health expenditures were $2.9 trillion[22]. An estimated $190.2 billion, or 21% of annual medical spending, is the cost related to an obesity-related illness for all ages[17]. Due to the ACA, the health-spending portion of the US economy is expected to increase from 17.4 % in 2013 to 19.6% in 2024[23]. Medicaid spending is projected to have grown by 12.0% and the total Medicaid enrollment is estimated to grow 12.9%, or 66.5 million new enrollees, in 2014[23]. Obese individuals, adults and youth, incur greater health care costs than normal weight individuals[24]. The medical costs associated with treating preventable, obesity-related diseases alone could increase by as much as $66 billion per year and contribute to a loss in economic productivity of up to $580 billion annually by the year 2030[25].

The rising costs of medical care impacts vulnerable populations who are at greatest risk for developing obesity and have financial burdens in obtaining health care[25]. To reduce the costs of health care spending for individuals and government programs, a healthy lifestyle should be introduced to individuals, particularly youth, so they can develop healthy lifestyle practices.

Access Burdens

The ability to participate in physical activity is limited for many youth. For example, engaging in physical activity during the school day has become a challenge as a result of fiscal and policy pressures on the school system. To improve test scores, schools have increased the amount of classroom time and therefore, reduced the amount of time students are allowed to engage in physical activity. Roughly 44% of schools have reduced their physical education classes and recess time to emphasize testing standards[26]. Only one in five states requires the school systems to have daily recess time at the elementary level[26]. Since schools have narrowed their focus on classroom time, youth, particularly those who do not have opportunities at home to engage in physical activity, are unable to engage in the recommended 60 minutes of physical activity.

Another barrier to engaging in physical activity is limited access to safe environments, such as parks or playgrounds. Youth, particularly girls, who cannot access a safe environment to play will not engage in physical activity[27]. A safe environment to have fun and exercise is important for encouraging youth to participate in the daily 60 minutes of recommended physical activity. Low-income families typically live in areas with poor recreational facilities such as parks or gyms for exercising[28]. Urban living in areas with limited access to safe open spaces has been shown to have detrimental health impacts because individuals do not engage in physical activity[3]. Individuals living in environments with limited access to recreational facilities are less likely to engage in physical activity as individuals living in environments where physical activity is easily accessible[27]. Evidence further suggests that minority groups, specifically Hispanics and non-Hispanic blacks, do not get sufficient physical activity[29]. Engaging Hispanic and non-

Hispanic black youth in activities to increase physical activity will result in a healthier generation.

Physical inactivity not only has many negative health and financial consequences to individuals and societies but it has also been recognized as the most important modifiable health behavior for chronic diseases[28]. Due to the resources and access to youth, organizations working with youth are well positioned to have significant impacts on the health and future lifestyles of these individuals.

Boys & Girls Clubs of America

The Boys & Girls Clubs of America (BGCA) is an organization working with American youth to promote academic success, good character and citizenship and healthy lifestyles through high-yield activities, targeted programs, and regular club attendance[30]. With more than 4,100 clubs, BGCA serves roughly 4 million youth in the US and US military installations worldwide each year[31]. For 155 years, BGCA has supported youth who need it most through club activities and events[32]. As demonstrated through past successful program performance, BGCA is positioned within the community to have a positive impact on youth who participate in BGCA programs[32].

BGCA's programs target specific age groups to provide engaging, exciting programs for Club members. BGCA's Formula for Impact to yield the three priority outcomes (academic success, good character and citizenship, and healthy lifestyles) targets young people who need BGCA the most with an outcome-driven club experience, which includes: the five key elements for positive youth development (a safe positive environment, fun, supportive relationships, opportunities and expectations, and recognition), high yield activities, targeted programs, and regular attendance[30].

Due to the increasing sedentary lifestyles of youth, the healthy lifestyles outcome is an important aspect of BGCA's Formula for Impact. Clubs serve an important role in providing a safe space to exercise, compete in team sports and play with friends by providing fun, creative ways for youth of all skill and fitness levels to engage in physical activity[30]. The 2014 National Youth Outcomes Initiative (NYOI) survey reveals that 38% of Club members ages 12-15 participated in 60 minutes of moderate-to-vigorous physical activity every day of the week compared to 25% of youth nationally[30]. Club members who have high Club attendance rates and have an optimal Club Experience have more than twice the odds of engaging in daily physical activity when compared to youth nationally[30]. In addition, female Club members ages 12-15 engage in more physical activity than the national average for girls[30]. Because schools have narrowed their focus to academics, it is important for afterschool organizations, such as BGCA, to promote healthy lifestyles and exercise in youth. Exposing youth to the importance of making healthy choices and the skills and knowledge of physical fitness will enable them to continue to make healthy choices as adults[25, 33].

The National Fitness Competition (NFC) is a BGCA program created to promote exercise and physical activity in Club members by engaging Club members and developing their motivation to be physically fit through the NFC's tests. The first phase of this three-phase program is made possible through a three-year partnership with the corporate funder, Nestlé. The long-term goal of the NFC is to lead Club members to physical fitness through physical literacy, or the ability, confidence, and desire to be physically active for life[25]. The NFC is similar to a field day in that it consists of test stations to encourage youth to try new skills and compete against themselves and/or others. The biannual program has three required tests to individually assess aerobic capacity, muscular strength, and muscular endurance. The other non-required tests

in the program are included to promote teamwork and for youth to have fun while engaging in physical activities. Clubs choosing to participate in the NFC will host the program twice a year to encourage Club members to be self-motivated to improve their personal performance scores.

The NFC focuses on physical literacy of Club members because one of BGCA's goals is to promote a Culture of Wellness within clubs. Physical literacy is important for Club members to achieve so that they are equipped with the techniques to live a healthy lifestyle once they are out of the Club setting. BGCA staff work to develop the confidence and desire of Club members to be physically active and make healthy lifestyle choices. While physical fitness is a necessary component of a healthy life, BGCA is concentrated on changing the mindset and behavior of Club members so they will be physically active for life.

The Limited Space Model adaption of the National Fitness Competition

The NFC is an active program that is conducive for large spaces such as fields or gyms; unfortunately, not all BGCA Clubs have access to large spaces. Therefore, some Clubs are unable to successfully execute, or even participate in, the NFC program. Due to space and equipment barriers for some BGCA Clubs, the Limited Space Model is a necessary adaption of the NFC so that all Clubs will be able to provide Club members with the opportunity to participate in the exciting program.

The Limited Space Model adaption of the NFC has the same long-term outcome goal of promoting physical fitness in Club members through establishing physical literacy. The Limited Space Model program is modeled after the NFC but will be more conducive than the original model for use in Clubs that do not have access to large, safe areas to host the NFC's tests. Like the NFC, the Limited Space Model has three required tests to measure aerobic capacity, muscular strength, and muscular endurance. Other non-required tests are included in the program

so Club staff can select a combination and/or variation of tests that are most feasible and desirable to host in their Club.

Like the NFC, the Limited Space Model is a biannual event designed to encourage Club members to develop the desire to be more physically active through staff encouragement and recognition of their participation, efforts, and improvement. The purpose of the program is to focus on Club members' desire and confidence to engage in physical activity. According to BGCA's NYOI, Club members who believe Club staff members have high expectations for them are 15% more likely to be on track to graduate high school and older teens who experience optimal support from Club staff are physically active on 17% more days per week[30]. As demonstrated through other programs, such as Triple Play, Smart Girls and Passport to Manhood, Club members benefit from staff engagement and will develop the motivation to perform better. The Limited Space Model adaption of the NFC will enable Clubs with space and equipment barriers to host the NFC so all Club members have the opportunity to become physically literate and develop the self-motivation and desire to engage in healthy lifestyles.

Problem Statement

Less than three out of ten high school students obtain the recommended 60 minutes of moderate-to-vigorous physical activity[4]. To address the level of physical inactivity in America's youth, BGCA has a three-year partnership with its corporate sponsor Nestlé to implement the NFC program. The goal of the NFC is to promote physical literacy among Club members so they are equipped to be healthy for life. Because the NFC tests require spacious areas to complete the tests, the program is not feasible for Clubs that do not have access to large gyms or outdoor fields. Therefore, Clubs without the available spaces or facilities are unable to participate in the NFC program. BGCA will not receive Club member performance data from the Clubs that are

unable to participate in the program. Also, members at the Clubs with space barriers miss valuable opportunities to develop physical literacy in a fun, safe environment.

Purpose Statement

The purpose of this project is to provide BGCA with a Resource Guide for the Limited Space Model that BGCA Club staff can use to host the NFC in a small space with little or no equipment. The Limited Space Model, and its associated resources, will enable Club members to participate in and develop an interest in physical activity. This program will enhance Club members' interest and desire to engage in physical activity to and live a healthy lifestyle outside of the Club environment. Because a validated assessment tool for physical literacy in teens does not exist, this Resource Guide consists of tests to measure physical fitness levels in BGCA Club members as a proxy for physical literacy. This Resource Guide will continue to be piloted and revised as the program goes through the three phases of program implementation.

Significance Statement

The Limited Space Model of the NFC will lead BGCA Club members to physical literacy by creating an interest in Club members to engage in physical activity. This program can be applied to at-risk youth in a variety of physical environments in which physical activity is limited due to space, equipment and/or safety barriers around the world - not only in BGCA Clubs.

Definition of Terms

Limited Space	Refers to the small physical space in which BGCA Clubs have to perform physical fitness tests
Physical Activity	Any body movement produced by muscle action that increases energy expenditure[1]
Physical Fitness for Health	All of the body's systems functioning together to perform daily physical activity and/or physical exercise[1]
Physical Literacy	The ability, confidence, and desire to be physically active for life[25]

Abbreviations

ACA ..... Patient Protection and Affordable Care Act

BGCA ..... Boys & Girls Clubs of America

BMI ..... Body Mass Index

CDC ..... Centers for Disease Control and Prevention

CRF ..... Cardiorespiratory Fitness

LTAD ..... Long-term Athlete Development Model

NCD ..... Noncommunicable Disease

NFC ..... National Fitness Competition

NFL ..... National Football League

NYOI ..... National Youth Outcomes Initiative

OST ..... Out-of-School Time

PE ..... Physical Education

SCHIP ..... State Children's Health Insurance Program

SHAPE America ..... Society of Health and Physical Educators

UNESCO ..... United Nations Educational, Scientific and Cultural Organization

US ..... United States

WHO ..... World Health Organization

YRBS ..... Youth Risk Behavior Survey

Chapter 2: Literature Review

This literature review is organized into three sections. The first section is an overview of physical activity, fitness, and literacy for health. The two major concepts of physical fitness, physical activity and physical literacy, are discussed to establish the pathway of achieving physical fitness for life. The second section introduces the Boys & Girls Clubs of America (BGCA). The information will inform the reader of the organization's target population and the importance of using evidence-based programs to achieve specific, desired outcomes in Club members. The final section is a summary of the results from the analysis of the literature.

1. Physical Activity, Fitness, and Literacy for Health
2. Boys & Girls Clubs of America
3. Summary

Physical Activity, Fitness, and Literacy for Health

Physical Activity for Health

According to Ortega et al, "Physical activity is any body movement produced by muscle action that increases energy expenditure"[1]. Physical activity is an essential aspect of maintaining one's health. Going beyond its basic role of achieving an energy balance to prevent and treat obesity and overweight, physical activity contributes to cardiovascular health, metabolic health, brain and mental health, and musculoskeletal health[26]. Numerous studies have demonstrated the many health benefits of physical activity in youth such as improving strength and endurance, cardiovascular health, weight control, and self-esteem[1, 4, 34-36]. Physical activity is an essential component for an individual to develop physical fitness.

The United States Department of Health and Human Services recommends that youth ages 6-17 engage in at least 60 minutes of physical activity every day; however, not all youth

participate in this amount of daily physical activity[4]. In 2013, only 29% of high school students reported that they participated in at least 60 minutes per day of physical activity on each of the seven days prior to being surveyed[4]. Also troublesome, between decades, youth have not drastically increased their rates of physical activity. For example, the percentage of high school students who attended physical education classes daily decreased from 42% in 1991 to 25% in 1995 and remained stable until 2013 when it increased to 29%[4]. This slight increase in physical education class attendance is important for policymakers and program implementers to realize that the amount of physical activity youth engage in has not significantly improved.

Numerous studies have demonstrated the lifelong benefits of a physically active lifestyle and the negative consequences of a physically inactive lifestyle and sedentary behaviors such as watching television or playing video games[3, 37, 38]. Studies reveal that television viewing is positively associated with obesity, cardiovascular disease, and mortality due to the displacement of time spent doing higher-energy expending activities and increased energy consumption such as more frequent snacking[3, 29, 38]. Evidence suggests a lack of physical activity, or physical inactivity, is a major risk factor for NCDs such as cancer and obesity[28]. According to Kumar et al, "a child born in 2012 will accrue three years of screen time by age 18"[3]. Watching television decreases the amount of time youth are physically active and may influence the type of food desired and amount of food consumed[7]. Addressing sedentary behaviors in youth is important to reverse the behaviors to promote physical activity for achieving optimal health during the adult years[39].

Environments for Physical Activity Interventions

During the past three decades, interventions to promote physical activity have gained popularity worldwide[40]. Physical activity campaigns are diverse and can be applied to many

different environments. For example, school, workplace, community, and clinical campaigns are acceptable locations to provide physical activity interventions[40]. Based on the desired target population, it is more suitable to perform an intervention in a specific location. For example, an intervention for youth can be provided at a school or afterschool organization to have better access to youth participants.

1. Out-of-School Time

Physical activity is influenced by personal factors, such as institutional, community, and public policy, and the physical environment[35, 40]. Some youth are unable to engage in the recommended 60 minutes of physical activity throughout their day due to environmental barriers, such as increased classroom time to focus on standardized test scores and/or a lack of safe areas, and personal barriers, such as a lack of motivation[4, 26, 27, 41]. Evidence suggests that the most important time to reduce sedentary behavior in youth and increase physical activity is the time immediately following school[7, 42]. As a result, out-of-school time (OST) programs, such as the Boys & Girls Clubs of America (BGCA), have developed and/or endorsed policies and standards to create supportive physical activity environments for participating youth[42-47]. Studies have demonstrated that youth are more likely to participate in physical activity if resources and facilities are available to them[27, 41, 46, 48]. Children who participate in OST programs are able to be more physically active than their peers who do not participate in these programs due to an organization's availability of resources such as programs and safe spaces[44-46]. OST programs enable youth to participate in average of one third of the recommended 60 minutes of moderate-to-vigorous daily physical activity[4, 49].

In 2014, 10.2 million children participated in afterschool programs placing organizations at an advantage to reach youth through intervention programs such as obesity prevention or

improving overall physical fitness[50]. Children from low-income households are more likely than their peers from higher-income households to participate in afterschool programs[50]. Also, children from low-income households are more likely to be overweight or obese than their peers from high-income households due to lifestyles and/or environmental barriers to physical activity[25, 51]. Therefore, programs, which target these populations, like BGCA, have the opportunity to educate youth of the importance of physical fitness and how to live a healthy life[44].

Youth, particularly teens, are dropping out of school sports programs, which reduces the likelihood that they will obtain the recommended amount of daily physical activity[52]. As children age, the purpose of sports shifts from having fun to winning the game or being the best player on the team[53]. Some reasons for teens dropping out of sports include: no longer being interested, no longer having fun, a lack of playing time, dislike of the coach, too much competition and a desire to participate in other activities[53-57]. Less-skilled high school students have a distinct lack of interest in participating in physical activities[58]. Teens may become uninterested in the sport due to a weak foundation in their motor skills or abilities. A stronger foundation for how to live a healthy life (i.e. physical literacy) may encourage youth to participate in sports and/or physical activity throughout their life.

2. School-based Interventions

School-based interventions are another option to educate youth of how to be physically active. The school environment is an effective location because youth spend most of their time in school[59]. In addition to increasing physical activity during school hours, school-based interventions have been shown to be indirectly associated with academic achievement such as lower dropout rates, better classroom behavior, self-esteem, and engagement in school and on-

task behavior[35, 59]. The school environment is conducive for providing youth with the knowledge, skills, and attitudes to live healthy lifestyles[60]. In school, youth may learn the motor skills or techniques of how to be physically active. The school environment also enables teachers to incorporate physical activity lessons into their curriculum in which students learn the importance of a healthy lifestyle[61].

Evidence suggests that school-based interventions reduce health inequalities among youth[62]. Youth who live in disadvantaged areas are less likely to be physically active due to limited access to safe environments such as parks and playgrounds. However, if implemented with fidelity, school-based interventions can increase the amount of time youth spend being physically active[62].

Measurement

To assess overall physical fitness, specific, evidence-based test batteries enable researchers and health care providers to evaluate physical activity levels across individuals. The European Union has developed the ALPHA fitness test battery to provide valid, reliable, feasible, and safe field-based fitness tests to assess the health-related physical fitness in its children and adolescents[63]. The ALPHA fitness test battery consists of evidence-based health-related measurements to determine children's and adolescents' physical fitness[63]. It is time-efficient, low-cost, requires little equipment and can be administered to many individuals at once[63].

Another physical activity test battery is the Cooper Institute's FITNESSGRAM program. The program assesses aerobic capacity, muscular strength, muscular endurance, flexibility and body composition, which are the five components of health-related fitness[64]. To measure aerobic capacity, youth participate in a one-mile run, PACER Shuttle Run test or a walk test. Muscular

strength, endurance, and flexibility are measured using curl-ups, the 90-degree push-up, modified pull-up, pull-up, or flexed arm hang, the trunk lift, and the back-saver sit and reach or the shoulder stretch[65]. Body composition is measured using skinfold measurements and the body mass index (BMI)[65]. After each test, participants are classified into a score category corresponding to the score they received. The scoring categories are criterion-referenced standards relevant to the participant's age and sex. The categories enable parents, teachers, and participants to compare performances[65].

FITNESSGRAM was written using evidence-based methods to determine students' fitness and physical activity capabilities. FITNESSGRAM's assessment tests have demonstrated clinical validity in other studies of the criterion-referenced cardiorespiratory fitness (CRF) standards for youth in regards to their overall cardiovascular risk profile[65-67]. Because FITNESSGRAM is a nationwide program, the data collected from participating youth provide a vast amount of information for parents, teachers, health care providers, and policymakers to address America's youth fitness levels.

Due to its validity and ease of implementation, FITNESSGRAM has gained popularity and is used by many different groups to assess physical fitness in youth. The FITNESSGRAM test battery is used for the Presidential Youth Fitness Program, a voluntary, school-based program, which provides recognition to students who participate based on their score category[68].

FITNESSGRAM also partners with the National Football League (NFL) through the NFL Play 60 program to address childhood obesity. The NFL Play 60 program strives to engage youth in the 60 minutes of daily physical activity[4, 65]. The purpose of this program is to use the FITNESSGRAM criteria to assess and promote physical fitness and physical activity in youth[67]. The NFL enrolls schools in their franchise regions to participate in the program for multiple

years[67]. The enrolled schools receive all of the necessary equipment to complete the fitness assessments as intended[67]. With the NFL Play 60 program, youth participate in a series of the FITNESSGRAM activities and their results are assessed using the FITNESSGRAM criterion.

Youth are encouraged to engage in at least 60 minutes of vigorous-to-moderate intensity physical activity for normal growth and development to maintain a healthy body composition and reduce the likelihood of risk factors for chronic diseases[26,4]. However, various factors prevent many youth from obtaining the recommended amount of physical activity. Teenagers are at a particular risk of dropping out of sports or not engaging in physical activity compared to children or adolescents[67]. The CDC's Youth Risk Behavior Survey (YRBS) indicated in 2013 roughly 30% of middle and high school students self-reported having participated in the recommended 60 minutes of physical activity for 7 days[52]. Also, the YRBS data reveals that students in 12th grade participate in less physical activity than students in younger grades[52]. The low participation rates in physical activity are of growing concern.

Physical Fitness for Health

Physical fitness is all of the body's systems functioning together to perform daily physical activity and/or physical exercise[1]. According to Orega et al, "physical fitness is the capacity to perform physical activity and makes reference to a full range of physiological and psychological qualities[1]. Participating in physical activity enables an individual to achieve physical fitness. However, an individual must have the ability, confidence, and desire to participate in physical activity, which is physical literacy [69-71]. Cardiorespiratory fitness, muscular fitness, and speed/agility are the three health-related components of physical fitness[1].

Physical fitness for health is the ultimate goal. Children and adolescents develop the motor skills and techniques to engage in physical activity through physical literacy. Without

physical literacy, one cannot successfully participate in the physical activities, which contribute to physical fitness for life. Individuals must learn the necessary skills to be physically active and ultimately be physically fit for life. Because evidence-based test batteries are available to determine physical fitness and physical activity, these two components of health are more reliable to assess than physical literacy, which has no available validated test batteries or measurement strategies in the US.

Physical Literacy for Health

Physical literacy has gained popularity since Margaret Whitehead laid a philosophical foundation for the topic in 2001[71]. The definition and interpretation of physical literacy has evolved to meet the specific needs of programs, cultures, and countries[71]. The United Nations Educational, Scientific and Cultural Organization (UNESCO) claims, "the outcome of physical education (PE) is a physically literate young person who has the skills, confidence, and understanding to continue physical activity throughout the lifespan"[71]. Mandigo et al defines physical literacy as "the ability to move with competence and confidence in a wide variety of physical activities in multiple environments that benefit the healthy development of the whole person"[71]. In addition, Whitehead describes physical literacy as "the ability to identify, understand, interpret, create, respond effectively and communicate, using the embodied human dimension within a wide-range of situations and contexts"[71]. The Aspen Institute's definition of physical literacy is "the ability, confidence, and desire to be physically active for life"[25]. Despite variations, the definitions of physical literacy have the same foundation and aims for physical fitness.

Being physically literate is having the ability to develop the necessary skills and techniques required to participate in physical activity, which leads to a healthy lifestyle[69-71]. In contrast,

physical activity involves an individual engaging in purposeful exercises or activities for health[69-71]. An understanding of how to be physically active or how to live a healthy life outside of the constructs of school or afterschool programs is a necessary element for youth to be physically active for life[71]. Individuals must have the ability, confidence and desire to be willing and able to participate in physical activity, which is obtained through physical literacy.

Because obese youth are likely to be obese as adults, it is important to teach young children the skills for being physically active so they have the foundation to live healthy lifestyles[10, 33]. Canadian researchers developed the Long-term Athlete Development Model (LTAD) to define the specific age groups in which development occurs. For example, the fundamental movement and sport skills are developed between the ages 0-11. Youth ages 12- 19 develop physical and mental capabilities through training to train and learning to compete. The final stage is high performance sport in which adults 20 years and older train to compete and train to win competitions[33]. Physical literacy is more than exercise; it is a skill which establishes purposeful physical activity as an integral part of daily life[70]. By establishing a strong foundation in physical literacy, youth are more likely to continue being physically active throughout their lives. Physically literate youth have a greater likelihood of growing into healthy, physically fit adults than their counterparts who do not have a background knowledge of how to live a healthy life[25].

Measurement

Because physical literacy is a new concept, validated measurement tools are not yet widely available and accepted[25, 71]. Various countries have adapted the definition of physical literacy to fit their needs. Therefore, assessing physical literacy is a complex task as a global definition does not exist[72, 73]. Countries such as Canada, Wales and England have established their own methods for assessing physical literacy[72]. In contrast, the US does not yet have a test

battery or established set of criteria for assessing physical literacy among youth[25]. The Aspen Institute recommends adapting Canada's guide *Developing Physical Literacy: A Guide for Parents of Children Ages 0-12* and its associated tools for use in the US[25].

The locomotive and body skills youth develop through physical literacy include: walking, running, balance, skating/skiing, jumping, swimming, cycling, skipping, throwing, kicking, striking, catching, and trapping[33]. Through developing fundamental movement skills, youth acquire the skills to react and make decisions, which can be applied to many different situations and environments[33]. A standard set of measurements should be adapted for use in the US to enable teachers and program implementers to accurately assess physical literacy in young people.

Researchers argue that physical literacy programs and interventions should target children and adolescents ages 0-12[25, 33, 72]. It is important to teach youth physical literacy skills so they develop the skills to live a healthy life at a younger age. Younger children are at an earlier stage of motor development and the basic movement patterns developed during childhood transition to more complex skills in older children[25]. Therefore, it will be easier to teach children how to engage in certain techniques and behaviors at a basic level because the children's techniques are not fully developed.

Teens are typically not included in physical literacy studies since they are not the ideal population for evaluating physical literacy. Therefore, the components of physical literacy should be altered to be age-specific. Promoting physical literacy within teens will increase an interest in obtaining the skills to be physically active for life. According to Whitehead, physically literate individuals should demonstrate the following characteristics when participating in physical activity: motivation, skillfulness and efficiency, intelligence about the environment,

confidence, sensitivity to social context, and knowledge about the functions of physical movement[74, 75]. Motivation is a key component to physical literacy and can be incorporated into education through many methods. The five heavily researched motivation constructs for youth in grades K-12 are: achievement goals, expectancy-values, interests, self-efficacy, and self-determination[74]. Motivation enables youth to feel competent and confident in attempting the tasks and activities to develop physical literacy skills[74].

Motivating youth consists of five components: control, challenge, curiosity, creativity, and constant feedback[76]. For example, control is demonstrated through encouraging participants to try new activities but not forcing the participants. This component is particularly important for teens who are beginning to enjoy and practice independence[76]. Challenging participants through the tests at each station will ensure the participants are engaged and strive to develop new skills. The tests can be modified to ensure that all skill levels can attempt the tests[76]. Instructors and coaches should express interest in participant performance because their curiosity will motivate the participants to excel[76]. A participant's creativity in how he or she chooses to complete a task motivates him or her to try new techniques and movements[76]. Finally, constant feedback to participants about performances will motivate them to continue striving to improve[76]. Organizations should focus on motivating youth to effectively develop and promote physical literacy. Motivation and skill content should be learned simultaneously for youth to understand and internalize the importance of being physically active for life[74].

Physical Literacy in the United States

The US incorporated physical literacy into its national standards and grade level outcomes for grades K-12 physical education class in 2013[71, 77]. The Society of Health and Physical Educators, or SHAPE America, is the largest membership organization of health and physical

education professionals in the US[78]. The focus of physical education has shifted away from simply performance to include the concepts of physical literacy to teach students the skills for a lifetime of physical fitness[70, 73, 79-83].

According to the Aspen Institute, the goal of its Project PLAY is to create the conditions for American youth to be physically literate by middle school, which will enable them to develop the skills for health and fitness habits for life[25]. The Aspen Institute also recognizes that developing physical literacy is not a component of physical fitness that ceases during adolescence and can no longer be obtained[25]. Instead, it argues for programs and organizations to continue supporting individuals in developing the skills and strategies for physical literacy, which will lead to the lifelong pursuit of physical fitness.

Boys & Girls Clubs of America

Boys & Girls Clubs of America (BGCA) began in 1860 in Hartford, Connecticut when three women realized that boys who roamed the streets should have a positive alternative[32]. BGCA's mission is to enable young people, who need them most, to reach their full potential as productive, caring, responsible citizens[84]. Club members benefit from programs focusing on the following topic areas: Character and Leadership; Education and Career; Health and Life Skills, the Arts, Sports, Fitness and Recreation; and Specialized programs. The Sports, Fitness and Recreation programs aim to help Club members develop fitness, have a positive use of leisure time while in Clubs, reduce stress, and gain an appreciation for the environment and social and interpersonal skills[85].

BGCA is committed to supporting its Club members in developing the skills for lifelong health by connecting youth who have limited access to resources or opportunities with the experiences needed to grow into productive, caring, and responsible citizens[84]. Physical fitness

for health is a complex outcome for individuals to obtain, especially because it requires work and dedication. Physical fitness, physical activity and physical literacy may be influenced by various factors.

Physical activity behaviors are influenced by personal, social, and environmental factors[40]. The personal factors include an individual's biological and psychological attributes. Social factors are an individual's family, affiliation group, and work factors. The environmental factors are settings for different forms of physical activity and policy factors, which may influence the availability of settings and opportunities for physical activity[40]. Due to its position within communities across the US, BGCA is able to address various social and environmental factors, which influence a Club member's ability to engage in physical activity.

Physical literacy is influenced by one's opportunity to receive proper training and instruction on how to perform specific tasks. Environmental factors such as availability of staff or experienced adults to teach youth skills, recreational spaces and equipment will encourage an interest in engaging in physical activity. However, youth who are not able to access one or more of the mentioned environmental factors will not have the same beneficial experiences as a child who is afforded all of the opportunities.

BGCA is positioned in the community to be effective in promoting physical activity in youth because it is as an OST program[86]. BGCA's slogan, "When school's out, Clubs are in", exemplifies BGCA's role in providing relevant, necessary programs for BGCA Club members[87]. BGCA's programs are available to youth OST, which is an important time to increase physical activity in youth[7, 42, 86]. Clubs have the ability to provide Club members with the resources and environment to engage in physical activity.

Ideal versus Reality

While researchers argue of the importance to develop physical literacy before puberty, many youth are unable to access the opportunities and resources to develop physical literacy skills[33]. BGCA works with vulnerable populations who are in the most need of support and do not have access to the same opportunities as their peers from high-income families to develop physical literacy. For example, in 2014, 41% of BGCA Club members lived in a single parent household and 60% of Club members received a free or reduced lunch at school. BGCA clubs in states such as Louisiana (82%), Mississippi (88%), and Ohio (85%) with the highest percentages of Club members who receive free or reduced school lunches face multiple obstacles in regards to providing the support and services Club members in those states need[88]. Racial minorities and low-income families have a disproportionately high obesity rate, which places BGCA in a strategic location to serve these individuals because 67% of Club members are from minority families and 60% receive a free or reduced lunch at school[25, 31, 51, 88-90]. Children from low-income families are roughly half as likely to participate in sports as their peers from high-income families[25].

Because all Club members will not have the same level of physical literacy, it is important to develop appropriate activities for all skill-levels. Pre-assessments or planning may be necessary to determine which activities will be most successful and beneficial for Club members to participate in. Ensuring staff and volunteers motivate youth as they attempt and learn new skills will affect the outcomes of the activities and their success[58]. Organizations such as BGCA address the gaps in access to skills, such as developing physical literacy, when the youth are present at the Clubs.

Summary

Physical fitness for health is achieved through the combination of physical activity and physical literacy skills. Validated tests and measurements enable individuals to measure and assess a child's physical activity levels in comparison to other children in the same age and gender categories. Physical literacy is a relatively new concept developed to enhance the motivation, desire, and ability to engage in physical activity in children and adolescents. The ultimate goal of physical literacy is to establish the foundational skills, which will lead an individual to be physically active therefore creating physical fitness for life.

Despite acknowledgments that physical literacy can be developed in the teenage years, a significant gap in the literature exists for programs or strategies to develop physical literacy in teens[25, 71]. Physical literacy is intended to reach pre-pubescent children and adolescents so they have the skills to be physically fit throughout their entire lives[25, 33]. This Resource Guide for the Limited Space Model edition of the National Fitness Competition will address the access barriers to physical fitness for Club members.

Afterschool programs are positioned to have a significant impact on youth, particularly low-income youth because they are commonly members of afterschool programs[25, 50]. Therefore, BGCA, which reached 3.7 million youth in 2014, has the potential to make a meaningful impact on youth through its programs[31].

Chapter 3: Methods

This project consisted of adapting the NFC for Clubs that would not be able to host the NFC due to space and resource barriers. Creating the Resource Guide for the program involved identifying evidence-based health-related fitness tests for adolescents and teens that were consistent with the intention of the program. Also, additional exercises and tests were included in the Resource Guide to create excitement and increase interest in the program. Due to the nature of this program, special consideration of the amount of space and resources needed to complete the tests was taken into account.

Selecting the Tests

To identify the tests for the Limited Space Resource Guide, the researcher first searched databases for articles or materials assessing physical literacy in youth ages 13 to 18. Because a validated test assessment for physical literacy in youth ages 13 to 18 was not identified, physical fitness assessments were selected to be a proxy for physical literacy in youth. The researcher used the PubMed, the Cochrane Library, Science Direct, and PsycINFO databases to identify articles concerning studies or interventions using exercises or physical fitness tests which require little to no equipment. The FITNESSGRAM and ALPHA test batteries were identified as sources for evidence-based exercises due to the abundance of valid, reliable data for youth. The physical fitness exercises included in the FITNESSGRAM and ALPHA test batteries are field-based fitness tests. The ALPHA test battery is a beneficial resource for this program because the test battery is time-efficient, low in cost and equipment requirements, and can easily be administered to a large number of people at once[63]. The issues of time, cost, and ease of implementation are significantly important for BGCA Club staff members when choosing to implement this program.

FITNESSGRAM is a comprehensive fitness test battery for youth designed to include physical fitness tests, which measure the five components of health-related fitness: aerobic capacity, muscle strength, muscular endurance, flexibility, and body composition[65]. In being consistent with the Resource Guide for the NFC, the Limited Space Model seeks to assess physical fitness in Club members' aerobic capacity, muscle strength, and muscular endurance as a proxy for physical literacy. BGCA has elected not to include the fitness components flexibility and body composition in the NFC. The flexibility component was not included because evidence suggests that it is not a reliable measure of physical fitness[91, 92]. The body composition component was excluded because BGCA seeks to foster a desire to be physically active. Measuring the Club members' body composition will not instill confidence in the participants. In place of flexibility and body composition, the physical fitness components of lower body strength and motor coordination are assessed in the program's additional events.

While the ultimate goal of the NFC is to promote the development of physical literacy components in Club members, the required tests measure physical fitness levels in youth. These tests were selected to serve as a proxy for physical literacy assessments. The selected tests are the best indicators of physical health in youth because a validated, reliable test battery for assessing physical literacy is not yet available. The tests, referred to as "events" in the Resource Guide, are listed based on the fitness component that they measure and in the order of priority in which they should be implemented (see Figure 1 in Appendix A). The physical fitness tests are called "events" in the Resource Guide to promote participation and ensure the NFC retains its fun, engaging aspect. Also, to develop a more welcoming, inclusive atmosphere the score categories for each test are called a "point scale" in the Resource Guide. The health-related

physical fitness tests included in the Limited Space Model edition of the NFC serve as a proxy to measure physical literacy because a physical literacy test battery is unavailable.

Aerobic Capacity

1. 20-meter PACER Shuttle Run

FITNESSGRAM'S PACER test has been selected for this test because of the limited necessary space and equipment required to complete the test[93, 94]. The PACER shuttle run test is the gold standard for determining cardiovascular fitness in both the FITNESSGRAM and ALPHA test batteries. The PACER is a multistage fitness test adapted from the 20-meter shuttle run test[65]. The 20-meter shuttle run test enables researchers to assess cardiorespiratory fitness[63, 95]. The PACER shuttle run tests an individual's cardiovascular fitness by requiring participants to complete a specific number of shuttle runs within a time limit. Because the 20-meter PACER shuttle run is the gold standard in both test batteries, it is included in the Resource Guide as the recommended test for aerobic capacity.

2. 15-meter PACER Shuttle Run

Some Clubs may not have access to a 20-meter space such as a hallway for participants to run. FITNESSGRAM includes a 15-meter PACER shuttle run as a modified version of the 20-meter run for smaller spaces[65, 93, 95]. This exercise is included in the Resource Guide as the second recommended option for Clubs to measure members' cardiovascular fitness if a 20-meter space is unavailable.

3. Squat-up-down test

To accommodate Clubs with no space, the squat-up-down test enables Clubs to measure aerobic capacity without requiring a large space for members to run. This exercise requires participants to complete as many correct squats as possible within 30 seconds. This test was

selected because it does not require any equipment and very little space to complete. This test is the third and least recommended option for Clubs to include in their NFC. Because this exercise has limited evidence and no data available for youth, the results from the test should be interpreted with caution.

Abdominal Strength and Endurance

1. Curl-up

The curl-up exercise from FITNESSGRAM's test battery has been selected to assess abdominal strength and endurance[65]. The exercise was selected because it requires very little space and equipment. Also, curl-ups have been validated and are a reliable measure of the abdominal strength and endurance component of physical fitness[65].

2. Front Plank

This test is used to assess an individual's abdominal strength and endurance. This test was selected because it requires little to no equipment and is feasible for use in a small space. Because this exercise is simple to implement, it can easily be incorporated into stations with similar equipment requirements such as push-ups, or near a station that requires more space such as the hula-hoop station.

Upper Body Strength and Endurance

1. 90-degree Push-up

FITNESSGRAM uses the 90-degree push-up to test for upper body strength and endurance[65]. According to FITNESSGRAM, the 90-degree push-up test can be used throughout life for youth to use as a conditioning activity or to self-test[65]. Because the ultimate goal of the NFC is for BGCA Club members to develop the skills for physical literacy, the push-up test is relevant and applicable to this program. Also, this test requires little space and no equipment.

The reliability of this test depends significantly on how the test is administered and who is counting scores[65]. Therefore, it will be necessary for Club staff to teach Club members and volunteers how to properly perform and count a push-up.

Lower Body Strength

1. Broad Jump

The broad jump test is included in the ALPHA test battery to measure musculoskeletal fitness and lower body explosive strength[63]. It was selected for this Resource Guide because it is easy to implement, measure, and encourage participation. Allowing multiple attempts has the potential to generate healthy competitions with oneself or with other Club members.

2. Standing Vertical Jump

The standing vertical jump test is used to assess explosive strength and endurance strength[1]. This test requires little space to complete but it does require some equipment. The test is feasible for use in BGCA Clubs. Also, it is a method to encourage youth to develop lower body strength[1].

3. Forward Lunges

This exercise was chosen for the Limited Space Model Resource Guide because it requires no equipment, is easy to teach, and is beneficial for preventing injuries[96, 97]. Lunges are an exercise that Club members can learn to perform throughout their life. It is an exercise that can be completed in many different situations, such as standing in line at an amusement park or while watching television. Because the purpose of the NFC program is to encourage physical literacy, this exercise was selected due to its applicability and feasibility for the program.

Motor Coordination

1. 4x10-meter Shuttle Run

This test was selected because it is a validated, reliable test from the ALPHA test battery to assess coordination[63]. Although the test requires a large enough space to complete, the distance is shorter than the PACER shuttle run distances and it is feasible to implement in a Club.

2. Sport Stacking

The Sport Stacking test is included in the NFC Resource Guide and because it requires little space, it is also included in the Limited Space Model adaption of the NFC. This test excites the participants and promotes participation in the NFC. Also, participants strive to improve their scores consistently so this test fosters physical literacy since individuals have the desire to participate and the confidence to attempt the test multiple times. Sport Stacking is a recognized sport that improves aerobic capacity and motor skills such as hand-eye coordination[98, 99].

3. Hula-Hoop

The Hula Hoop test is included in the NFC Resource Guide and because it requires little space, it is also included in the Limited Space Model adaption of the NFC. This test generates excitement and promotes participation. This test has been included as a fun method to encourage Club members to try new things and demonstrate that exercise has many different forms.

Modifying the Tests

Aerobic Capacity

1. 20-meter PACER Shuttle Run

FITNESSGRAM holds that aerobic capacity is one of the most important components of a fitness program so it offers three different test versions to evaluate aerobic capacity[65]. The 20-

meter PACER shuttle run test has been slightly modified for use in BGCA Clubs due to feasibility and cost purposes. For example, Clubs will not be given or required to purchase the FITNESSGRAM PACER CD that establishes the pace at which participants should complete each shuttle run[65, 100]. Instead of using the timed CD, Club staff will be required to keep time and use a whistle for the number of beeps that would sound on the CD. Also, it is possible to download applications onto a cell phone or smart device, which mimic the cadence of the FITNESSGRAM PACER CD. Therefore, Clubs can use the application to set the pace instead of keeping time. For the FITNESSGRAM test, the participant's height and weight are required for scoring to calculate the individual's aerobic capacity[65]. However, this is required for the test in BGCA Clubs due to feasibility and cost. Also, BGCA will not provide Clubs with scales to accurately measure the participant's weight.

2. 15-meter PACER Shuttle Run

Because FITNESSGRAM developed the 15-meter version of the PACER test, few modifications have occurred for use in BGCA Clubs. The revisions for this test are consistent with the revisions for the 20-meter PACER test. For example, BGCA Clubs will not be required to purchase or be given the FITNESSGRAM CD to administer the test due to cost. However, they are encouraged to download an application, which has the PACER CD's cadence. Also, the scoring system for use in BGCA Clubs has been revised from the FITNESSGRAM methods.

3. Squat-up-down test

The squat-up-down test, for the cardiovascular component of the Resource Guide has been modified from the study in which it was identified. For example, in the original test, participants sit quietly for five minutes before taking the test. The participants' heart rate is re-measured immediately after and 45 seconds after completing the test[101]. Using an equation to

determine the absolute recovery heart rate index, the participant receives a score based on this number[101]. It is not feasible for Club staff to take heart rates before the tests because they need to be properly trained to measure a heart rate using the counting method. Also, it would be too difficult for one person to calculate the participants' heart rate if many participants are completing the test simultaneously. Club members may not develop the self-efficacy to improve their scores if they do not understand how the scores are determined. To be consistent with the other tests, three point scales were developed for Club members to evaluate their performance.

Abdominal Strength and Endurance

1. Curl-up

FITNESSGRAM's curl-up exercise consists of having the participant lie on his or her back with knees bent so the feet are flat on the ground. With the individual's hands on the ground by his or her side, a measuring strip is placed at the individual's fingertips. To complete the curl-up, the participant curls up slowly until the fingertips reach the other side of the measuring tape. A partner helps to count the number of curl-ups the participant completes[65]. This curl-up method is not conducive for use in BGCA Clubs because it is too costly to provide each of the more than 4,100 clubs with a measuring tape. Therefore, this fitness test has been modified to require Club members to place their hands across their chest touching their opposite shoulders keeping their elbows close to their chest[102].

2. Front Plank

The front plank test included in the Limited Space Model Resource Guide does not have any modifications from other front, or prone, plank exercises[102].

Upper Body Strength and Endurance

1. 90-degree Push-up

The push-up test included in the Limited Space Model Resource Guide does not have any modifications from the FITNESSGRAM test battery.

Lower Body Strength

1. Broad Jump

This test was slightly modified from the original ALPHA test battery. To encourage participation, the Club members are allowed and encouraged to complete the test more than once. Being able to complete the test more than once will contribute to Club members' desire to complete the test, a component of physical literacy. Another modification is that the distance jumped is measured in inches instead of centimeters, as in the ALPHA test battery. The inch measurement was used because it is a measurement individuals are familiar with and is easy for participants to interpret.

2. Standing Vertical Jump

This test has been slightly revised for use in the NFC Resource Guide. For example, participants are allowed one practice attempt and one attempt to complete the test. Participants are allowed and encouraged to complete the test more than once to further develop the desire to engage in physical activity. Also, the original test measures the distance in centimeters, which has been modified to inches to be more feasible for implementation purposes[103].

3. Forward Lunges

The forward lunges test included in the Limited Space Model Resource Guide does not have any modifications from the identified studies[96, 97].

Motor Coordination

1. 4x10-meter Shuttle Run

The 4x10-meter shuttle run test included in the Limited Space Model Resource Guide does not have any modifications from the ALPHA test battery.

2. Sport Stacking

The official rules have several variations of ways to compete by building different pyramids[104]. The rules for this test have been slightly modified to reflect the fact that the cups used for this test are jumbo-size. The official Sport Stacking rules will not apply to this test since the cups used for the NFC are larger than the cups used during official Sport Stacking competitions.

3. Hula-Hoop

The instructions for the hula hoop test do not have any modifications from the identified studies of this exercise[105, 106]. In addition, studies of the association of hula-hooping and health use weighted hula-hoops. Due to cost, the hula-hoops provided to BGCA Clubs are not weighted.

Developing a Score System

Aerobic Capacity

1. 20-meter PACER Shuttle Run

FITNESSGRAM provides a list of the number of completed shuttle runs the participant must complete to be categorized in the 'Healthy Fitness Zone' based on the participant's age[65]. FITNESSGRAM includes a score chart of three zones for the number of an event completed[65, 94]. Age-specific scores provide an accurate result for each individual and enable Club members and

staff to compare the results. However, this Resource Guide will not require age-specific scores due to the feasibility for Club staff to record and report the information.

This score category has been developed based on the number of recommended completed curl-ups for ages 13-18 in FITNESSGRAM's test battery[65]. The NFC program will enable Club members to see their performances in an easy, three-category scoring system. It will promote participation and self-efficacy because Club members will see which score category they and other Club members are in. The score categories were chosen using score averages for teens ages 13-18 based on performance averages of FITNESSGRAM's three Health-Related Fitness Zones for the PACER test[65, 94, 100, 107].

2. 15-meter PACER Shuttle Run

The same methods for developing the score categories for the 20-meter Shuttle Run test were applied to the 15-meter adaption.

3. Squat-up-down Test

Three score categories selected for the squat-up-down test are designed to be consistent with the scoring system of other tests in the Resource Guide. The scoring system was revised from its original scale due to results from the pilot test at the Keystone Conference. The study in which this test was identified included 30 college males as the study participants[101]. Therefore, the results from this test are not appropriate for interpretation of participation in Club members ages 13-18. The results from this test should be interpreted with extreme caution because this test was not designed based on a standardized test battery for youth ages 13-18. Thus, the 20-meter PACER shuttle run is the recommended test for determining aerobic capacity in Club members.

Abdominal Strength and Endurance

1. Curl-up

FITNESSGRAM provides a list of the number of curl-ups the participant should complete to be in the Healthy Fitness Zone[65]. FITNESSGRAM specifies the number of curl-ups, which should be completed based on the participant's age[65]. The age-specific scores provide an accurate result for each participant. While age-specific scores for the curl-up results are ideal, it is not feasible in a Club setting. Overburdening staff with multiple score category sheets and information would hinder the program's success. Therefore, the scoring system has been developed based on the number of recommended completed curl-ups for ages 13-18 in FITNESSGRAM's three Health-Related Fitness Zones[65, 94, 103, 108, 109]. This program will enable Club members to see their performances in an easy, three-category scoring system. It will promote participation and self-efficacy because it enables Club members to compare their score categories.

2. Front Plank

The three score categories for this test were determined using information for teens ages 13-18 based on performance averages from other front plank tests[102, 110, 111]. Originally, the intention was for the tests in the Resource Guide to be completed within 60 seconds. The point scales were divided into three 20-second intervals. The pilot test of the Limited Space Model at the 2016 National Keystone Conference revealed that this score range was not accurate. Most of the participants were able to maintain the front plank position for longer than the maximum 60 seconds. Therefore, the score categories were modified using previously researched data and data collected at the 2016 National Keystone Conference[111].

Upper Body Strength and Endurance

1. Push-up

The three-category scoring system was developed based on the number of recommended completed push-ups for ages 13-18 in FITNESSGRAM's three Health-Related Fitness Zones[65, 94, 103, 108]. This program will enable Club members to see their performances and promote participation and self-efficacy because Club members will see their score category and how they compare to other Club members.

Lower Body Strength

1. Broad Jump

The three-category scoring system for this test was determined using score averages for teens ages 13-18 based on performance averages from other tests[95, 103, 109]. The ranges for the distances were converted from centimeters to inches. The intention behind having the scores recorded in inches is that individuals, particularly the youth participants, are familiar with the measurement. Also, measuring in inches is less of a burden on the staff member or volunteer recording the distances because the measurements are larger and generally easier to read on a tape measure.

2. Standing Vertical Jump

The three-category scoring system for this test was determined using score averages for teens ages 13-18 based on performance averages from other tests[95, 103, 109]. The score categories for this test have also been converted from the original centimeters to inches. The intention for converting the measurements is consistent with the reasons for converting the measurements to inches for the broad jump. Youth and staff members are most likely to be familiar with inches. Also, measuring in inches will make implementing this test more feasible for the Club

environment. It will be easier for volunteers and Club staff monitoring the station to read the participants' results quickly.

3. Forward Lunges

Because evidence-based, validated scores for the number of forward lunges teens in this age group should complete in 60 seconds was not identified, the score categories were determined using a sample of BGCA staff to complete the task at the National Headquarters. Therefore, the results from this test should be interpreted with caution when assessing Club members' performance.

Motor Coordination

1. 4x10-meter Shuttle Run

The score categories for this test were determined using the reference values for the 4x10-meter shuttle run test in the ALPHA test battery[63]. The score categories are not large intervals because the reference values in the ALPHA test battery indicate that more than 13.0 seconds for boys and 13.9 seconds for girls are very low times. The participants should run as fast as possible so low score times in the score categories indicate that they must push themselves to obtain the highest score.

2. Sport Stacking

The three score categories for the Limited Space Model of the NFC were determined using reported scores from the Speed Stack records[112]. However, time scores for teens using jumbo-size stacking cups are not available. Therefore, the scores were originally divided into three ranges of 20-seconds each. However, the pilot test of the Limited Space Model at the 2016 National Keystone Conference revealed that this score range was not accurate. The participants

were able to build the stacks much faster than originally anticipated so the score categories were revised to reflect the scores participants obtained at the conference.

3. Hula-Hoop

The three score categories for this test were determined assuming that a participant would complete at least one rotation per second. The identified studies do not have information about how many rotations teens ages 13-18 should successfully complete in 60 seconds. Also, the studies measure the amount of time the study participants were able to swing the hula-hoop, not the number of rotations[105, 106]. Therefore, based on data collected at the Keystone Conference, the score categories have been revised to be more reflective of Club members' performance.

Completing the Tests

The priority for completing the tests is for all Clubs to host the three required tests. As Tables 1 and 2 in Appendix A demonstrate, various options are available for implementing the tests in Clubs. If a Club is unable to implement the first option of a test, additional options are available. However, the required tests (aerobic capacity test, curl-ups, and push-ups) must be implemented for data collection purposes. The additional tests are included in the Resource Guide to provide additional exercises and activities to promote participation, excitement, and the development of additional skills. The additional tests are not included in future data collection, only the three required tests. While the additional tests are not necessary, Clubs are encouraged to incorporate them into their NFC to ensure the Club members are able to experience a variety of different exercises and movements. It is also important to ensure that the Club members are excited and have fun while participating in the NFC. Table 3 provides an overview of all of the tests in the Limited Space Model Resource Guide.

The Pilot Test

Pilot testing the selected tests at BGCA's 2016 National Keystone Conference in Dallas, Texas provided informative results for the Resource Guide. Before the conference, BGCA developed a cell phone application, called the Keystone App. While at the conference, teens received participation points based on the number of conference activities in which they participated. At the end of the conference, grand prizes were awarded to the top 50 participants with the most points. Other methods of obtaining points while at the conference included: attending breakout sessions, posting pictures on social media and completing surveys about their Club experiences. The NFC was the only Conference event that the teens could participate in multiple times to receive points.

The test stations for the NFC were setup for two days in two locations at the hotel where the conference was being held. The following tests were selected for evaluation at the Keystone Conference: curl-ups, push-ups, front plank, up-down squats, forward lunges, sport stack, hula-hoop, and broad jump. Unfortunately, the vertical jump test was not included because several pieces of the slapstick measuring equipment were lost during shipping. Also, the hotel would not permit taping a measuring stick or marked piece of tape to a wall, which is the recommended setup for Clubs.

Day 1

The morning of the first day of the conference, eight NFC stations were set up. The test stations were divided evenly in two large foyers. One foyer was outside of the Registration area and had the Sport Stacking, Broad Jump, Hula-Hoop, and Forward Lunges tests. The other foyer was outside of the Games Room, which had arcade type games. This area had the Curl-ups, Push-ups, Front Plank, and Up-down Squat Challenge tests. The stations were

set up so the Curl-up and Push-up tests were in one area and could be combined. This was beneficial due to the lack of volunteers and the fact that some participants wanted to complete push-ups while others wanted to complete curl-ups. Because both tests had a 60 second time limit, participants could complete both stations with one volunteer managing the station. Both of the areas where the NFC stations were setup had high amounts of traffic.

By the afternoon, the number of volunteers significantly decreased, only three volunteers were able to work the NFC stations. Therefore, four stations were set up so Club members only participated in the Curl-ups, Push-ups, Front Plank and Up-down Squat Test. After dinner, the stations were swapped so participants could complete the Sport Stacking, Broad Jump, Hula-Hoop, and Forward Lunges tests. Because teens had many options for activities at the conference, this time did not see as many NFC participants as in the morning. Also, many of the members who completed the tests at this time did the same tests multiple times, particularly the Sport Stack and Broad Jump tests.

Day 2

The following day, only four NFC stations were set up from 8:00 am to 8:45 am. The stations included: Curl-ups, Push-ups, Front Plank, and the Squat-up-down test. During this time, six volunteers managed the stations. Due to information collected during Day 1, the score ranges for the Sport Stacking and Front Plank tests were modified to be more representative of the conference participants' performances. The Sport Stacking score ranges for males and females were changed from Orange: 1-20 seconds to 1-3.5 seconds, Blue: 21-40 seconds to 3.6- 7 seconds, and Green: 41+ seconds to 7+ seconds. The Front Plank score ranges were revised in the following manner: Orange: 60+ seconds to 76+ seconds, Blue: 30-59 seconds to 46- 75 seconds and Green: 1-29 seconds to 1-45 seconds.

Because breakfast was being served, the conference participants were reluctant to participate. However, the foyer where the NFC stations were setup also served as the location where participants had to line up to enter the large general session. Therefore, volunteers were able to recruit participants who were standing in line.

The NFC stations were setup again in the evening from 8:00 pm to 10:00 pm. The conference participants learned at the morning general session that this was the last opportunity to earn points to win the grand prizes for participation. Therefore, a significant amount of teens participated in the NFC tests, doing the same tests multiple times.

Data Collection

For the purposes of this Special Studies Project, information about the individuals who participated in the NFC tests was collected to evaluate the reliability of the score categories and to identify the participants' ages to refine strategies to encourage participation for males and females of all ages. Because some of the Limited Space Model score categories were determined based on adult data, the reliability and accuracy of the score categories for the teens required evaluation. The researcher created tables for the volunteers to complete once the participants finished the tests. The volunteers were asked to collect information regarding the participants' gender, age and the individual's score for the test. Due to the way the information was collected, it is impossible to know which individuals completed the test more than once, which affects the interpretation of the results.

The data collected during this pilot test has several limitations. Roughly 2,500 BGCA Club members attended the 2016 Keystone Conference. Because the number of participants and little volunteer support frequently overwhelmed the volunteers, recording the data on all of the participants became unrealistic. Also, some of the recorded data was incomplete. Data with

missing variables has been excluded from the analysis. If a participant was greater than 19 years of age, the data was not recorded because this Resource Guide is for BGCA Club members ages 13-18. Another issue with the data collection is that some of the participants did not perform the tests accurately. Also, inconsistency in measuring the results generated discrepancies. For example, some of the volunteers recorded the broad jump distance to the nearest half-inch whereas others rounded up to the nearest inch.

Chapter 4: Results

The Limited Space Model adaption of the NFC seeks to promote physical fitness for life by engaging BGCA Club members in physical activities. The ultimate goal of the program is to develop physical literacy in Club members of all ages. Because a test battery for physical literacy does not yet exist, this Resource Guide serves as an alternative. The Limited Space Model Resource Guide consists of tests that measure the physical fitness levels of the participants as a proxy for physical literacy.

The Resource Guide

To adapt a Limited Space Model edition of the NFC, physical fitness tests, which were feasible to implement in a Club with limited access to space and resources, were identified using evidence-based test batteries and studies of physical fitness. The Resource Guide for the Limited Space Model is written to include the adaptations of the NFC. The tests were prioritized based on the physical fitness for health components and the ease of implementation (See Figure 1 in Appendix A). For example, aerobic capacity, muscle strength, and muscular endurance are the physical fitness for health components prioritized in the NFC. Therefore, the tests for each of the health-related components are required for Club members to complete. However, seven additional tests, which are not required, are included in the Limited Space Model Resource Guide to create excitement and interest in the program.

Due to the nature of the Limited Space Model, the space and resource barriers were significant characteristics in determining the most feasible tests for this Resource Guide. For example, the 20-meter PACER shuttle run was identified as the best option to measure aerobic capacity because it requires little space and is a validated test.

While developing the Resource Guide, some tests were identified as being feasible and relevant to this program but they were ultimately not included. For example, the Harvard Step Test was identified to measure aerobic capacity. While access to a stair, or step, is a realistic resource for Clubs to obtain, the test was not included in the Resource Guide because validated Harvard Step Test results for youth ages 13-18 is unavailable.

The burpee exercise was identified as a potential test for the Resource Guide. This exercise requires no equipment and can be completed in a small space. However, like the Harvard Step Test, validated results for interpretation in youth ages 13-18 are unavailable.

The Limited Space Model Resource Guide includes tests for the three priority areas of measurement, aerobic capacity, muscle strength, and muscular endurance and additional tests to create excitement and interest in the program. The Resource Guide is written for Club staff to use to implement the program with fidelity. The Resource Guide enables Club staff to use various options to setup the NFC, suggestions on how to improve participation, templates to promote media engagement and resources for the day of the event. Increasing the components of physical literacy in Club members is the ultimate goal of the NFC program. The physical fitness tests in this Resource Guide serve as proxy indicators for participants' physical literacy levels.

Pilot Test Analysis

Based on the pilot test results, the Limited Space Model adaption of the NFC is a feasible, engaging program that will excite BGCA Club members. The data collected from each test at the Keystone Conference provided information about the number of participants, their age and gender, and actual score. Obtaining the participants' actual scores for the tests was imperative to understand if the score categories were correct. The figures discussed in this analysis can be found in Appendix A.

Aerobic Capacity

1. 20-meter PACER Shuttle Run

This test was not included at the pilot test.

2. 15-meter PACER Shuttle Run

This test was not included at the pilot test.

3. Squat-up-down Test

As seen in Figure 4, the highest number of participants for this test were females ages 16-18. Males did not participate in this test as much as they did in other tests. The low participation rate in males indicates that it is important to encourage participation. Figure 5A reveals the score category distribution of the participants for the two days of the NFC pilot test. The graphs for males and females are skewed right, revealing that most of the participants scored within the highest range, 21 or more squats, for the number of completed squats. Also, no participants scored within the lowest range of 1-10 squats. Figure 5B is a boxplot of the scores for the participants. The distribution is fairly consistent with the median slightly less than 30. The females ages 16-18 have two outliers in the scores and the males ages 16-18 have one outlier.

Abdominal Strength and Endurance

1. Curl-up

As seen in Figure 4, more teens ages 16-18 participated in this test than those ages 13-15. The frequency of male and female participation is evenly distributed. Figure 6A reveals the score category distribution for age and gender of the participants. The FITNESSGRAM test battery provided the score category ranges for the curl-up test; therefore, the ranges are from validated measurements. The distribution for the score categories in male participants is skewed right, indicating that most of male participants completed more than 55 curl-ups. The score category

distribution for females is fairly normal. Figure 6A demonstrates that most of the female participants completed 30-44 curl-ups. Figure 6B is a boxplot of the actual curl-ups the participants completed. The boxplots reveal that the median score for females ages 13-15 is slightly less than females ages 16-18. Also, the minimum and maximum values are slightly less than the older females. The males have the same median value for the number of curl-ups completed. However, the older males were able to complete more curl-ups in 60 seconds than the younger males. The boxplot for males ages 13-15 has one outlier.

2. Front Plank

As seen in Figure 4, teens ages 16-18 account for the highest amount of participants in this test. The distribution of participants by gender indicates that roughly an equal number of males and females participated. After the first day of the pilot test, it was evident that the three score categories were inaccurate. As demonstrated by Figure 7A, the results are skewed right, most of the participants were able to hold the front plank position for 60 seconds or more. Figure 7C is a boxplot of the test scores for the front plank test. The boxplot reveals that the majority of the participants were able to complete the test in 60 seconds. The boxplot for females ages 13-15 has an outlier who held the position for 92 seconds. The boxplot for males ages 13-15 has two outliers who held the position for 15 and 20 seconds. Females ages 16-18 had more individuals who held the front plank position for less time than their other participants. All males ages 16-18 held the position for 60 seconds.

To account for the inaccuracy, the score categories were revised on the second day of the pilot test. The highest score category changed from 60 seconds or more to 76 seconds or more. Figure 7B reflects the results of the pilot test after the score categories were revised. The histogram for the score categories for males is skewed right. Figure 7D demonstrates the scores

for the second day of the test. Despite the revisions, teens in both age groups were able to hold the front plank position for the maximum amount of 76 seconds or more. However, the results should be interpreted with caution because participation was very low the second day of the pilot test. While the histogram for female participants is skewed left, only four females participated in the test.

Upper Body Strength and Endurance

1. 90-degree Push-up

As seen in Figure 4, teens ages 16-18 participated in this test more than teens ages 13-15. Also, males participated in this test more than females. The lower participation rate for females demonstrates that it is important for Clubs to encourage female participation and confidence in completing this test. The histograms for males and females in Figure 8A are skewed right, revealing that male participants completed more than 40 push-ups and females completed more than 20 push-ups. The score distribution in Figure 8B demonstrates the importance of including gender-specific scores. The distributions of the gender-specific boxplots are similar despite the different age categories.

Lower Body Strength

1. Broad Jump

As seen in Figure 4, teens ages 16-18 participated in this test more than teens ages 13-15. Males participated in the test more than females, particularly in teens ages 13-15. Figure 9A reveals that the score category histogram for males is skewed right. The histogram for females has a normal distribution. Figure 9B contains boxplots of the scores for the broad jump test. The boxplots reveal that gender-specific score categories are necessary for this test due to differences in the gender-specific boxplots. The females have roughly the same median for both age groups

while the older females have more distribution of the scores. Figure 9B demonstrates that age-specific score categories are necessary, particularly for males. The younger males have a lower median and did not jump as far as the older males. However, the graph contains two outliers in the younger male boxplot.

2. Standing Vertical Jump

This test was not included at the pilot test.

3. Forward Lunges

Figure 4 reveals teens ages 16-18 participated in this test more than teens ages 13-15. The distribution between males and females is fairly even. Also, this test had the least amount of participation during the Conference. Figure 10A demonstrates that the distribution of the number of forward lunges completed for males is skewed left. The distribution of completed lunges for females is normal; however, a small number of females participated in this test so the results must be interpreted with caution. Figure 10B contains the age and gender-specific score results for the forward lunges test. The results demonstrate that females were roughly consistent despite age differences in completing the same number of forward lunges. The boxplots for males are different. The median value is higher for males ages 13-15 than males ages 16-18. One outlier exists for males ages 16-18 which is slightly greater than the maximum value of the boxplot for males ages 13-15.

Motor Coordination

1. 4x10-meter Shuttle Run

This test was not included at the pilot test.

2. Sport Stacking

Figure 4 demonstrates that this test had the second highest participation rate. Also, Figure 4 shows that teens ages 16-18 completed the test more than teens ages 13-15. When examining the gender distribution within the age ranges, more males ages 13-15 completed the test compared to their female counterparts. In contrast, more females ages 16-18 completed the test compared to their male counterparts. Figure 11A describes the results from the first day of the pilot test. Both of the histograms are skewed right indicating that most participants were able to complete the test within one to 20 seconds. The male histogram demonstrates a relatively equal participation in both age groups. In contrast, older females were more likely to participate in the test than younger females. Figure 11C demonstrates the distribution of the participants' scores. It is evident that the scores are primarily under 10 seconds. Each boxplot has at least one outlier. The boxplots reveal that age and gender-specific score categories are not necessary for this test.

Due to the score category inaccuracy, the score categories were revised on the second day to be more indicative of the time scores the teens had obtained the previous day. The score categories were revised from Orange: 1-20 seconds to 1-3.5 seconds, Blue: 21- 40 seconds to 3.6-7 seconds and Green: 41 or more seconds to 7+ seconds. Figure 11B demonstrates a normal distribution for males completing the Sport Stacking test on the second day. The histogram for females has no participants who scored in the 1-3.5 second range. Figure 11D reveals that the test scores for the second day are similarly distributed for the four boxplots. The older age teens have two outliers for both males and females.

3. Hula-Hoop

Figure 4 demonstrates that the Hula-Hoop test had the greatest amount of participation at the Keystone Conference, particularly females ages 16-18. Males ages 13-15 participated in this

test more than their female counterparts. The histograms in Figure 12A for males and females are both skewed right, indicating that most of the participants were able to complete 90 or more hula-hoop rotations in 60 seconds. Figure 12B demonstrates the scores for the hula-hoop test. The median for the boxplots is between 90 and 120 rotations. The boxplots have a wide distribution, which indicates that the scores vary significantly among the participants. Also, the boxplot for males ages 16-18 has seven outliers.

Chapter 5: Discussion

Resource Guide

The Resource Guide for the Limited Space Model is an adaption of the NFC, which will enable Clubs with space and resource barriers to host the NFC. The tests for the Limited Space Model of the NFC are different from those in the NFC because they can be completed in small spaces with little to no equipment. The Limited Space Model of the program will create excitement and interest in engaging in physical activity and fitness for life.

While participating in this program, Club members will learn how to perform exercises, which will enable them to be physically active for life. After the Club members graduate from the Club, they can continue to perform the tests they learn in the Limited Space Model of the NFC. For example, tests such as push-ups or curl-ups can be done while on a coffee break at a place of employment or in a small apartment.

This Resource Guide will eventually achieve the ultimate goal of physical literacy in Club members due to the selected tests. Establishing the desire, confidence, and motivation to remain physically active for life is possible through the Limited Space Model of the NFC.

Pilot Test

The pilot test of the Limited Space Model of the NFC demonstrated the feasibility of implementing the program in Clubs with limited resources and space. It was not possible to pilot all of the tests at the Keystone Conference but the pilot test provided valuable information about the program itself. The appropriate number of volunteers to assist in managing each station is necessary to ensure quality control in that the tests are completed accurately. This pilot test revealed that the NFC program will promote components of physical literacy because many teens participated in the tests multiple times and had the desire and motivation to participate in

the tests. Finally, the pilot test indicated that it is necessary to have age and gender-specific score categories for the curl-ups, push-ups, and broad jump tests.

Strengths

The purpose of this project was to adapt the NFC for use in BGCA Clubs that have limited space options to complete the NFC program. The Limited Space Model is an adaption of the NFC specifically for teens. The Resource Guide developed for the Limited Space Model of the NFC will enable Club members to develop the components of physical literacy. The pilot test demonstrated that the tests selected for the Limited Space Model serve as proxy tests for physical literacy. The tests in the Resource Guide measure physical fitness and promote aspects of physical literacy[25, 33]. Therefore, the success of the pilot test demonstrates that the Resource Guide serves as a test battery to assess physical activity as a proxy for physical literacy in BGCA Club members in a limited resource setting.

Another strength is that the pilot test provided valuable incite about the NFC program. The pilot test enabled the researcher to test the feasibility of selected tests. The issues revealed during the pilot test such as the need for the appropriate number of volunteers and quality control issues would not have been realized without the pilot test. Due to issues identified during the pilot test, the Resource Guide was modified to account for implementation and scoring discrepancies. The pilot test also demonstrated that the Limited Space Model Resource Guide serves as a proxy to test physical literacy in BGCA Club members. The test battery listed in the Resource Guide consists of tests to assess physical activity[65, 91, 92, 101]. The pilot test revealed that the physical activity tests served as proxy tests for physical literacy because they promote components of physical literacy. For example, participants had the desire, motivation, and confidence to complete the tests, which are components of physical literacy. The push-ups, speed

stacking, and broad jump tests were most successful in promoting physical literacy components in the participants because participants frequently returned to participate in the tests. The Limited Space Model of the NFC will achieve the intention of instilling interest and confidence in participating in physical activity in Club members.

Another strength is that this Resource Guide consists of evidence-based score categories for the tests[65]. The score categories of some of the tests were evaluated in the pilot test. Revisions to the evaluated score categories have made the ranges reflective of the performance of Club members at the Keystone Conference.

The Resource Guide developed for the Limited Space Model of the NFC is a test battery that assesses health-related physical fitness as a proxy for physical literacy. The program will create excitement and interest in physical activity and fitness through its tests and score categories.

Limitations

Despite its success, the pilot test revealed several limitations in the NFC program. First, the lack of volunteers to assist in managing each station significantly affected the success of this program. Volunteers were unable to manage multiple stations simultaneously. To ensure the program is successful, it is necessary to have at least one volunteer at each test station. If more volunteers had assisted in running the NFC program during the pilot test, more tests would have been available for teens to participate in and more teens would have participated in the program.

The data collection during the pilot test was limited due to the number of volunteers. Because the participants frequently outnumbered the volunteers, collecting data on each of the test participants was difficult. After participants finished a test, the volunteer recorded their information on the sheet then allowed the participants to scan the QR code to collect their

participation points based on their score. Participants frequently crowded the volunteer wanting to collect their points. Therefore, some data was not collected or was incomplete due to the environment and distributing the correct number of points.

Another limitation is that the scores obtained from the pilot test at the Keystone Conference are not representative of all teen Club members. In an effort to encourage participation, the NFC program was the only event at the Conference that the teens were able to participate in multiple times. Therefore, the Conference attendees who were the most motivated to obtain participation points to win the prizes completed the NFC tests multiple times. The tests were voluntary so the participants in the NFC were more likely to be physically fit, which may skew the results. Because participants completed the tests multiple times, familiarity with the tests enabled some participants to improve their scores. Due to the data collection methods, the researcher is unable to determine which participants completed the tests more than once. Also, the data reveals that older teens participated in the NFC tests more than younger teens at the Keystone Conference. This may have occurred because Clubs encouraged older teens to attend the conference more than the younger teens. As a result, the scores from the pilot test are not representative of all Club teens ages 13-18 since the participants were typically older teens.

Quality control due to the lack of volunteers is another limitation. The tests were not always completed with the correct form, which enabled participants to score higher than if they had completed the tests properly. Therefore, the results are not representative of the physical fitness levels of Club members.

Recommendations

One recommendation for the future of this program is in regards to the Keystone Conference application, or App. During the pilot, the teens knew volunteers recorded the specific

amount scored for each test. The competitive participants frequently returned to inquire how they ranked in comparison with other participants. Also, they wanted to know the highest score for specific tests. Obtaining the specific number of times an individual is able to complete a test was beneficial in encouraging participation and friendly competition. The Keystone App was developed to track the teens' participation for all of the events available at the Conference. Therefore, the App did not enable Club members to see their individual scores in the tests or others' scores for the NFC. In further developing the App for the NFC, it would be beneficial to include the score categories and the actual scores for each test a participant completes. In addition to encouraging the desire to score more points, Club members would know the exact number of curl-ups, for example, they completed during the first round of the NFC. Knowing the exact amount of a test they needed to complete in order to improve would enable them to set realistic and attainable goals for the next NFC event.

The current App also does not promote a sustained use of physical activity, which is the purpose of the NFC. Including self-monitoring features on the App would enable participants to continue thinking about their lifestyle choices after the NFC. For example, being able to record personal bests and routine behaviors will help to reinforce physical literacy in Club members and the goal of being physically fit for life. The App should remain constantly active, not just at the time of the event, to promote and reinforce healthy lifestyles in Club members.

Also, creating a website to record scores to supplement the App is crucial in the success of using technology to support the NFC. Using QR codes to record the NFC scores at the Keystone Conference was not as successful as expected. Issues recording scores during the pilot test included: poor cell phone service or Internet connection and having a cell phone. Individuals without a cell phone could have used a friend's cell phone to log in to their own account and

record their information. However, many of the Conference attendees did not want to use a friend's cell phone. Therefore, a website linked to the App would enable all Club members to record their scores.

To improve the quality control of the tests, it is important to have at least one volunteer at each station who is properly trained. This will ensure the participants are actually scoring within the validated score range and performing the tests properly. Although the tests do not require partners, it would be beneficial to have partners to ensure the teens complete the test properly. Partnering teens will reduce the amount of equipment, such as mechanical counters, needed for certain tests. For example, at the push-ups station have one partner hold his or her hands at the same height of the participant's elbows to ensure that the participant actually bends his or her elbows to 90-degrees. Partnering the participants will reduce the burden on the volunteer managing a station and ensure that individuals are engaged in the test.

Public Health and Policy Implications

The Limited Space Model adaption of the NFC serves as proxy to assess physical literacy in BGCA Club members and enables all Club members to engage in physical activity. Through the physical activities included in the Resource Guide, Club members will develop a stronger interest to engage in physical activity. This program promotes the development of components of physical literacy in Club members because it encourages them to have the desire, confidence, and motivation to participate in physical activity. The exercises in the Limited Space Model Resource Guide can enable youth to engage in physical fitness for life because they will learn how to complete the exercises, which require little-to-no space and/or equipment. BGCA's goal of promoting a "Culture of Wellness" is exemplified through the NFC because it provides teens with the knowledge of how to participate in physical activity for life.

If Club member performance data is collected properly in baseline and follow-up assessments, Clubs can use the information to better target programs for their members. For example, collecting baseline and follow-up assessments will enable Clubs to identify high-risk youth who consistently score in lower score categories. Clubs can use the information of those who consistently score in the lower categories to further explore why the youth are in those categories. Programs can be developed to specifically target individuals in need of additional knowledge and resources. For example, programs to teach youth about the importance of a healthy diet or how to cook healthy meals will provide Club members with the knowledge of how to engage in a healthy lifestyle for life.

In addition to providing targeted programs, the data collected in this program can be used to compare BGCA Club members' fitness levels to other youth health fitness assessment tools such as school-based or the FITNESSGRAM results. Collecting data through this program is an additional source of data that reveals information about youth health in the US. For the data collected in this program to be comparable to data from other sources, it is necessary for the program to be implemented with fidelity and for the participants' scores to be accurately recorded. This Resource Guide provides a mechanism for BGCA Clubs to assess Club members' health and use the information collected through the program to provide targeted programs for its members.

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Appendix A: Figures

Figure 1: Limited Space Model Required Tests Priority of Implementation

	Option 1	**Option 2**	**Option 3**
Aerobic Capacity	20-meter PACER Shuttle Run	15-meter PACER Shuttle Run	Squat-up-down test
Abdominal Strength and Endurance	Curl-up	Front Plank	-----
Upper Body Strength and Endurance	90-degree Push-up	-----	-----

Figure 2: Limited Space Model Additional Tests Priority of Implementation

	Option 1	**Option 2**	**Option 3**
Lower Body Strength	Broad Jump	Standing Vertical Jump	Forward Lunges
Motor Coordination	4x10-meter Shuttle Run	Sport Stacking	Hula-Hoop

Figure 3: Limited Space Model Tests Description

	FITNESS COMPONENT	INCLUDES DATA FOR INTERPRETING A RELATIONSHIP TO HEALTH	SOURCE POPULATION AGE RANGE	REASONS TO INCLUDE	REQUIRED IN RESOURCE GUIDE	SOURCE/ TEST BATTERY
PACER 20-meter Shuttle Run	Aerobic Capacity	Yes	13-17	To assess cardiorespiratory fitness	Yes	FITNESSGRAM
PACER 15-meter Shuttle Run	Aerobic Capacity	Yes	13-17	To assess cardiorespiratory fitness	Depends- if best option to measure aerobic capacity	FITNESSGRAM
Squat-up-down test	Aerobic Capacity	Yes	Mean age of 20.3 years +/- 0.2 (Males only, 30 participants)	To assess cardiorespiratory fitness; requires no equipment and little space	Depends- if best option to measure aerobic capacity	Yuan et al Study *Not a standard test battery
Curl-Up	Abdominal Strength and Endurance	Yes	13-17	Builds and measures abdominal strength and endurance, including shoulder stability and core and hip flexor strength; requires no equipment and little space	Yes	FITNESSGRAM
Front Plank	Abdominal Strength and Endurance	Yes	9-14	To assess trunk muscular endurance; requires no equipment and little space	No	Allen et al Study *Not a standard test battery
90-degree Push-Up	Upper Body Strength and Endurance	Yes	13-17	Builds and tests upper-body strength and endurance; requires no equipment and little space	Yes	FITNESSGRAM

Broad Jump	Lower Body Explosive Strength	Yes	13-17	To measure lower body explosive strength	No	ALPHA
Standing Vertical Jump	Lower Body Explosive Strength	Yes	6-17	A fun way to measure lower body explosive strength, promotes muscular fitness and health	No	Castro-Piñero et al Study *Not a standard test battery
Forward Lunges	Lower Body Strength and Endurance	Yes	17- 20 (Males only)	To promote lower body strength and injury prevention; requires no equipment and little space	No	Escamilla et al & Jonhagen et al Studies *Not a standard test battery
4x10-meter Shuttle Run Challenge	Motor fitness	Yes	13-17	To measure speed of movement, agility and coordination.	No	ALPHA
Sport Stacking	Motor fitness	Yes	Mean age of 11 years +/- 1.6 (25 participants)	A fun way to develop fine motor skills and increase energy expenditure	No	Speed Stacks, Inc. *Not a standard test battery
Hula-Hoop Challenge	Abdominal Strength and Endurance	No	30-60 (Females only)	A fun way to engage youth in an abdominal strength and endurance exercise	No	McGill et al Study *Not a standard test battery

Figure 4: Number of Participants for NFC Tests

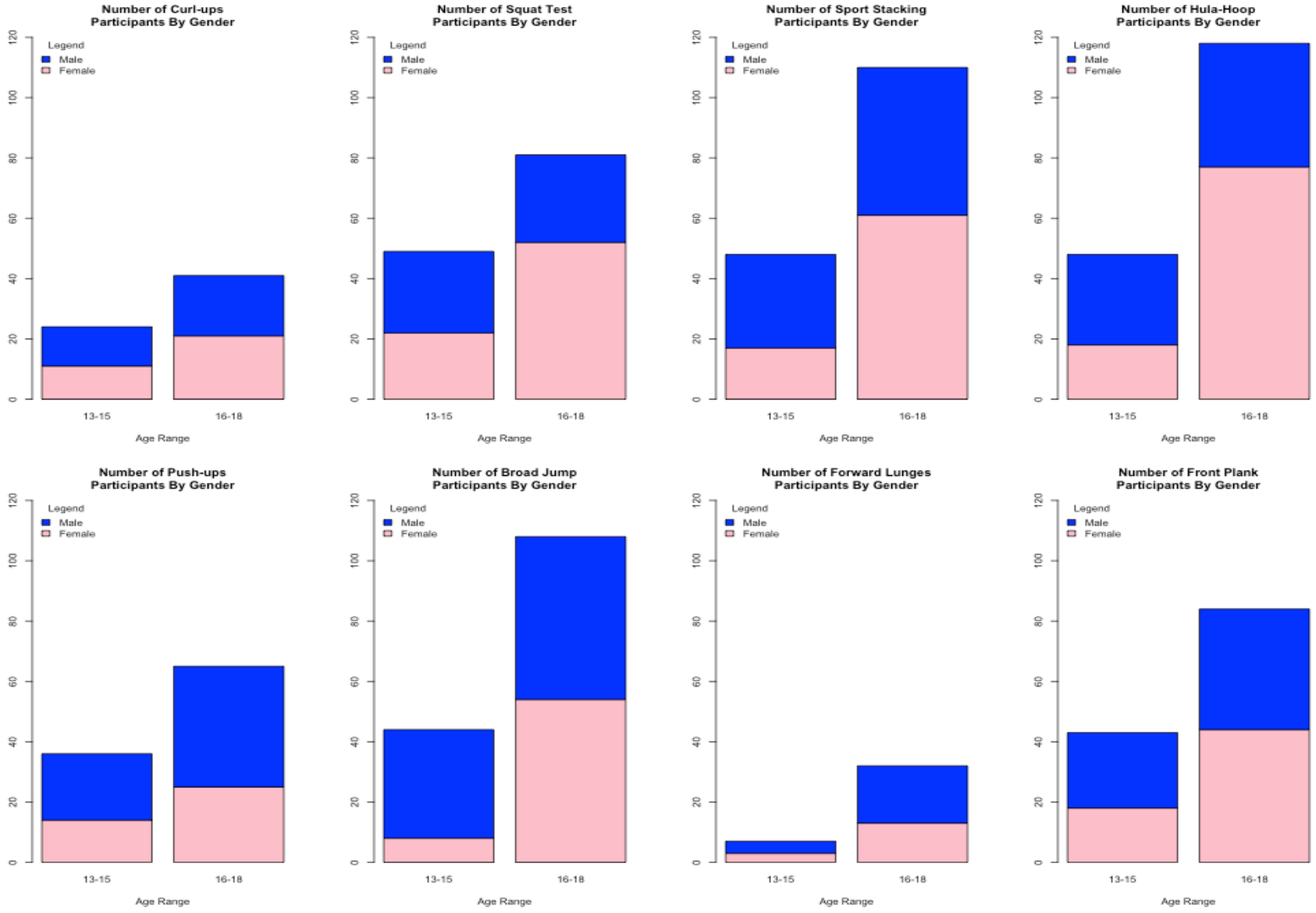


Figure 5A: Squat-up-down Test

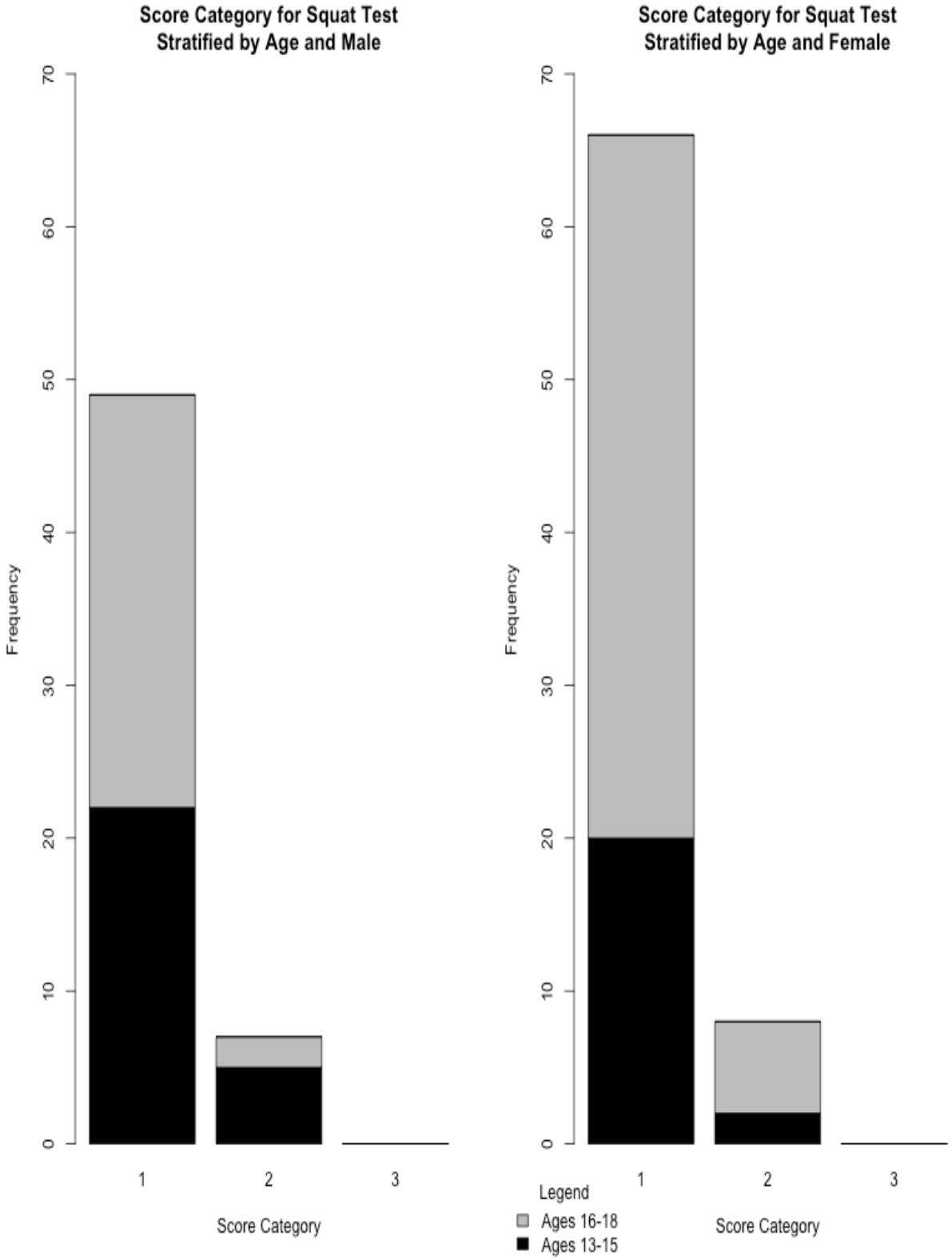


Figure 5B: Squat Test Scores

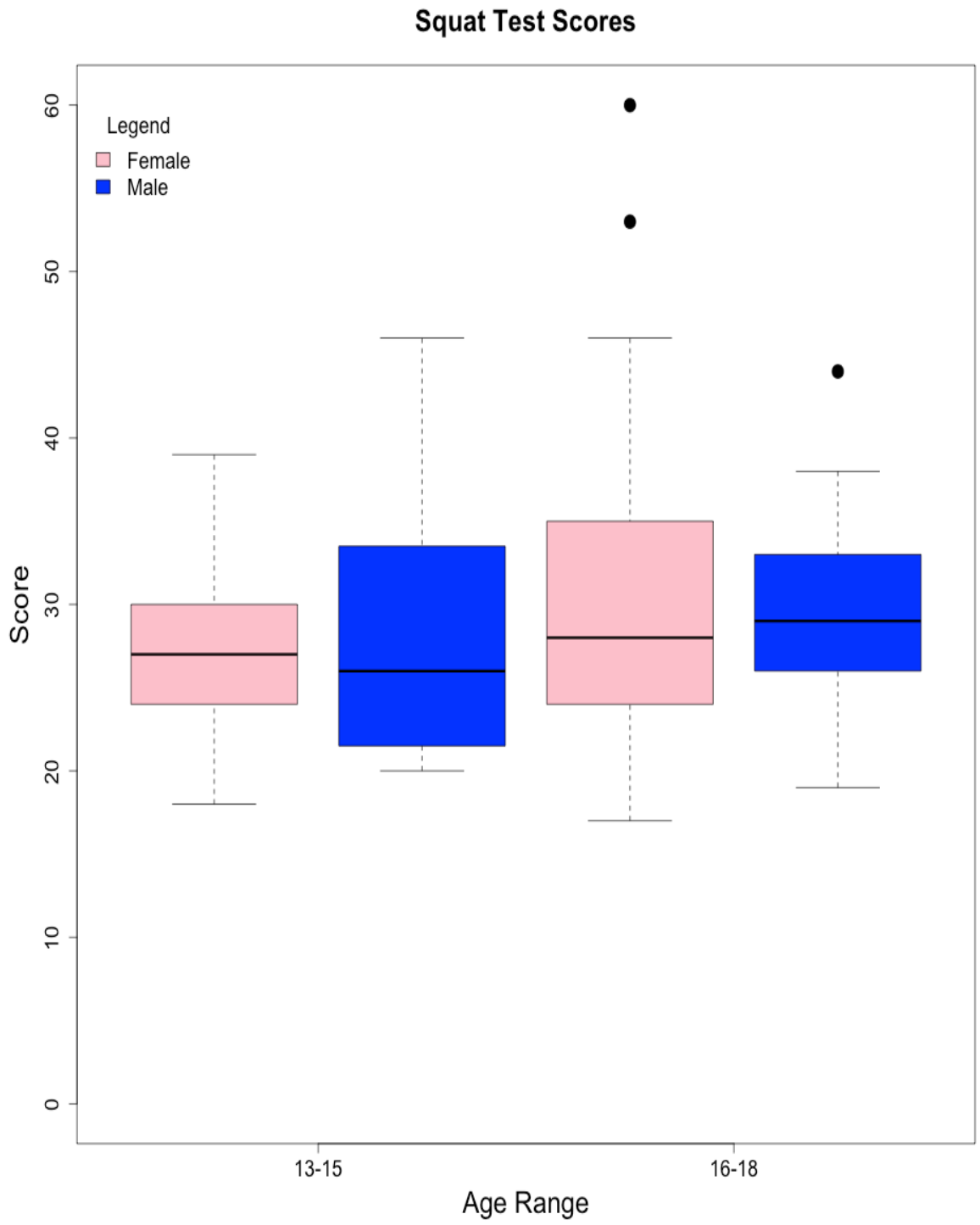


Figure 6A: Curl-ups

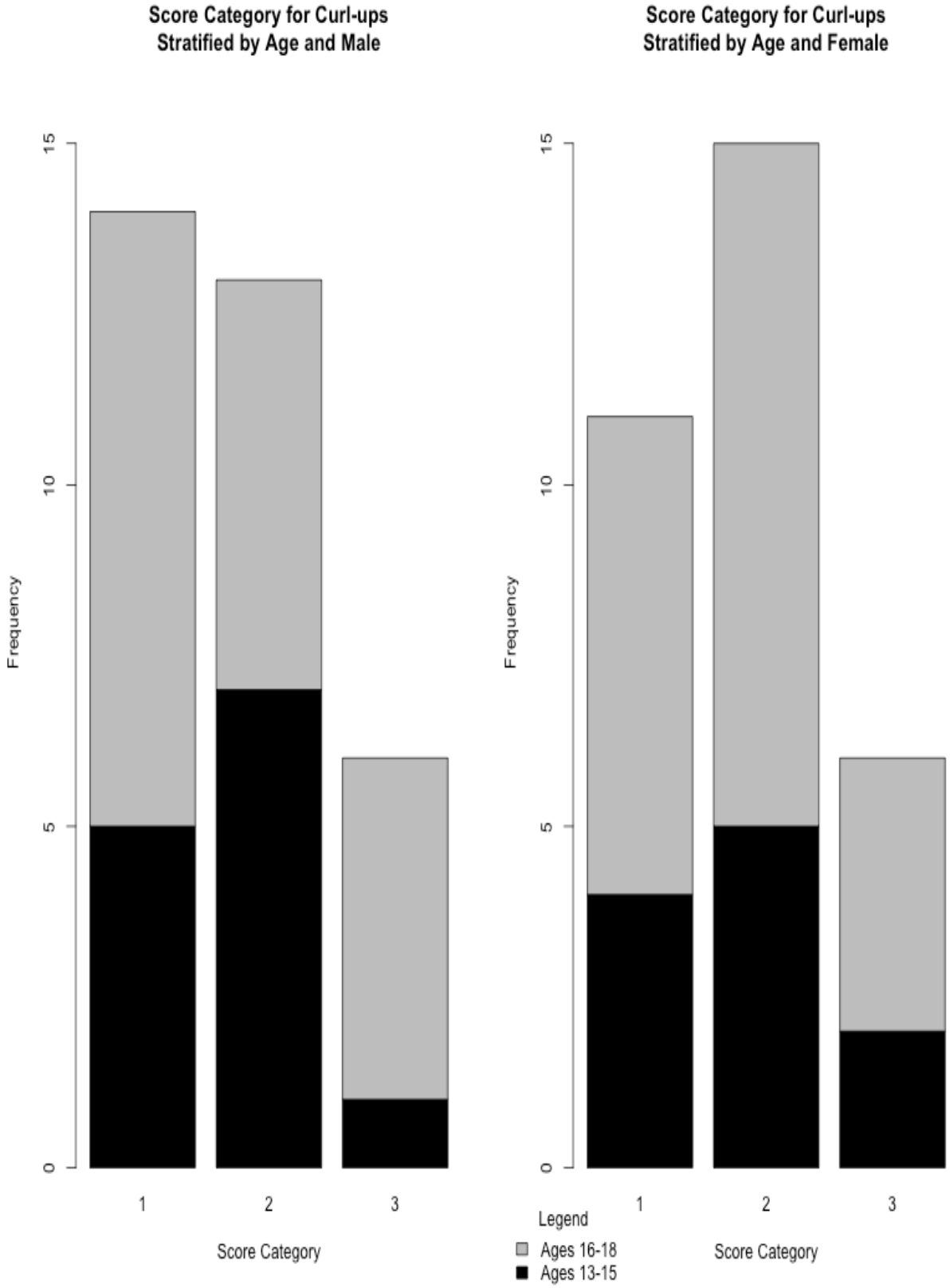


Figure 6B: Curl-up Test Scores

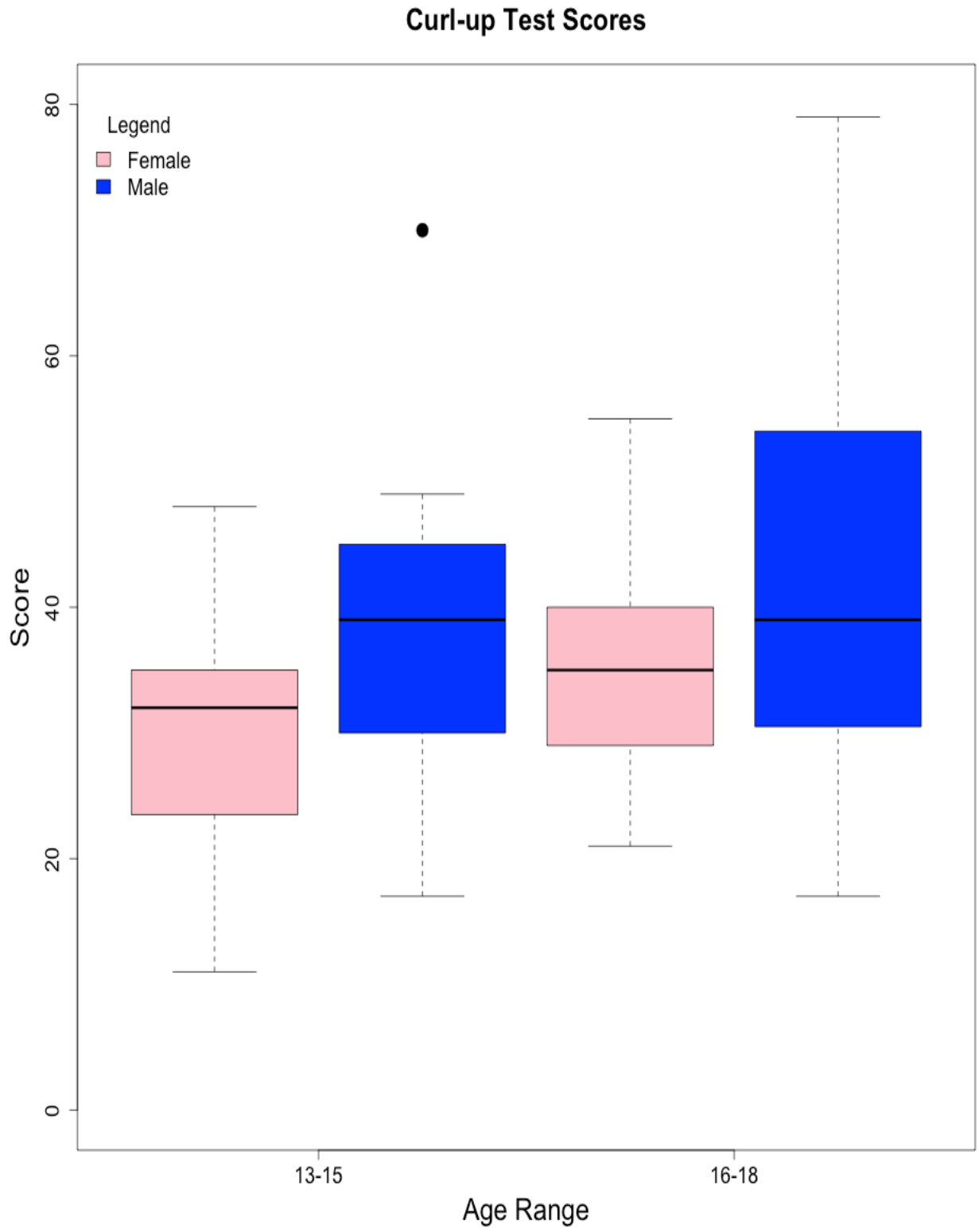


Figure 7A: Front Plank- Day 1

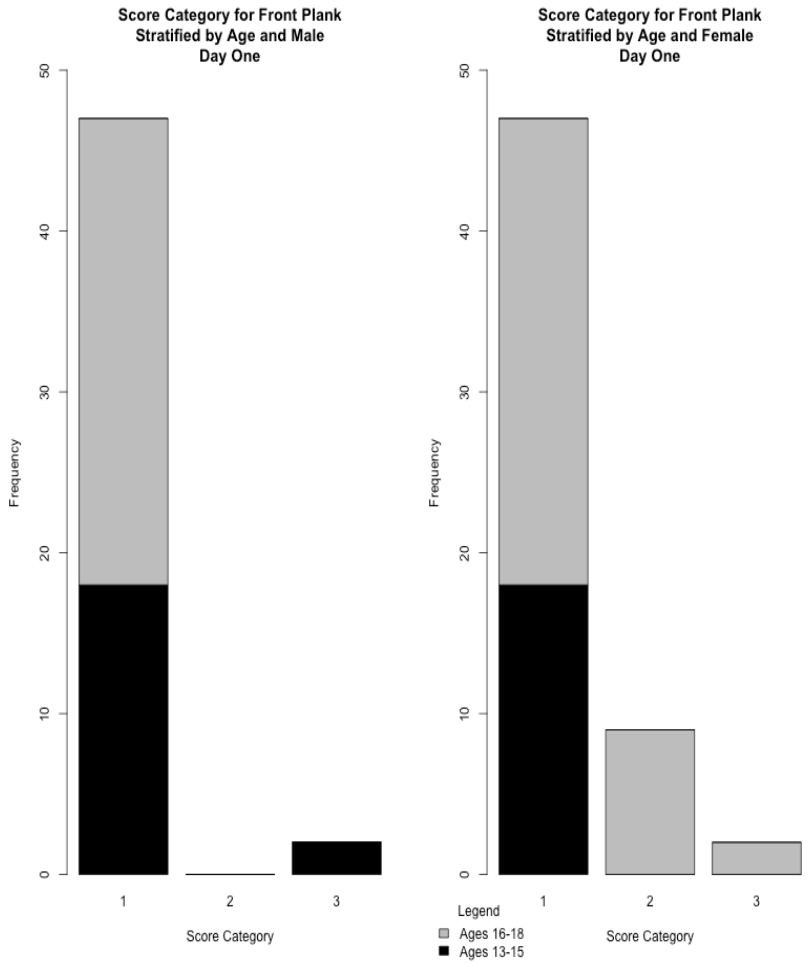
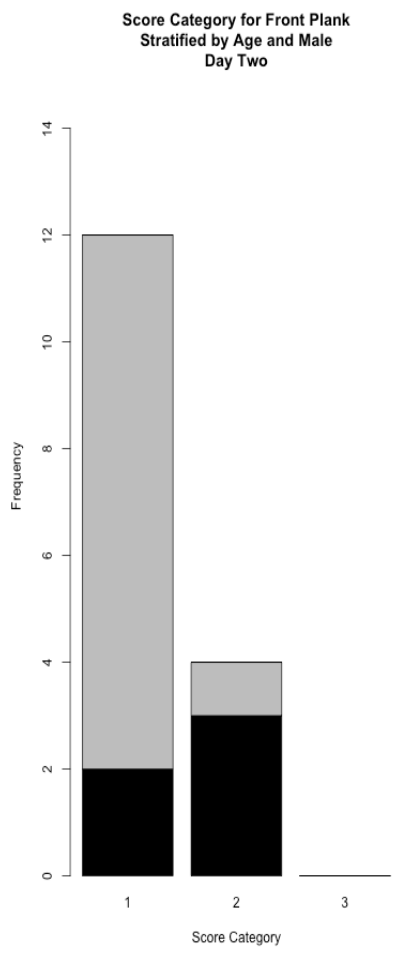


Figure 7B: Front Plank- Day 2



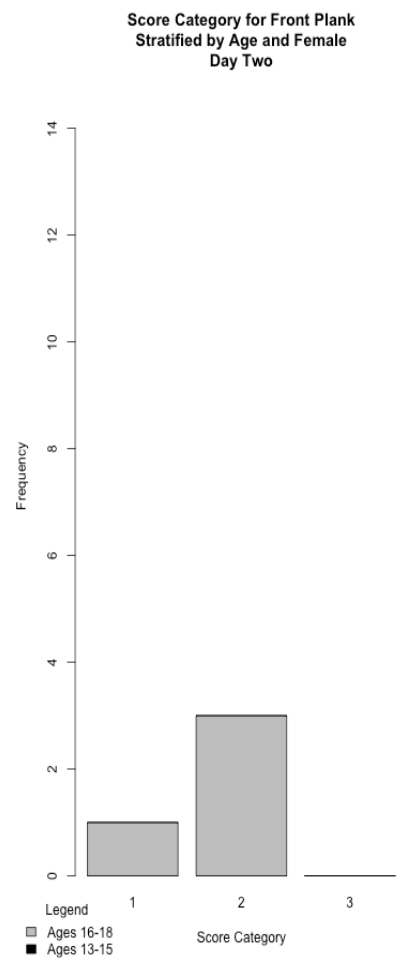


Figure 7C: Front Plank Test Scores for Day 1

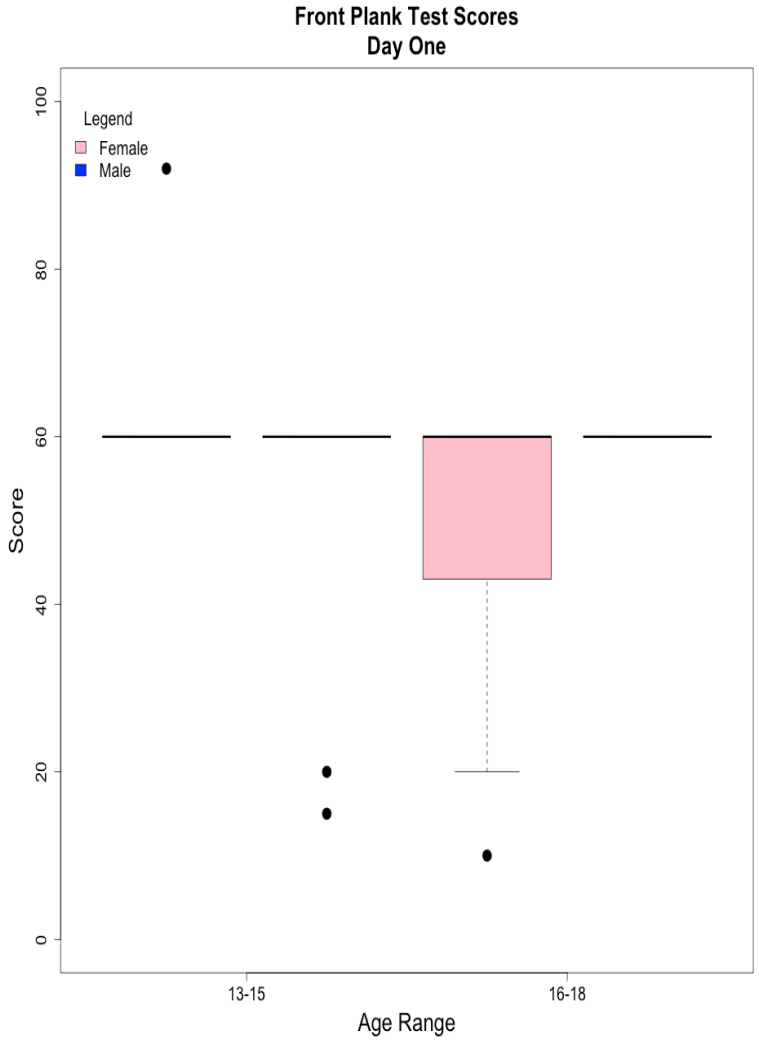


Figure 7D: Front Plank Test Scores for Day 2

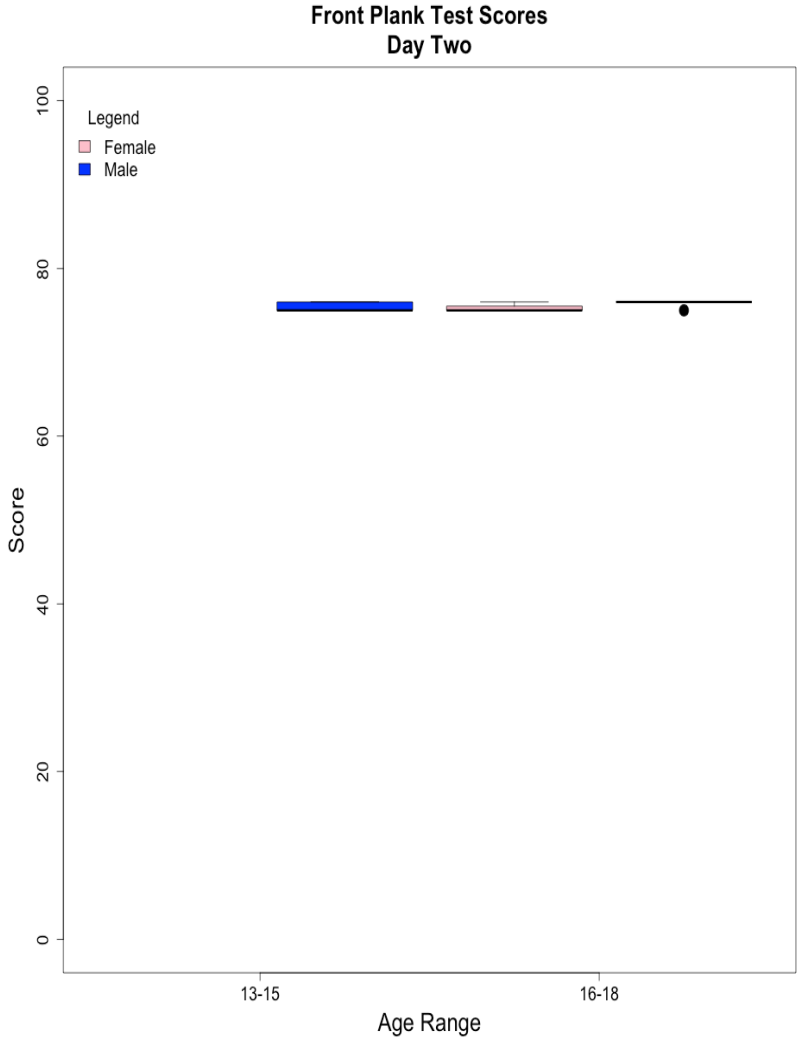


Figure 8A: Push-up

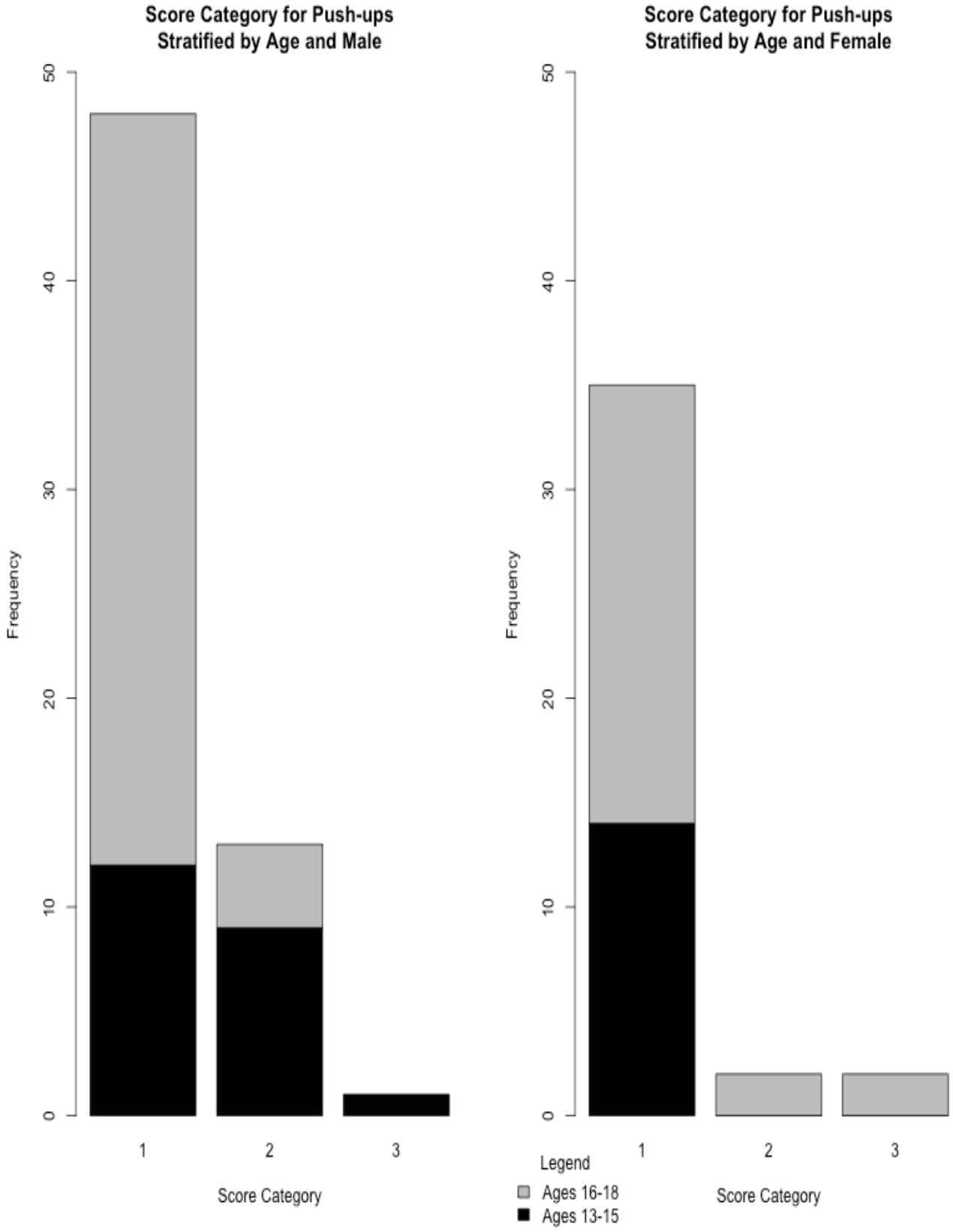


Figure 8B: Push-up Test Scores

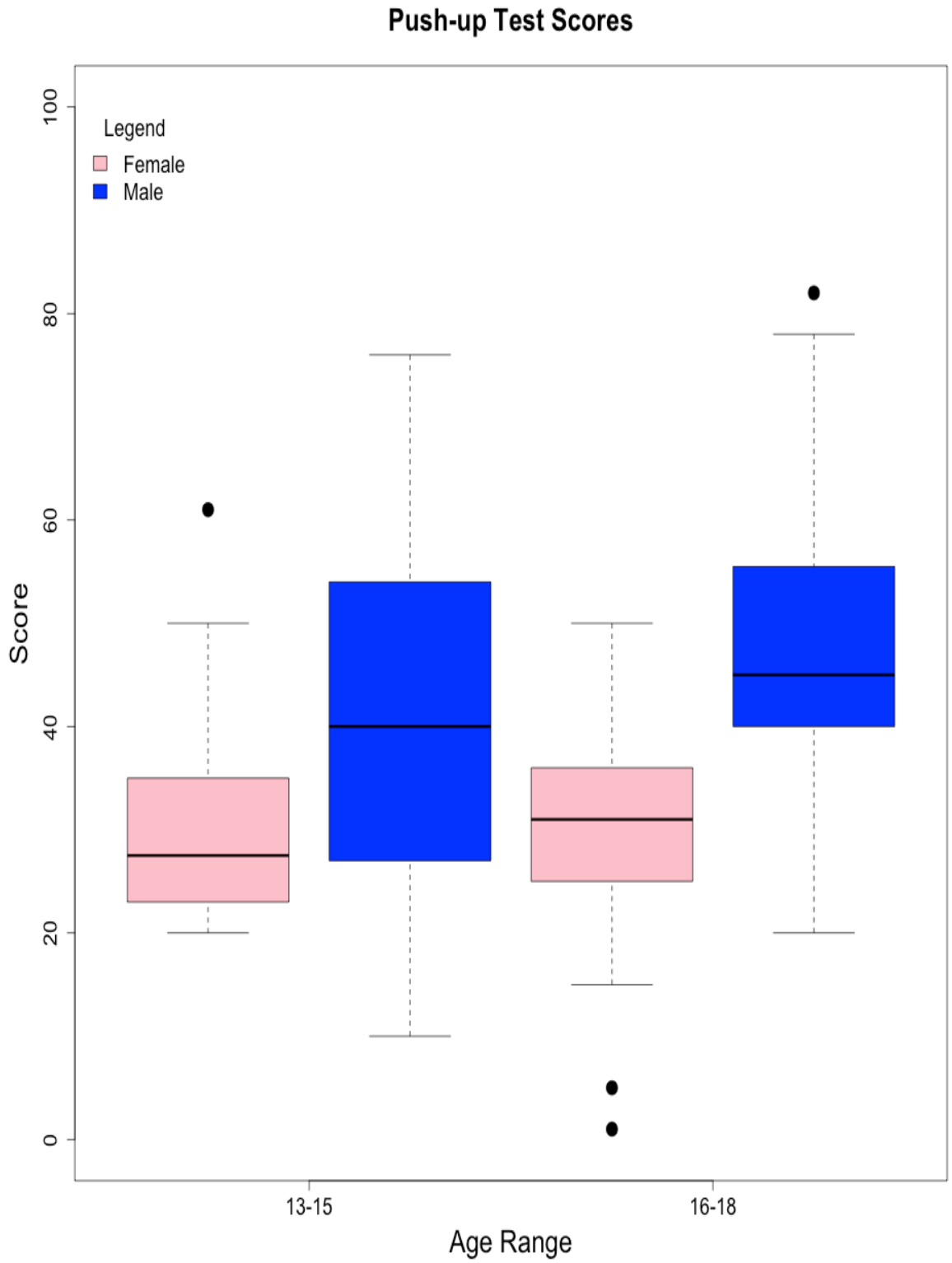


Figure 9A: Broad Jump

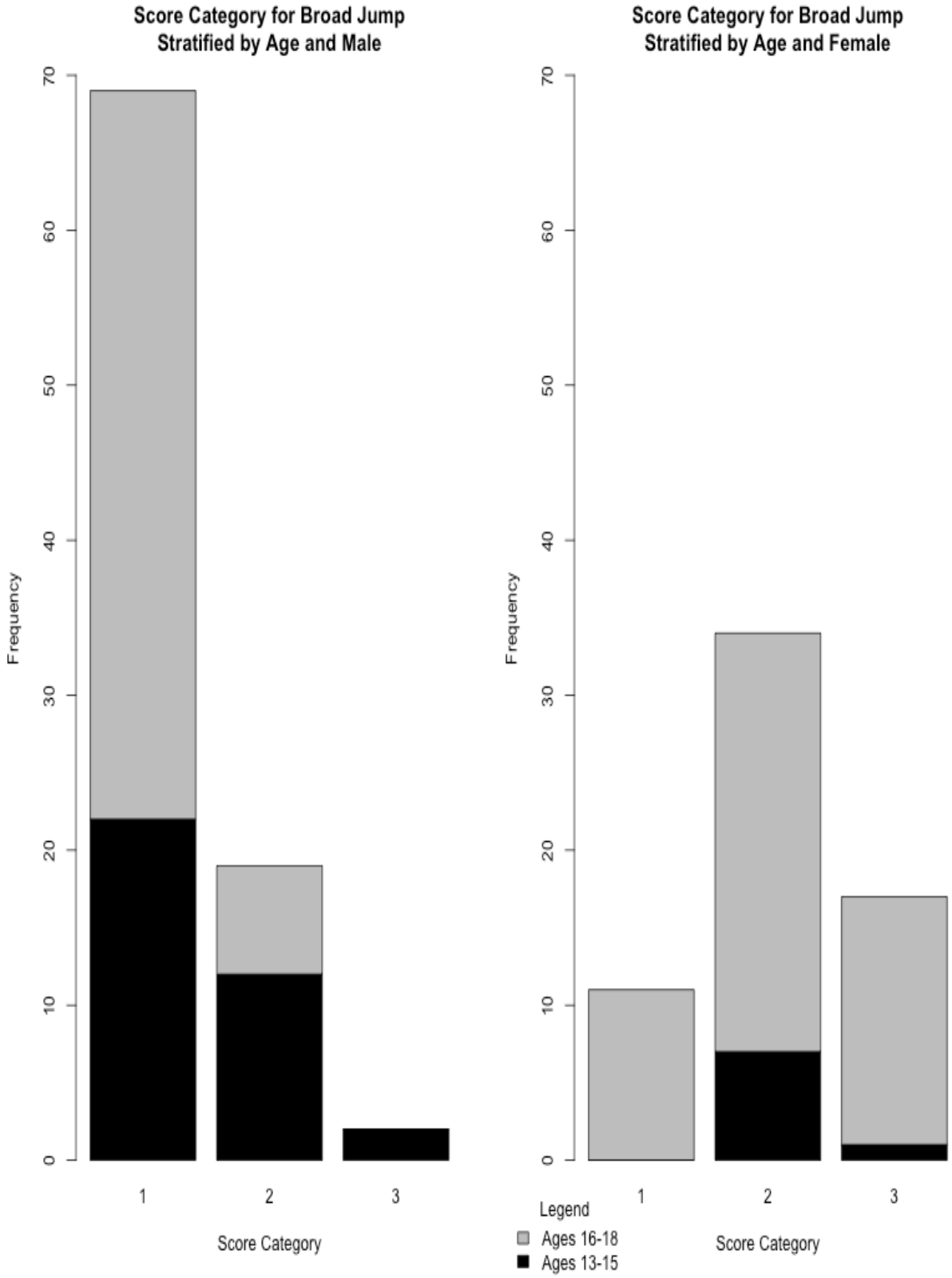


Figure 9B: Broad Jump Test Scores

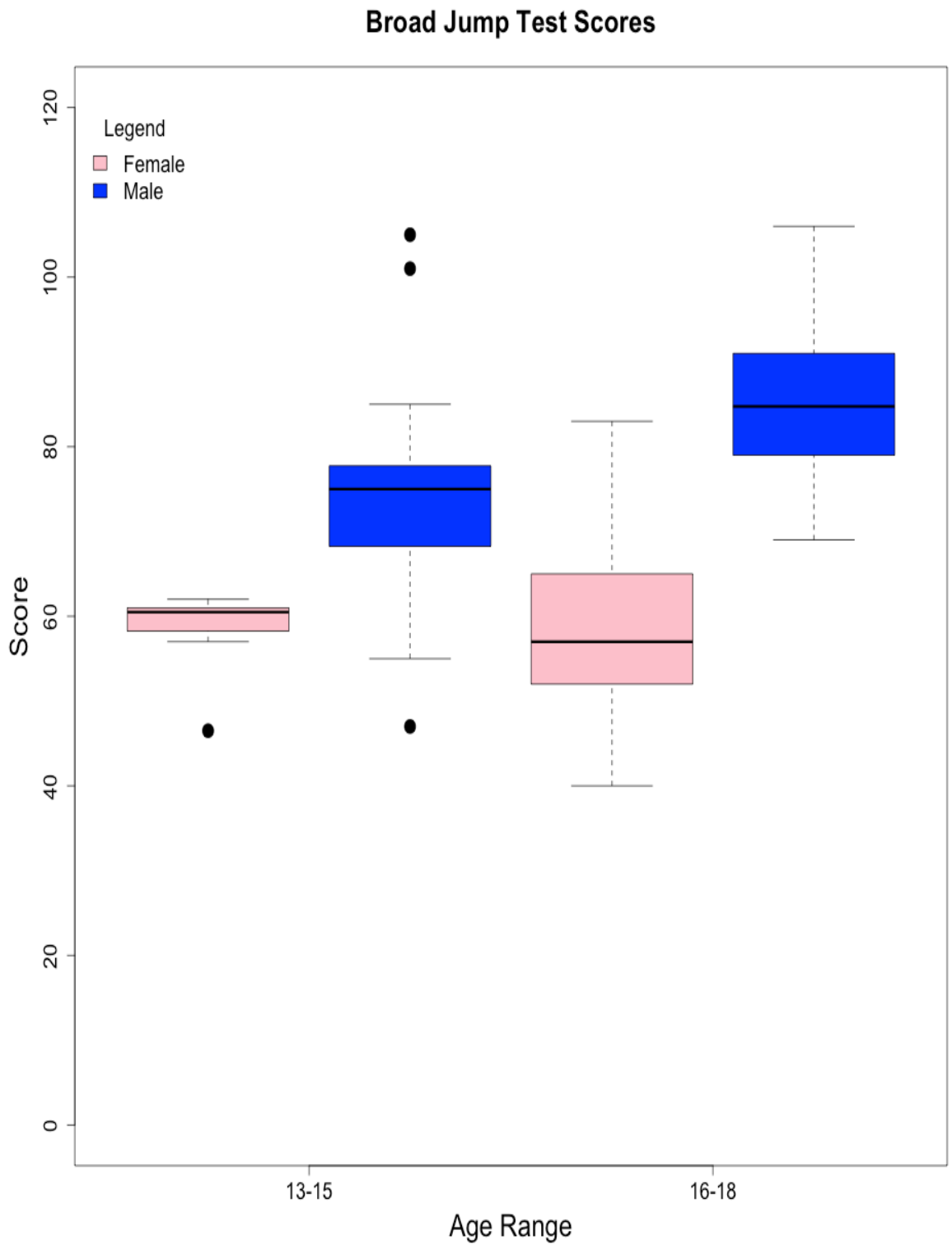


Figure 10A: Forward Lunges

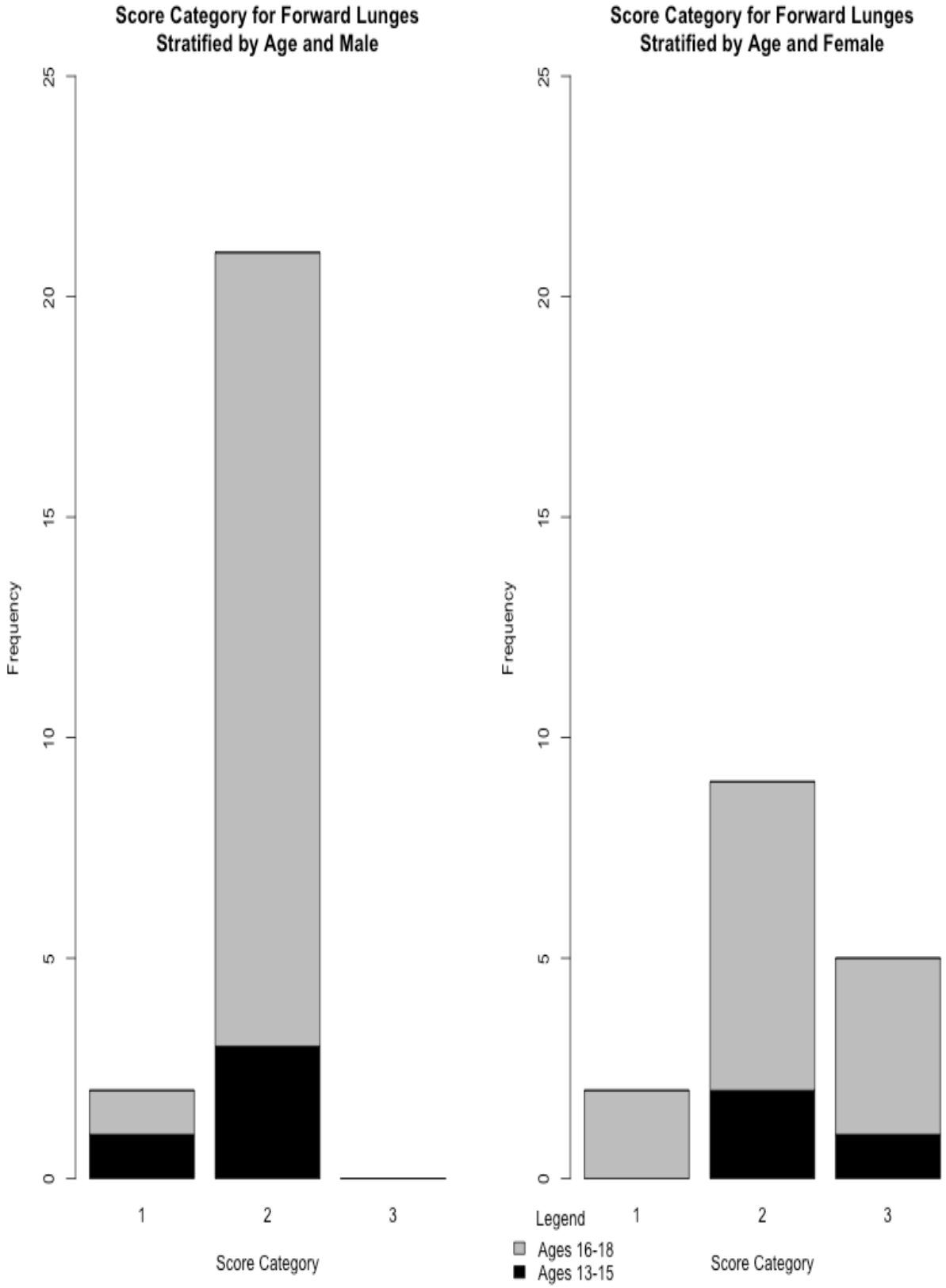


Figure 10B: Forward Lunges Test Scores

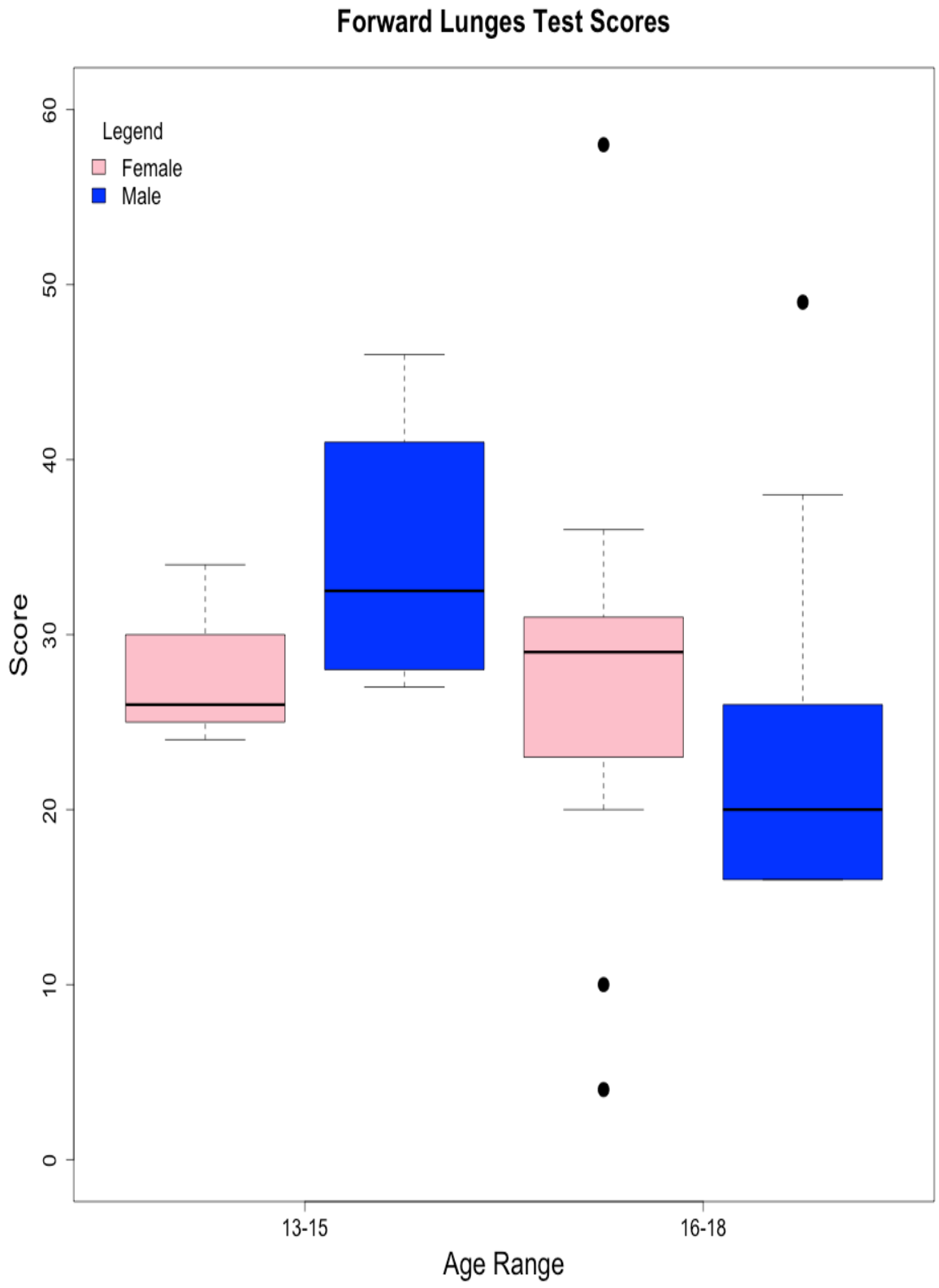


Figure 11A: Sport Stacking- Day 1

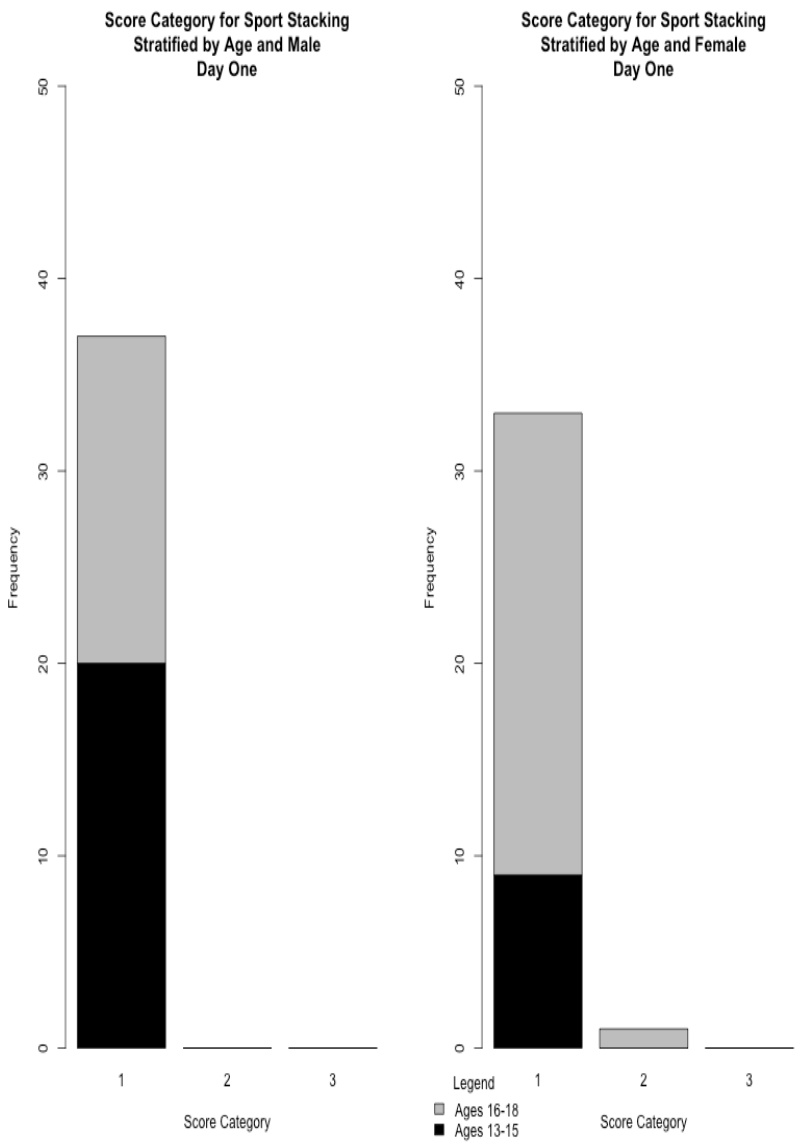


Figure 11B: Sport Stacking- Day 2

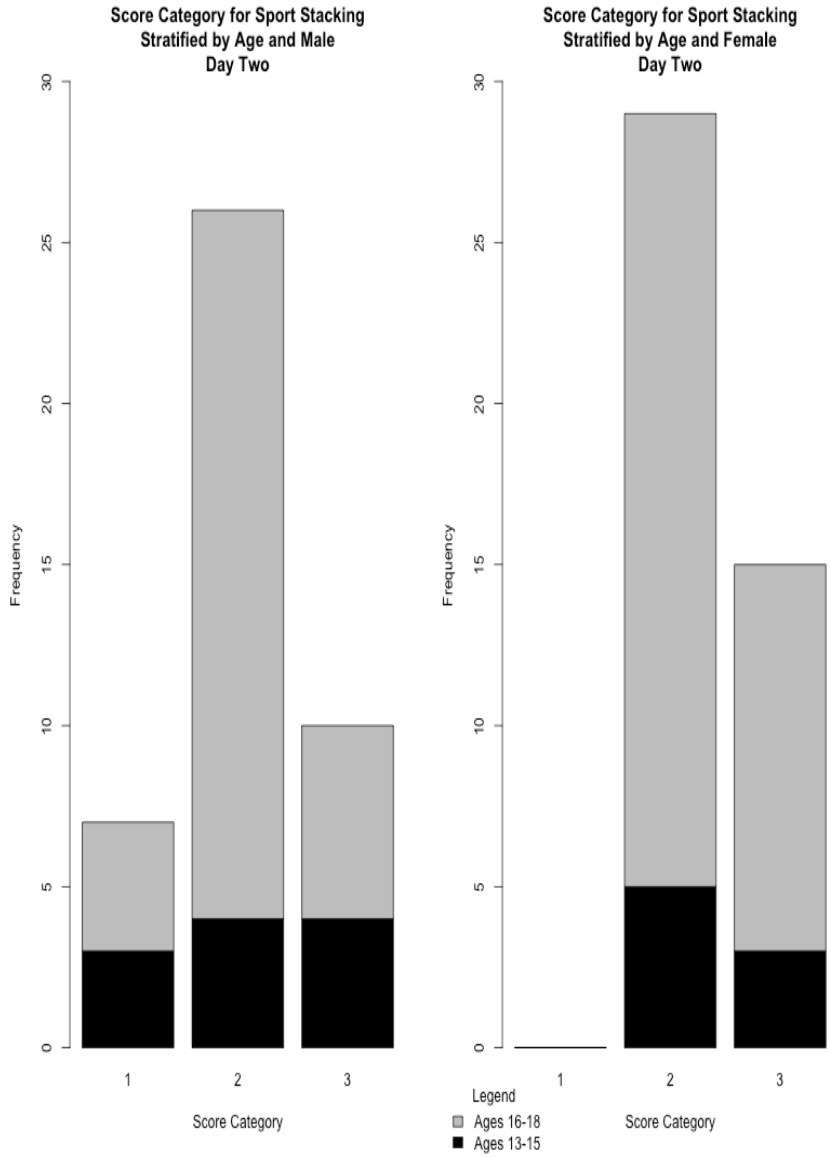


Figure 11C: Sport Stacking Test Scores for Day 1

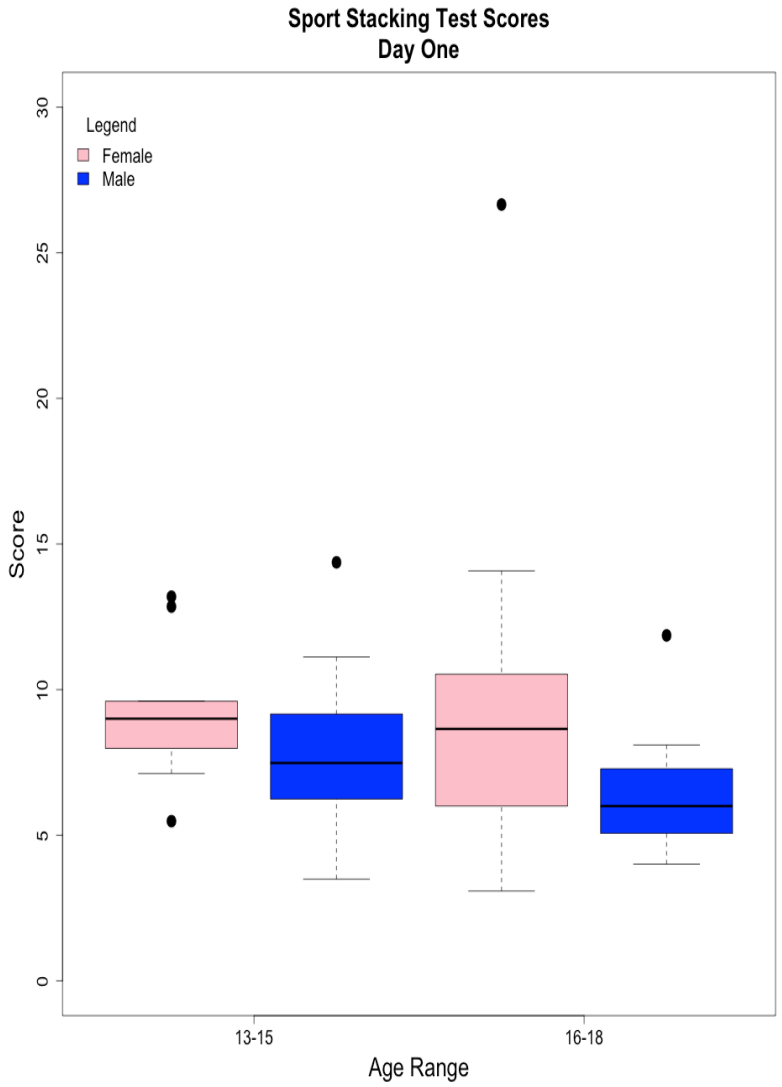


Figure 11D: Sport Stacking Test Scores for Day 2

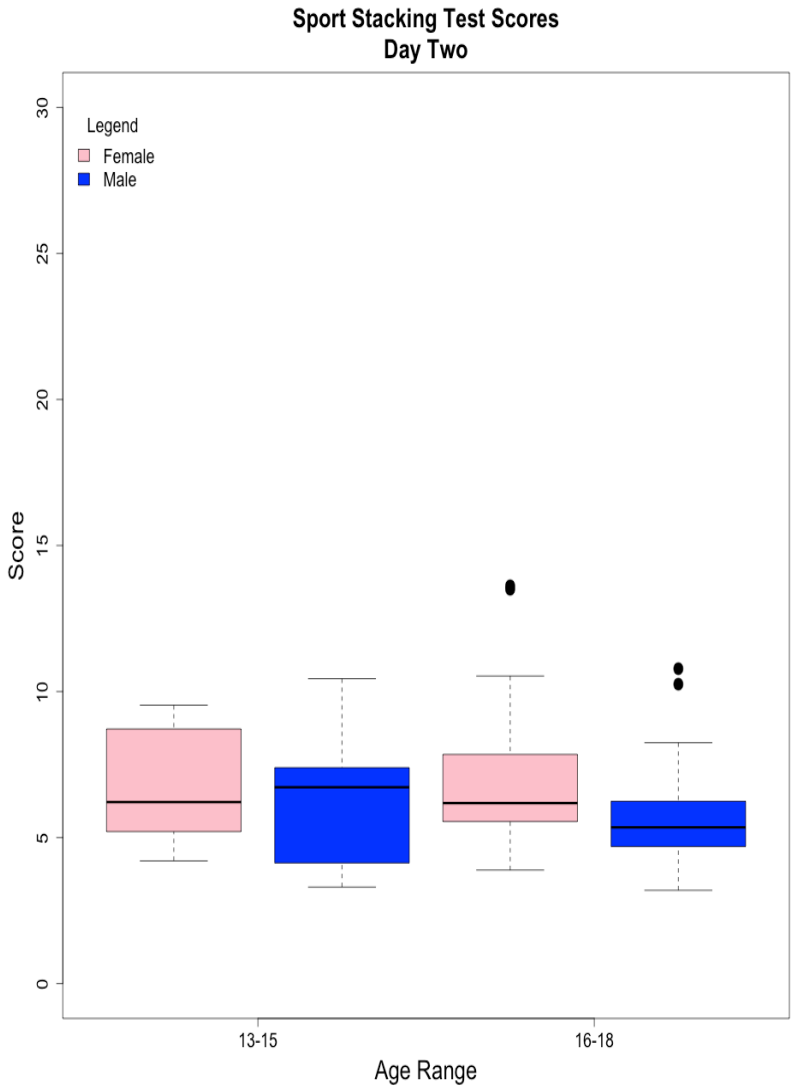


Figure 12A: Hula-Hoop

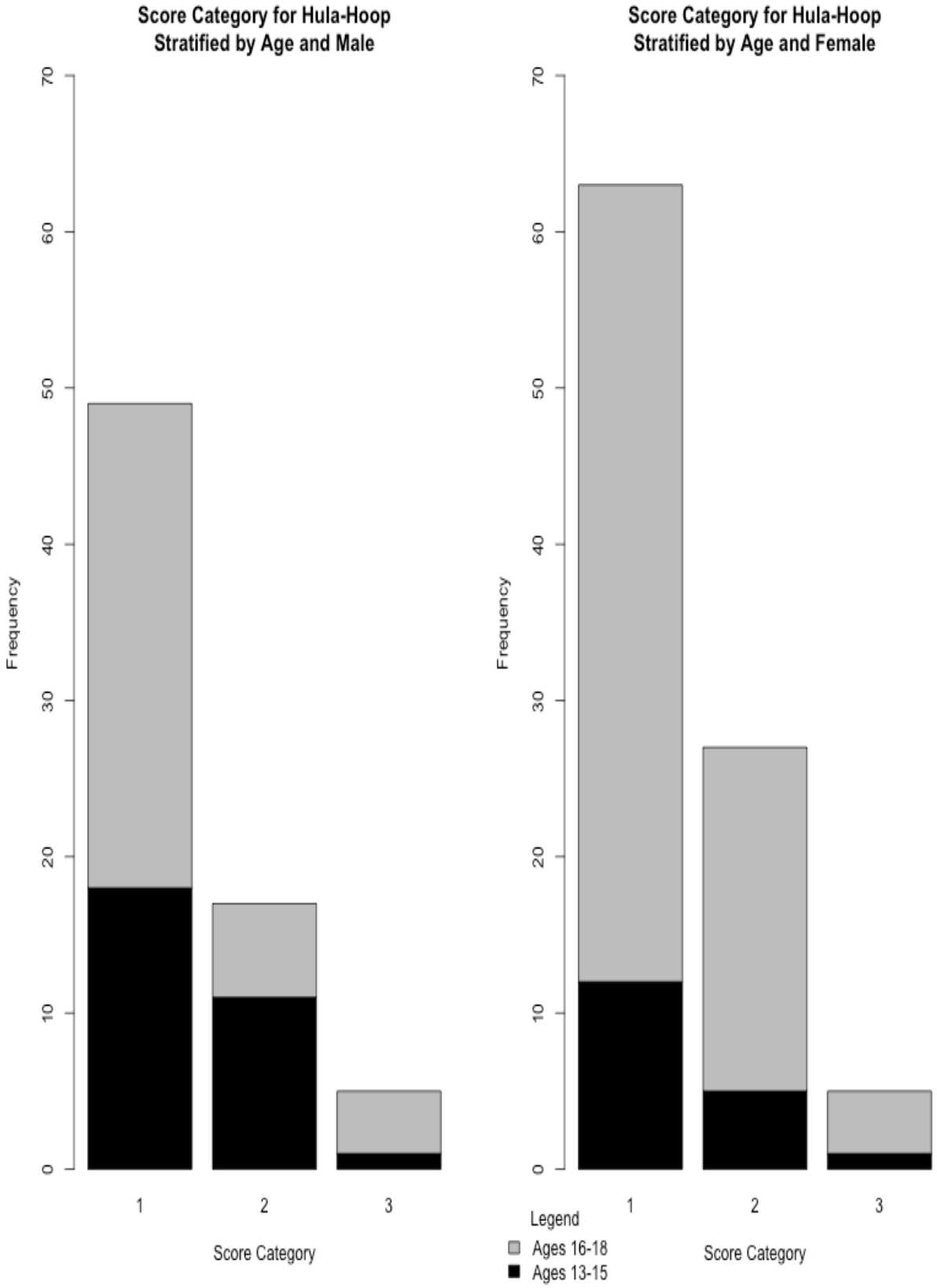
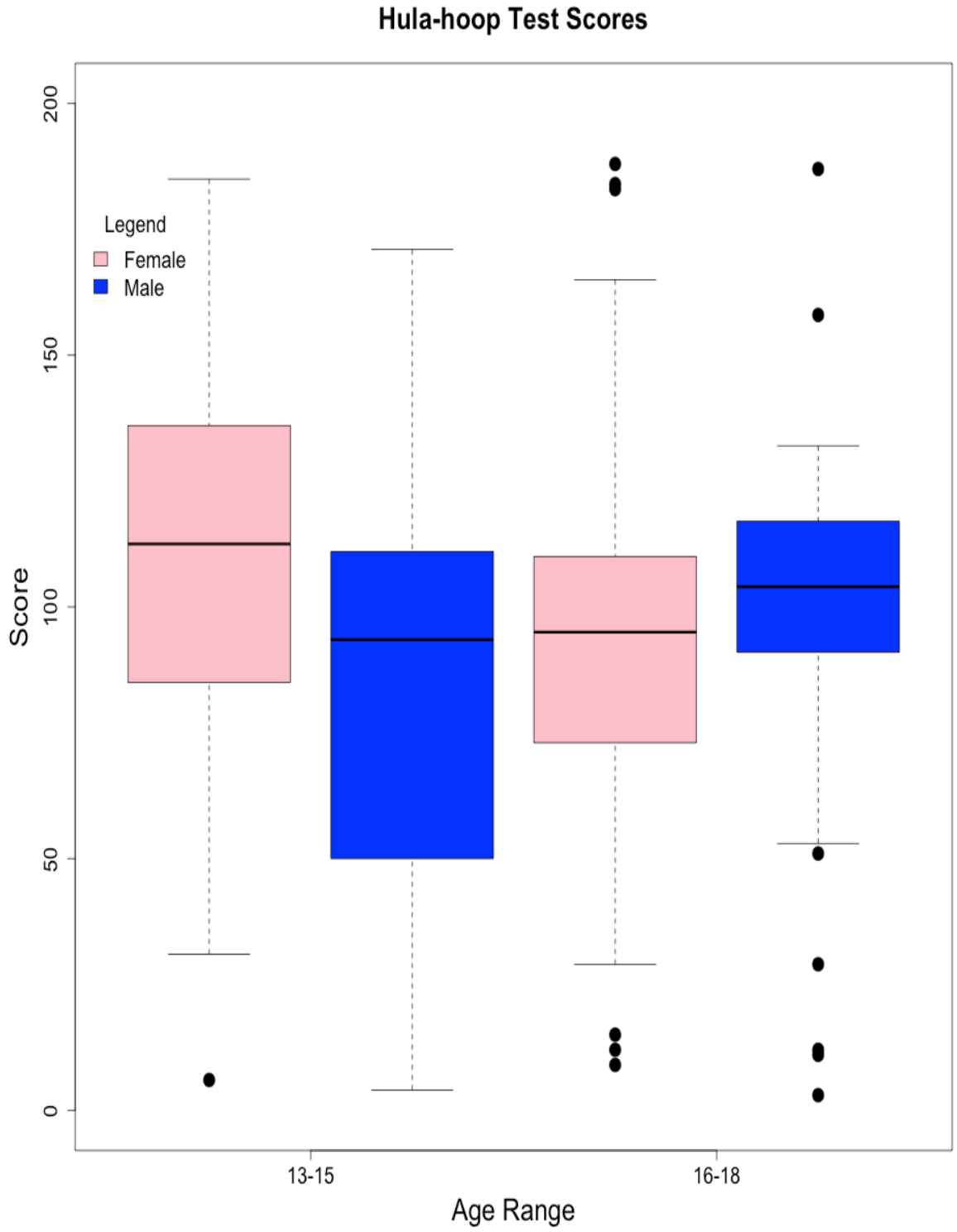


Figure 12B: Hula-hoop Test Scores



Appendix B: Pilot Test Images

Image 1: Teens assisted in recording times and scores for their peers. In this image, teens are participating in the Sport Stacking event

Note: All participants and parents/legal guardians provided signed permission slips to the Boys & Girls Clubs of America for photo release consent at the 2016 National Keystone Conference.

Image 2: Teens participating in the Broad Jump event.

Image 3: Teens who volunteered to help manage the NFC stations with Meredith Moore and Katie Lee.

Appendix C:

The Limited Space Model Resource Guide: Teen Edition

The National Fitness Competition

The Limited Space Model Resource Guide:
Teen Edition

BOYS & GIRLS CLUBS OF AMERICA

Table of Contents

Welcome to the Teen Edition of the Limited Space Model for the National Fitness Competition! 3
Get to Know Our Partner- Nestlé 4
At-A-Glance 5
Individualizing Your Club's National Fitness Competition 6
Categories of Event Stations 11
Required Events 13
Additional Events 20
Incorporating Goal-Setting 27
Let's Do This! 28
Appendices 29
- Preparation Timeline 30
- How to Promote Your Club's National Fitness Competition 32
  - Sample Letter to Invitees 33
- ❖ Invite Media to Attend and Cover Your Event 34
  - Template Media Pitch 36
  - Template Media Alert 37
- ❖ Share Your Event on Social Media 38
- Sign-up Form 39
- Training Tips 43
- Watch Your Scores Soar! 44
- Sample Staff/ Volunteer Guide 45
- Scorecard 49
- Goal-Setting Worksheet 50
- Certificates of Participation 51

Welcome to the Teen Edition of the Limited Space Model for the National Fitness Competition!

Welcome to Boys & Girls Clubs of America's National Fitness Competition (NFC). This program will support the entire culture of wellness Boys & Girls Clubs foster throughout the year. Twice per school year- once in the fall and again in the spring- Clubs will hold local Fitness Competitions for their members. These one-day events will allow all members to participate in various fitness contests.

Physical Literacy

The NFC is designed to lead Club members to physical literacy. Physical literacy is defined as the **ability**, **confidence** and **desire** to be physically active for life. Ability refers to competency in basic movement skills; confidence is knowing one has the ability to enjoy physical activities; and desire is the intrinsic enthusiasm for physical activity.

To be physically literate means being able to move with poise and confidence; being able to "read" a wide variety of physically challenging situations; and having the ability to respond with imagination, agility and intelligence.

The Limited Space Model

The Limited Space Model is an option for Clubs without access to gyms or fields to implement the NFC. The events selected for this version of the NFC are feasible for small areas and have few equipment requirements. This version of the NFC program ensures that all Club members have the opportunity to develop physical literacy by participating in the program. The Limited Space Model will provide the opportunity for Club members to be physically active with little to no physical space and equipment. Club members can use the skills, knowledge and confidence they gain through participating in this program to be physically fit for life. This version of the NFC enables all Club members to participate in the program.

Our goal is to create a healthier generation of young people. We urge you to incorporate the NFC into your annual programming.

Get to Know Our Partner- Nestlé

Nestlé has been a generous, longtime supporter of Boys & Girls Clubs locally. As of December 2014, BGCA is excited to join Nestlé in a three-year partnership. The goal is to inspire members toward achieving tangible, short-term fitness objectives. Clubs will host Fitness Competitions for members of all ages to encourage a positive, competitive spirit and challenge young people to reach new heights in physical activity.

Clubs will host their local competitions each fall and spring with fun activities that will appeal to members of diverse interests and abilities. To create the positive competition necessary for developing the grit, tenacity and resilience young people need, each activity allows members to compete against themselves to inspire self-motivation. By the program's third year, the NFC is expected to reach a minimum of 500 Clubs, engaging a total of 50,000 young people.

About Nestlé in the United States
Nestlé in the United States is committed to being a trusted leader in nutrition, health and wellness. It has a diverse portfolio of food and beverage products, and provides nutritious options for every member of the family – including infants, toddlers, teens, adults, mature adults, and dogs and cats.

Nestlé in the United States consists of seven main businesses including Nestlé USA, Nestlé Purina PetCare Company, Nestlé Waters North America, Nestlé Nutrition, Nestlé Professional, Nespresso and Nestlé Health Science. Together, these companies operate in more than 120 locations in 47 states and employ over 51,000 people.

The United States is Nestlé's largest market, with combined product sales totaling more than $26 billion in 2014. Nestlé believes for its business to prosper in the long term, it must create value for its employees, customers, stakeholders, consumers, and the communities where they live and work. Nestlé embeds Creating Shared Value (CSV) into every part of its business, from nutrition and wellness to environmental sustainability and responsible sourcing.

At-A-Glance

When: Competitions will be held twice per school year – once in the fall and again in the spring.

What: Clubs will hold one-day fitness competitions for their members.

Who: Boys & Girls Club staff will partner with volunteers to make this event a success. Members, ages 13-18, from each Club location will participate.

Where: Each Club will conduct the events in an indoor space large enough for participants to safely and successfully complete the event.

Why: To address the level of physical inactivity in America's youth, BGCA has a three-year partnership with its corporate sponsor Nestlé to implement the NFC program. The Limited Space Model adaption of the NFC will enable all Club members to develop the skills for physical literacy, which will enhance their motivation, confidence, physical competence, knowledge and understanding of physical activity to value and engage in a physically active lifestyle.

How to: With the help of the NFC's Limited Space Model Resource Guide Teen Edition, participating Clubs will execute their own Fitness Competition, incorporating FUN, COMPETITION, TEAMWORK and RECOGNITION. Because every Club is unique, the NFC is not a "one-size-fits-all" format. This Resource Guide provides opportunities for customization so each Club can structure its own, individualized Competition.

Individualizing Your Club's NFC

Every Club is different and has unique challenges. With the exception of the three required events- Aerobic Capacity test, Push-ups and Curl-ups- all NFC events are optional and adaptable according to each Club's individual needs.

The three required events should be conducted and scored accurately, exactly as they are explained in this Resource Guide. Consistency will ensure accurate, comparable data for each member, from one Fitness Competition to the next and from year-to year.

Any combination and variation of additional events can be added to the required events, creating the optimal NFC for each Club.

Best Practices in Implementing a NFC

Setup

There are two recommended formats.

1. Set up one NFC event station in each program area. Select a certain period of time, or even one whole day, for the entire Club to compete in the National Fitness Competition at once. Members should complete all event stations during the allotted NFC time frame. For example, the curl-up station can go in the computer lab, the push-up station in the art room, etc.

2. Select one program area to be the National Fitness Competition headquarters. Conduct the National Fitness Competition there for an entire week, changing out the event station offered to members each day. For example, if the Learning Center is the designated NFC space for the week, on Monday members can go there to participate in the curl-up event; on Tuesday, the push-up event, etc. You could also use your longest hallway as a temporary NFC program area. Evenly space as many event stations as you can in the hallway. Incorporate the NFC program area into your daily member rotation schedule for a day or even a week, depending on how long it takes all members to rotate through the NFC hallway.

Structure

There are three recommended formats.

1. Allow members to move independently throughout the NFC space, choosing the events they want to participate in. Once they complete one event and their scores are recorded, they are free to independently choose the next station of their choice. Volunteers should remain at their assigned stations. Staff floaters should be designated to assist with traffic flow and ensure that all participants remain engaged in the competition. Each event will occur in rounds, or heats, and new rounds begin when enough participants arrive at the station. Participants may not have time to complete all event stations. If possible, conduct your NFC across multiple days; each age group competes on a separate day so members compete against peers of similar age, or have specified times for each age group.

2. Provide more event stations than the number of groups of participants. For example, if there are 10 groups, provide 12 event stations. Volunteers should remain at their designated stations. Divide members into even groups. A designated staff group leader will stay with his or her assigned group throughout the competition. Each event will occur in rounds, or heats, with each new round beginning when a group arrives at the station. Members will remain with their groups throughout the competition. Because there will always be multiple open event stations, groups can choose which station to complete next. Groups may not have time to complete all event stations.

3. Establish a circular rotation pattern that each group will follow, from one event station to the next. Divide members into even groups. A designated staff group leader will stay with each assigned group throughout the Competition. Groups will have 10 minutes at each event station to complete the event. When the allotted 10 minutes is up, a bell will ring, indicating that it is time to rotate to the next station. The NFC ends once all groups have completed all event stations.

Tips for Success

- Make your NFC fun! Incorporate music and decorations
- Create a theme for the day- super hero day, crazy socks day, etc.
- Give rewards and recognition based on good sportsmanship and effort rather than performance.
- Plan a girls only National Fitness Competition day!
- Combine stations to maximize space. For example, the push-up and curl-up stations can easily share space.
- Encourage friendly competition between staff and Club members.
- Incorporate youth voice whenever possible. Let the teens select their own groups, theme, decorations, music, and event stations.
- Partner members and have them count for each other.

Signage

Give out event station maps in advance so participants can plan ahead. Post maps throughout the competition space. (A sample event station map is provided in the appendices). Make sure all event stations are well labeled, so members can see from a distance where they are located.

Orientation

Conduct a NFC orientation with your members, staff and volunteers before the event to ensure that everyone knows what to expect and what their role is. (A sample staff/ volunteer guide is in the appendices).

Ratios

Ensure that there are enough event stations and volunteers for the number of participants. It is recommended that the participant to event station ratio is no larger than 20:1 so there are never more than 20 members at a station at one time. For example, if there are 200 participants, at least 10 event stations are recommended. The minimum recommended number of volunteers per station is two.

Staff and Volunteer Roles and Responsibilities

The best way to maximize your support is to assign roles to every staff member and volunteer. Prepare them for their roles in advance. Consider using teen members as volunteers for the event. Include them in the staff/ volunteer orientation. Allow the teen members to run event stations, record scores, and assist with crowd control alongside staff.

Volunteers: Train volunteers to run the event stations. Each volunteer should remain at his or her assigned station throughout the Competition. When participants arrive, the volunteers should settle the group, give detailed instructions for how to complete the event, facilitate the event then assist members in entering scores digitally or recording scores on member scorecards.

Club Staff: Club staff should ensure that participants are engaged in the NFC at all times. They should assist volunteers with crowd control and behavior management. Most importantly, staff should remain high-energy and encourage members to do their best and cheer on their peers.

Keeping Track of Scores

Instructions for scoring each event are explained in all event descriptions.

There are two recommended formats.

1. Club members can upload scores to the NFC website and app using their smartphone by selecting the QR code for the corresponding point scale. Members can use the NFC website to track their NFC results individually and compare their scores to other Boys & Girls Club members across the country and abroad. The website is designed to be a fun, interactive mechanism to blend technology and physical activity. The website is the recommended method of recording Club member scores. It is not only fun for teens, but also an efficient way for Club staff to collect and analyze the member physical fitness data.

2. Attach scorecards to lanyards before the Competition begins. Club members should wear their scorecards around their necks throughout the Competition. Print scorecards on cardstock so they are durable. Volunteers are responsible for recording the scores for the participants as they finish the events. Participants will not move to the next event station until their scores have been recorded on their scorecards. Recording scores becomes challenging when the member-to-staff/ volunteer ratio is high, so you can ask members to keep their partners' scores on events if necessary.

Fuel and Hydration Stations

It is important to encourage participants to hydrate while competing in the NFC. Consider adding fuel and hydration stations to the list of event stations in your Competition. You can get creative by incorporating trivia challenges for participants while they are eating healthy snacks and drinking water.

Recognition

Printable certificates should be awarded to all NFC participants. There are two versions provided- the first is a generic certificate that can be distributed to all participants; the second is customizable so Club staff can personalize according to each member's name, date of Competition, etc., before printing. (Certificates are provided in the appendices).

Categories of Event Stations

The NFC has three required events designed to measure and promote physical competence. It also contains a bank of events intended to inspire intrinsic motivation and confidence. Club staff should add a mixture of the additional events to create a fun, challenging NFC. Each Club can choose the number of events it wishes to include in its own, individualized NFC.

The goal of the NFC is to empower Club members to become more physically literate. Three characteristics in teens that ultimately lead to physical literacy are intrinsic motivation, confidence and physical competence. All of the event stations listed below are intended to instill particular outcomes when Club members participate.

The Limited Space NFC Required Events include:

1. Aerobic Capacity Challenge
2. Curl-ups
3. Push-ups

Research shows that physical competence in the areas of aerobic capacity, muscular endurance and muscular strength is directly related to youth health and wellness. The required events above- Aerobic Capacity Challenge, Curl-ups, and Push-ups- reliably measure all three areas.

The NFC is a fun way to gather useful date that accurately reflects each Club member's level of physical health. Staff can use this data to encourage member awareness of their physical competence and empower individual improvement.

The Limited Space NFC Additional Events Include:

- Front Plank
- Broad Jump
- Standing Vertical Jump
- Forward Lunges
- 4x10-meter Motor Fitness Challenge
- Sport Stacking
- Hula-Hoop Challenge

The variety of events will appeal to a range of members with diverse interests and physical abilities. Through the NFC, participants will experience fun, challenging and competitive

activities. All competitors will feel a sense of pride and accomplishment upon completing a NFC.

Required Events

EVENT 1: Aerobic Capacity Challenge

Option 1: PACER 20-meter Shuttle Run

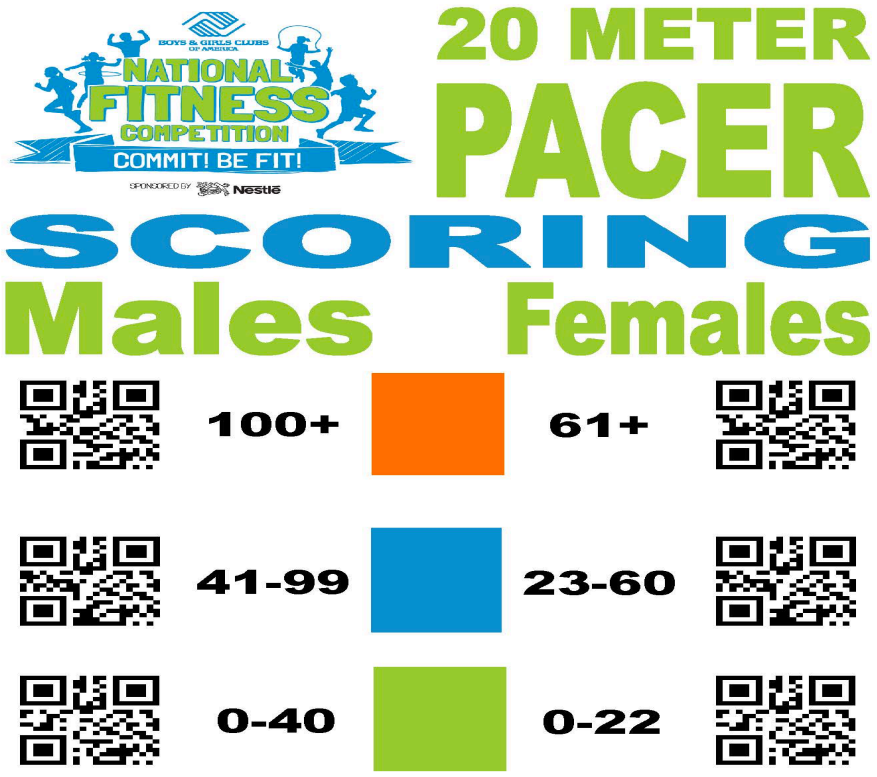
Improves and assesses aerobic capacity, with ability to accelerate and rapidly change direction. Measures speed of movement, agility and coordination.

Set-up: Measure and mark start and finish lines, 20 meters apart. Place a cone at the start and finish lines.

Testing: Competitors stand with their feet behind the start line. On the signal, "Ready? Go!" competitors run to the opposite cones. Competitors must cross the finish line before the BEEP/administrator calls time. If the competitor reaches the finish line before the BEEP/ administrator calls time, he or she must wait at the finish line. At the sound of the next BEEP/administrator's yell, the participants run back to the other end. When the triple BEEP sounds, competitors turn around and run to the other end whether they are at the start line or not.

- The difference between the BEEP and triple BEEP is the triple BEEP indicates that the pace is increasing. Triple beeps occur at the end of 1 minute. Competitors run until they have completed the test or have had 2 misses. A miss is if the competitor fails to reach the line by the time the BEEP sounds.
- The event is a total of 5 minutes or until none of the competitors are able to complete the rounds in time.
- Time to complete first 20m= 9 seconds
  Time to complete second 20m= 8.5 seconds
  Time to complete third 20m= 8 seconds
  Time to complete fourth 20m= 7.5 seconds
  Time to complete fifth 20m= 7 seconds
  **The time for each round decreases by ½ a second.

Scoring: The total number of laps is recorded for each individual. The competitor should select the QR code for the corresponding total number of seconds. One lap is one 20-meter run. The point scale is: orange= 30 points, blue=20 points and green= 10 points.



Equipment:

- Stopwatch
- Tape
- 2 cones
- Whistle

EVENT 1: Aerobic Capacity Challenge

Option 2: PACER 15-meter Shuttle Run

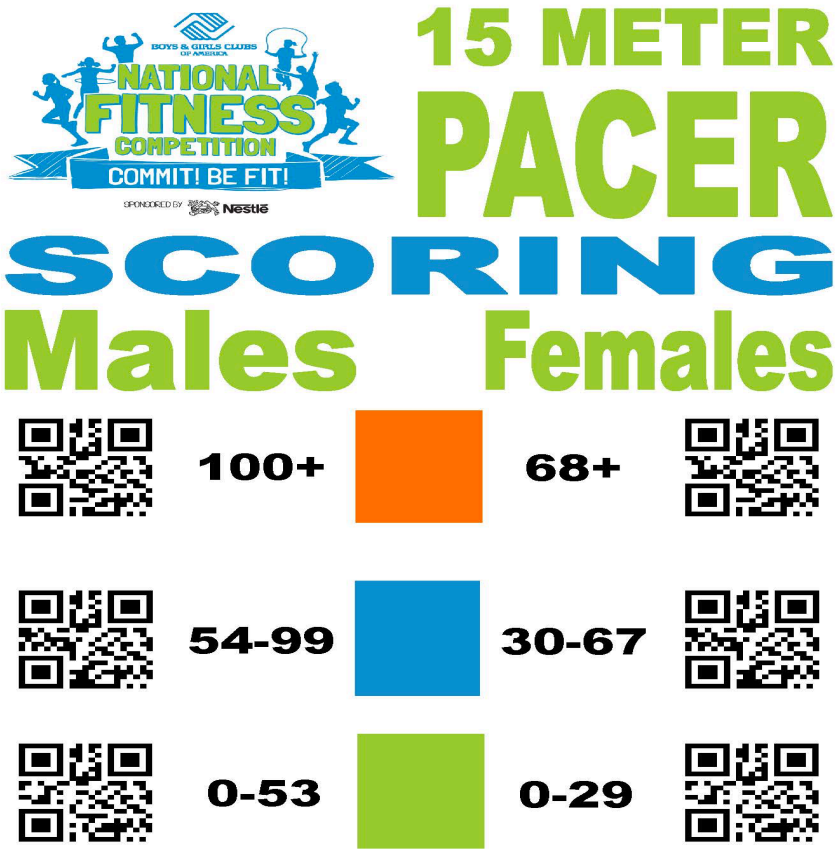
Improves and assesses aerobic capacity, with ability to accelerate and rapidly change direction. Measures speed of movement, agility and coordination.

Setup: Measure and mark a start and finish lines, 15 meters apart. Place a cone at the start and finish lines.

Testing: Competitors stand with their feet behind the start line. On the signal, "Ready? Go!" competitors run to the opposite cones. Competitors must cross the finish line before the BEEP/administrator calls time. If the competitor reaches the finish line before the BEEP/ administrator calls time, he or she must wait at the finish line. At the sound of the next BEEP/administrator's yell, the participants run back to the other end. When the triple BEEP sounds, competitors turn around and run to the other end whether they are at the start line or not.

- The difference between the BEEP and triple BEEP is that the triple BEEP indicates that the pace is increasing. Triple beeps occur at the end of 1 minute. Competitors run until they have completed the test or have had 2 misses. A miss is if the competitor fails to reach the line by the time the BEEP sounds.
- The event is a total of 5 minutes or until none of the competitors are able to complete the rounds.
- Time to complete first 20m= 6.75 seconds
  Time to complete second 20m= 6.25 seconds
  Time to complete third 20m= 5.75 seconds
  Time to complete fourth 20m= 5.25 seconds
  Time to complete fifth 20m= 4.75 seconds
  **The time for each round decreases by ½ a second.

Scoring: The total number of laps is recorded for each individual. The competitor should select the QR code for the corresponding total number of seconds. One lap is one 20-meter run. The point scale is: orange= 30 points, blue=20 points and green= 10 points.



Equipment:

- Stopwatch
- Tape
- 2 cones
- Whistle

EVENT 1: Aerobic Capacity Challenge

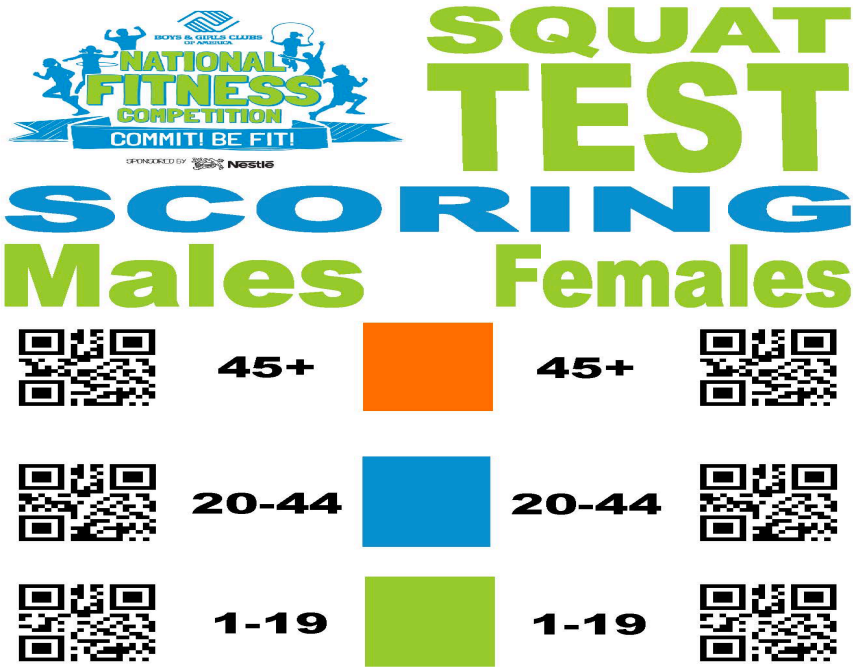
Option 3: Squat-up-down test

Improves and assesses aerobic capacity and explosive muscle power in legs and hips.

Setup: Clear a space conducive for squats. The competitors should stand with their feet slightly more than shoulder width apart and arms held out straight, directly in front of them.

Testing: At the signal, "Ready? Go!" competitors should squat by bending their knees to a 90-degree angle. The arms should be held out straight directly in front the entire time. Once the knees are bent to 90-degrees, the competitor returns to the standing position. Competitors have 30 seconds to complete the event.

Scoring: The total number of times the competitor returns to standing upright is recorded. The participant should select the QR code for the corresponding total number of squats. The point scale is: orange= 30 points, blue=20 points and green= 10 points.



Equipment:

- Stopwatch

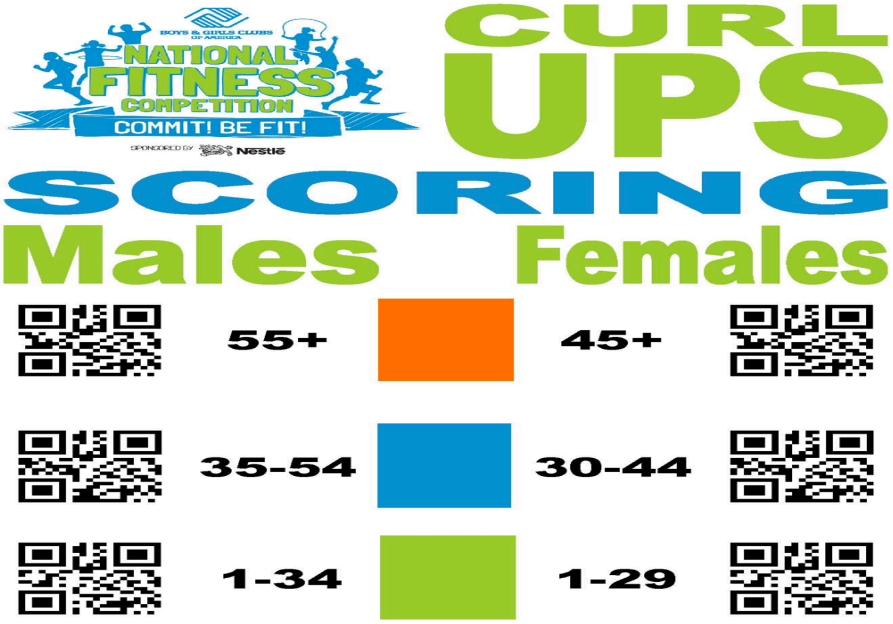
EVENT 2: Curl-ups

Builds and measures abdominal strength and endurance, including shoulder stability and core and hip flexor strength.

Setup: Clear a space conducive for floor exercises. Lay floor mats across the floor and spread evenly so participants have sufficient room.

Testing: Competitors complete their maximum number of curl-ups in 60 seconds. Competitors lie on the floor with knees bent so their feet touch the ground, crossing their arms with hands placed on opposite shoulders, keeping elbows close to their chests. With arms in position, competitors curl up to touch elbows to thighs. The shoulders must roll back, making contact with the ground to conclude each curl-up.

Scoring: The number of curl-ups is recorded for each individual and he or she should select the QR code for the corresponding number of completed curl-ups. The point scale is: orange= 30 points, blue=20 points and green= 10 points.



Equipment:

- Floor mat
- Stopwatch

EVENT 3: Push-ups

Builds and tests upper-body strength and endurance.

Setup: Clear a space conducive for floor exercises. Lay floor mats across the floor and spread evenly so participants have sufficient room.

Testing: Competitors complete their maximum number of 90-degree push-ups with proper form in 60 seconds. Members must bend their elbows and drop chests towards the group until their arms make a 90-degree angle. After each dip, competitors must straighten their arms and return to the full, upright position.

Scoring: The total number of push-ups is recorded for each individual. The competitor should select the QR code for the corresponding total number of completed push-ups. The point scale is: orange= 30 points, blue=20 points and green= 10 points.

Equipment:

- Floor mats
- Stopwatch

Additional Events

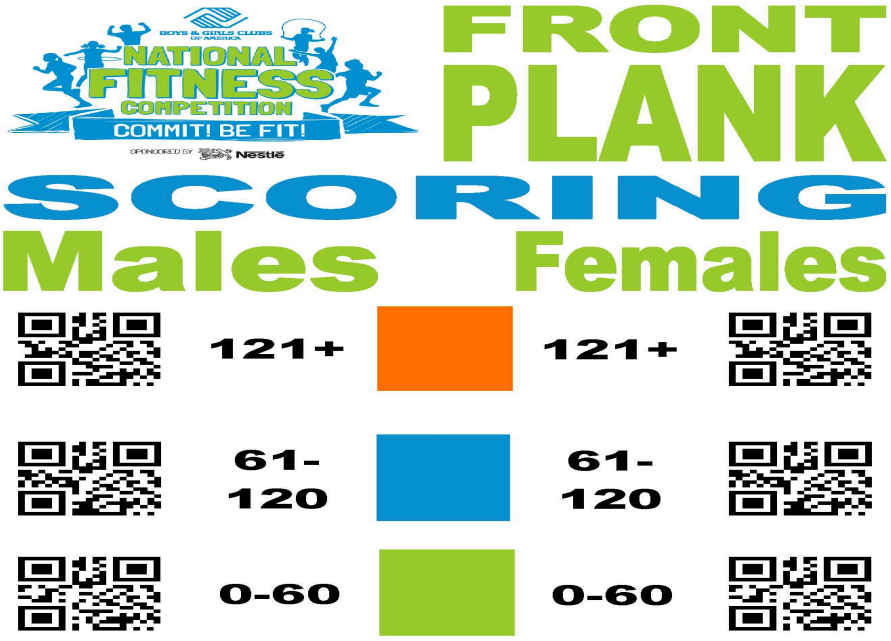
EVENT 1: Front Plank

Builds and tests abdominal strength and endurance.

Setup: Clear a space large enough for competitors to compete on the floor. Competitors should get into push-up position with their arms extended straight.

Testing: On the signal, "Ready? Go!" competitors should bend their arms 90- degrees to place their elbows and forearms on the ground. Their body must be in a straight line. Their rear end should not be up in the air. The competitors should hold the pose as long as they can for 60 seconds.

Scoring: The amount of time for the total number of seconds the competitor is able to remain in the front plank position without stopping is recorded. The competitor should select the QR code for the corresponding number of seconds. The point scale is: orange= 30 points, blue=20 points and green= 10 points.



Equipment:

- Floor mat
- Stopwatch

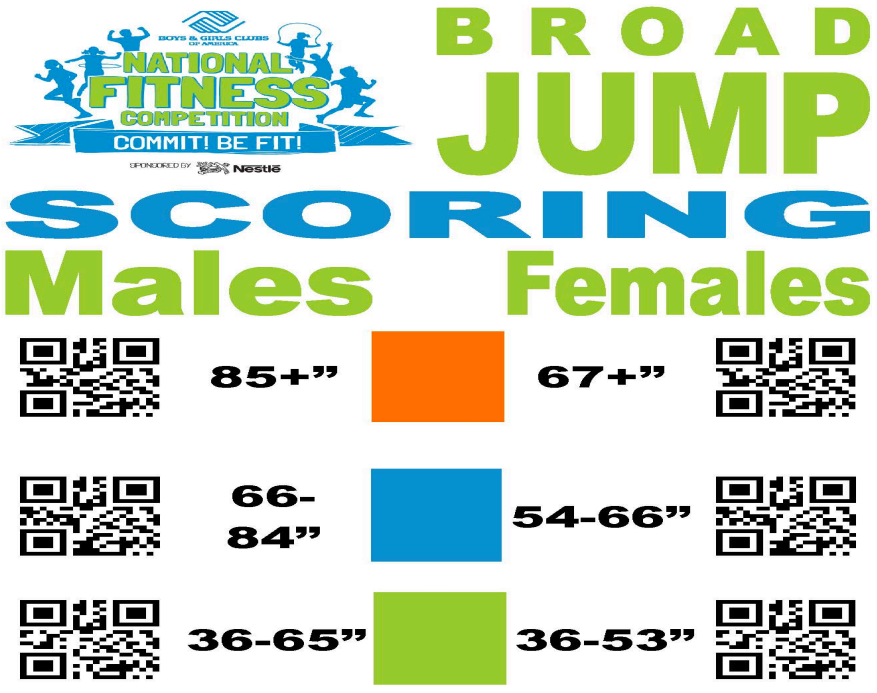
EVENT 2: Broad Jump

Builds and assesses explosive muscle power in legs, hips and back. Measures explosive strength and endurance strength.

Setup: Mark a starting line on the floor with tape on the floor and fasten measuring tape from the line forward.

Testing: The competitor stands behind the starting line and jumps with both feet as far as possible. The point where the competitor lands is measured and recorded. If the competitor falls back, steps back or a hand touches the ground due to poor balance, the point nearest the starting line is measured.

Scoring: The number of inches the individual jumps is recorded. The competitor should select the QR code for the corresponding number of inches. The point scale is: orange= 30 points, blue=20 points and green= 10 points.



Equipment:

- Masking tape
- Tape measure

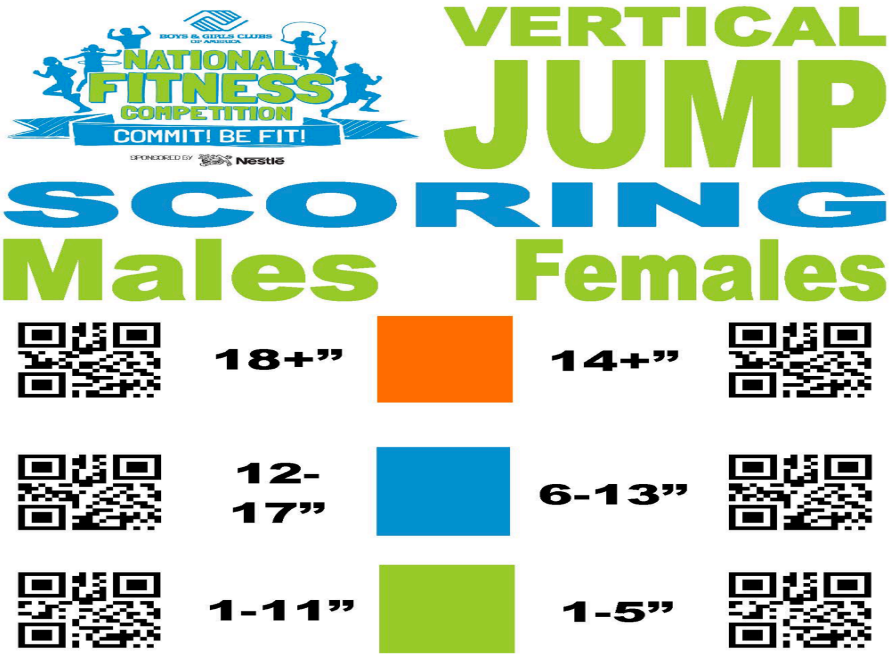
EVENT 3: Standing Vertical Jump

Measures explosive strength and endurance strength.

Setup: Tape a meter stick, tape measure or piece of tape with measurements up to 4 feet onto the wall.

Testing: To start, have the participant reach up as high as they can with shoes flat on the floor. Record that height. Then, tell the participant to jump as high as they can and measure the height they are able to reach. The difference between the maximum standing height and the maximum jumping height is the height of the jump.

Scoring: The number of inches the individual is able to jump is recorded. The individual should select the QR code for the corresponding number of inches. The point scale is: orange= 30 points, blue=20 points and green= 10 points.



Equipment:

- Masking tape
- Tape measure

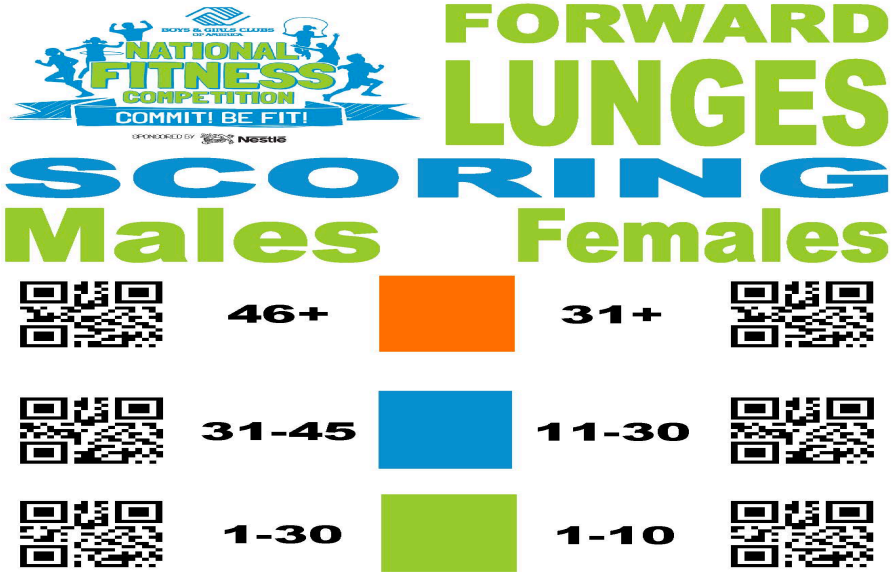
EVENT 4: Forward Lunges

Builds and assesses abdominal strength and gluteus maximus and gluteus medius strength and endurance.

Setup: Clear a space conducive for kneeling. The competitors should start by placing their hands on their hips.

Testing: At the signal, "Ready? Go!" the competitors step forward with their right foot and bend down so their left knee touches the ground. Then, the competitors stand up with their feet together. The competitors step forward with the left foot and bend the right knee down until it touches the floor. Then, the competitors stand up with their feet together. The competitors should remain in the same location for the event. Competitors have 60 seconds to complete as many lunges as possible. The competitors' knees must touch the ground for the lunge to count. The competitors should count every time their left knee touches the ground.

Scoring: The number of times the competitor's left knee touches the ground is the score. The participant should select the QR code for the corresponding total number of forward lunges. The point scale is: orange= 30 points, blue=20 points and green= 10 points.



Equipment:

- Masking tape

EVENT 5: 4x10-meter Motor Fitness Challenge

Improves aerobic capacity, with ability to accelerate and rapidly change direction. Measures speed of movement, agility and coordination.

Setup: Measure and mark start and finish lines, 10 meters apart. Place a sponge (or similar object) on the start and 2 sponges on finish lines.

Testing: At the signal, "Ready? Go!" the competitor stands with his or her feet behind the start line. On the signal, "Ready? Go!" the competitor runs as fast as possible to the opposite line, picks a sponge then runs back to the start line. The competitor must cross the start line with both feet. Then he or she places the sponge on the start line and picks up the sponge. He or she runs back to the opposite line and exchanges the sponge for the final sponge on the opposite line. The competitor runs back to the starting line as fast as possible with the final sponge.

Scoring: The total amount of time the competitor is able to complete the event is recorded. The participant should select the QR code for the corresponding total number of seconds. The point scale is: orange= 30 points, blue=20 points and green= 10 points.

Equipment:

- Masking tape
- Tape measure
- Sponge or a soft, small object

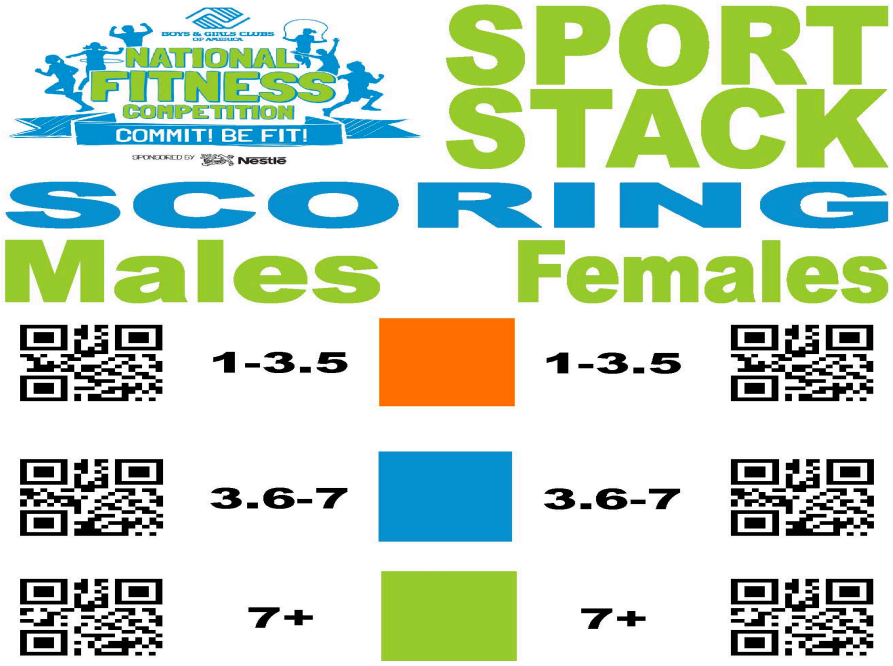
EVENT 6: Sport Stacking

Improves aerobic capacity, with ability to accelerate and rapidly change direction. Measures speed of movement, agility and coordination.

Setup: Place 6 plastic, stackable cups on the floor in two even stacks.

Testing: At the signal, "Ready? Go!" the competitor uses the plastic cups to build a pyramid. Once they have successfully built a pyramid, they must take the cups out of the pyramid formation and place the cups back on the ground in two even stacks.

Scoring: The amount of time the competitor is able to build and disassemble the pyramid of cups is recorded. The participant should select the QR code for the corresponding total number of seconds. The point scale is: orange= 30 points, blue=20 points and green= 10 points.



Equipment:

- Masking tape
- Tape measure
- Plastic, stackable cups

EVENT 7: Hula-Hoop Challenge

Builds and tests abdominal strength and endurance, as well as coordination.

Setup: Set up a station for members to hula-hoop, allowing sufficient room for each participant. Have a hula-hoop available for each participant. Wrap a piece of masking or colored tape around a part of the hula-hoop so participants can count the number of times the hula-hoop goes around their waist.

Testing: Competitors stand up and swing a hula-hoop around their hips as many times as they can within 60 seconds. The hula-hoop cannot swing around any another body part besides the waist. The goal is not to hula-hoop the most consecutive times, but rather to complete as many hula-hoop rotations as possible within the time allotted. If a competitor's hula-hoop falls to the ground, resume competing and continue counting.

Scoring: The number of times the hula-hoop makes a complete rotation is recorded for each individual. The competitor should select the QR code for the corresponding number of complete rotations. The point scale is: orange= 30 points, blue=20 points and green= 10 points.

Equipment:

- Hula Hoops
- Stopwatch
- Whistle
- Masking Tape or Colored Tape

Incorporating Goal-setting

Research shows intrinsic motivation is strongly correlated to well-being. Kids, teens and adults who strive for improvement and pursue goals because they want to, rather than because they have to are more likely to be happier, healthier and more successful.

Since happiness, health and success are all desired outcomes for Boys & Girls Club youth, staff should empower members to increase their intrinsic motivation. Three characteristics associated with building this quality are purpose, autonomy and mastery. Through the NFC, Clubs can work to instill those three characteristics in participants.

Goal-setting aligned with the NFC instills purpose, autonomy and mastery in Boys & Girls Club members. The twice-annual field-day style fitness competition empowers youth to be purposeful in their approach to each event, responsible for their own performance and scores, and masters of the events in which they excel.

To further inspire participants' development of intrinsic motivation, Boys & Girls Club staff should encourage longer-term activation of those characteristics through goal-setting. Following each NFC, participants should set goals for improvement in key areas of physical competence (aerobic capacity, muscular strength and muscular endurance, which are assessed by the PACER Shuttle Run, Push-ups and Curl-ups), based on competition results, as recorded in their goal-setting worksheet (provided in the appendices). Youth will make commitments to work throughout the year to improve in at least one category until the next NFC.

Club staff should encourage and hold members accountable for their commitments throughout the school year and leading up to the next competition. This year-round focus on individual improvement instills a greater sense of purpose, autonomy and mastery over each participant's own fitness- leading to increased intrinsic motivation over time. Staff should recognize each member's effort, consistency and improvement as they work to achieve their personal goals.

Let's Do This!

Encourage All Members to Participate

The NFC is not only fun, but also inspiring and motivational for all participants. Teens of all genders, interests and abilities are invited to participate. Use the NFC sign-up form (located in the appendices) to log recruited members. You can also use this form to check off who attended, as well as to make sure each member received a certificate. As part of BGCA's Health & Wellness Initiative, we encourage all members to be active every day. The NFC is one of many programs that get members moving by running, jumping, playing with friends, competing and overcoming challenges. Such programs that enable our young people to develop the confidence and competence they need to become healthy, happy, successful adults.

There's no time to waste! You have everything you need to start planning your Club's NFC. This Resource Guide provides the necessary tools to create a fun, engaging, competitive field-day experience for your members.

If you have any questions along the way, contact:

Katie Lee
Director, Sports, Fitness & Recreation
Boys & Girls Clubs of America
404-487-5941
KLee@bgca.org

Appendices

BOYS & GIRLS CLUBS
OF AMERICA

In partnership with

Nestlé

Good Food, Good Life

National Fitness Competition Preparation Timeline

Months in advance

- ✓ Set the date
- ✓ Inform Club staff
- ✓ Seek volunteer support
- ✓ Determine event budget
- ✓ Promote National Fitness Competition to Club members
- ✓ Promote National Fitness Competition on social media
- ✓ Promote National Fitness Competition to the community
- ✓ Promote National Fitness Competition using a media alert
- ✓ Determine the structure of your competition
- ✓ Determine which events you will include in your competition
- ✓ Purchase necessary event equipment, including a sound system
- ✓ Order t-shirts for staff, participants and volunteers

Weeks in advance

- ✓ Create and print a map of event stations
- ✓ Create and print labels for each event station
- ✓ Create and print any other promotional materials to display
- ✓ Complete sign-up form with participating members

Days in advance

- ✓ Personalize and print certificates for participants
- ✓ Print goal-setting templates for participants
- ✓ Print scorecards for participants
- ✓ Purchase water, healthy snacks and lunch for after the competition
- ✓ Conduct staff/volunteer orientation and participant orientation
- ✓ Sort t-shirts by size

Day of the Competition

- ✓ Set up event stations and sound system
- ✓ Post all printed promotional materials
- ✓ Organize water, healthy snacks and lunch
- ✓ Distribute t-shirts and scorecards
- ✓ Briefly explain all event stations to participants so they can pre-select stations
- ✓ Use sign-up form to take participation attendance
- ✓ Have a great competition
- ✓ Distribute certificates
- ✓ Make copies of all scorecards and goal setting worksheets for Clubs' use; return originals to participants

After the Event, within a week

- ✓ Complete goal-setting worksheets with participants

After the Event, throughout the school year

- ✓ Check in with members to monitor the effort, consistency and progress on their improvement goals
- ✓ Use data from competition to inform Club programming to target certain physical competence areas

How to Promote Your Club's NFC

The NFC is a high-energy and engaging way to connect your Club with the local community. There are many ways to spread the word about the NFC among your constituents, including:

- Invite participants' family and friends, supporters and donors of your Club, and community leaders to join in on the fun!
- Connect with local media and invite them to come experience the event firsthand.
- Share the event on social media to draw support and awareness.

Inviting community members and featuring your Club

When it comes to inviting outside community members to join your NFC, these few simple steps should guarantee participation:

- **Identify your list of invitees** – this can include donors, parents of participating members, local businesses and community leaders.
- **Plan your outreach** – with busy schedules, it's important to give as much notice to your invitees as possible so they can mark their calendars! Consider reaching out four to six weeks in advance of your event date.
- **RSVP** – make sure to include a clear RSVP date and contact information so you are able to track how many external attendees will join your event.
- **Customized flyers** – distributing simple flyers that encourage people to attend and cheer on your participants is an easy and visual way to generate event momentum. Remember to include all the important info: when, where, who, what and why!
- **Social media** – Facebook, Twitter and Instagram are easy and effective channels to spread the word. See the pages that follow for suggested posts!

When thinking about hosting the NFC, here are some suggestions to showcase your Club in the best possible way:

- Make sure your Club is clean and tidy; this might be the first time members of the community are experiencing your Club!
- Display colorful posters and banners that relate to this event, as well as those that generate interest in upcoming programming at your Club.
- Consider ordering balloons or other festive materials to elevate the experience.
- Decorate your Club with members' work and other items they are proud to share.

Sample Letter to Invitees for the NFC

[Insert DATE]

[Insert NAME]
[Insert ADDRESS]
[Insert CITY, STATE and ZIP CODE]

Dear [Insert NAME]:

Boys & Girls Clubs of America is teaming up with Nestlé to present the **National Fitness Competition** for young people around the country. [Insert CLUB NAME] is excited to bring this fun field-day event to our children, teens and community on [Insert DATE].

In addition to getting active while bolstering their self-esteem, participants will learn how to set personal goals, test their level of physical fitness and gauge their own improvement as they participate in the event. Above all, the National Fitness Competition will allow members to take pride in themselves and their abilities as they learn that physical activity is a fun and integral part of a healthy lifestyle.

Nestlé shares the vision of Boys & Girls Clubs for a nation of young people engaged in regular physical activity and nutritious eating habits to maintain healthy lifestyles as they grow into adulthood.

We would be honored to have you join us for our National Fitness Competition. Whether you choose to donate, volunteer or simply cheer on our community's young people, you can make a difference today as you contribute to a better future for our members.

<<< EVENT DETAILS AND RSVP INFORMATION>>>

We appreciate your consideration and look forward to hearing from you.

Sincerely,
[Insert your NAME and TITLE]
[Insert your CONTACT INFORMATION]

Invite Media to Attend and Cover Your Event

The NFC is a great opportunity to involve local media to participate and highlight the event to the larger community. Here's a breakdown of the different media outlets, and how you should consider connecting with them:

Types of media
There are several types of media that you can consider pitching. Having a basic understanding of them will help you determine which to pitch, and how.

Print (daily and weekly newspapers and magazines)

- Identify the reporter who covers your topic or beat. (This might be a family, youth, health and wellness, culinary, educational programming, or even an urban issues writer.)
- Newspapers have varying deadline requirements. Make sure you let the paper know at least a week in advance.

Television

- Local stations will typically include local affiliates from ABC, CBS, NBC and FOX. You may also have locally produced news on independent stations, or local cable access programs.
- If the station has a reporter who covers youth issues, educational programs, health and wellness, family or community beat, reach out to them – otherwise, contact the assignment/news desk.
- Television stations have meetings each morning where they plan their day. Send your information, typically in the form of a media alert, at least a week before the event. Call to follow up and get it on their calendar. Make sure you also call the day before the event so they can discuss it in their planning meeting. Most stations don't make their final decision on coverage until the morning of the event.

Online Media

- Blogs have become a valued source of news in many communities. Even daily print newspapers, such as *The Atlanta Journal-Constitution* and *The New York Times*, have reporters dedicated to maintaining blogs. This is an important addition to their reporting duties for the print edition and developing news content to be posted online.
- Online-only publications and bloggers are trending in the world of media. They are a great resource when pitching your Club's event.

As you develop your "pitch," make sure it is short and concise. Tell the reporter your Club's news, why it's important to their readers/viewers, and any information related to the NFC. Here are a few additional helpful hints:

- In the email pitch, know your objectives:
    - Who is the source?
        - Note: Offer interviews with Club members, if possible.
    - What is the angle?
    - When and where is the event taking place?
    - Why should the reporter care? (Tie the pitch to youth, family, health and wellness, educational programs, as well as any success stories.)
- Follow up email pitches with a phone call.
- Submit any photos relevant to your pitch.
- Always personalize your email (e.g., Dear Steve).
- Include a clear and concise subject line.

Template Media Pitch

Please select a sample media pitch below when reaching out to local media to promote your event. Make sure to customize your Club in the pitch, and point out opportunities where media can get visuals, interviews, etc. Make sure the media representatives know the exact time they should arrive.

Headline:
Boys & Girls Club of [Insert CLUB NAME] to Host National Fitness Competition, Sponsored by Nestlé

Body of email:
Boys & Girls Club of [Insert CLUB NAME] teens will participate in the National Fitness Competition on [Insert DATE]. The NFC competition, sponsored nationally by Nestlé, strives to get teens active and bolster their self-esteem. Participants will learn how to set personal goals, test their level of physical fitness and gauge their own improvement as they participate in the event. Above all, the National Fitness Competition will allow members to take pride in themselves and their abilities as they learn that physical activity is a fun and integral part of a healthy lifestyle.

Join us on [Insert FULL DATE] at [Insert TIME OF DAY] at [insert ADDRESS] to see the National Fitness Competition in person. Visuals and opportunities include:

- Hundreds of Boys & Girls Clubs of [Insert CLUB NAME] teens actively competing in various physical challenges
- Opportunity to participate with teens on camera
- [Insert NAME OF SPOKESPERSON] available onsite for interviews about the National Fitness Competition and the importance of keeping teens healthy and active during the summer and throughout the school year

Please let me know if you will be available to attend.

Thank you!

Template Media Alert

[Insert CLUB LOGO]

MEDIA ALERT

[Insert CLUB NAME] TO HOST NATIONAL FITNESS COMPETITION
FOR LOCAL TEENS – THANKS TO NESTLE

WHAT: Boys & Girls Club of [Insert CLUB NAME] will host the National Fitness Competition, sponsored by Nestlé – a national partner of Boys & Girls Clubs of America. The competition will feature Club teens learning how to set personal goals, test their level of physical fitness, and gauge their personal improvement as they participate in the event.

WHY: The National Fitness Competition allows members to take pride in themselves and their abilities as they learn that physical activity is a fun and integral part of a healthy lifestyle. With more than 3 out of 10 young people considered obese or overweight, early education and active programming for youth is critical for a healthier tomorrow.

WHEN: [Insert DATE and TIME]

WHERE: [Insert CLUB ADDRESS and any other SPECIFICS ON LOCATION as relevant]

INTERVIEWS & VISUALS:

- Live shots of teens competing from Boys & Girls Club of [Insert CLUB NAME], with teens competing
- Opportunity to participate with teens on camera
- [Insert NAME OF SPOKESPERSON] available onsite for interviews about the National Fitness Competition and the importance of keeping teens healthy and active during the summer and throughout the school year

Share Your Event on Social Media

Social media is key to successfully promoting the NFC at your Club. Keep your followers up to date on all the excitement. Share with BGCA, too, by linking to the relevant social channels:

- Boys & Girls Clubs of America
  - Facebook: http://www.facebook.com/#!/bgca.clubs
  - Twitter: @BGCA_Clubs; https://twitter.com/BGCA_Clubs
  - Instagram: @BGCA_Clubs

Below are best practices for social media, and suggested posts for the day of your event:

Facebook

- Make your posts engaging by including appropriate pictures and videos
- Read, comment and interact with Facebook friends and fans
- Visit BGCA's Facebook page for information to share with your friends and followers
- Be sure to tag BGCA where relevant – just like our page and then tag BGCA in the post

Sample Post
The National Fitness Competition at [Insert CLUB NAME] is underway! Let's hear it for our Club youth who are working hard today – and every day – to lead a life of health and well-being! Now, let the competition begin!

Twitter

- Tweet and link to our Twitter handle @BGCA_Clubs
- Share with @BGCA_Clubs and we'll try to retweet to our followers
- TwitPic (or share through Instagram) to include a photo with your tweet – such as children participating in the activities or just moving around and having fun
- Use ow.ly or bit.ly to shorten your URLs – Twitter only allows 140 characters
- As a best practice, keep tweets less than 120 characters (despite the 140-character maximum) to encourage Club supporters to retweet your post.
- Read, comment and interact with Twitter followers

Sample Post
The National Fitness Competition at [Insert CLUB NAME] is underway! Our teens are ready for a day full of challenges – including running, jumping and balancing! #GreatFutures

Instagram

- Link a post to our Instagram handle @BGCA_Clubs, and we'll be sure to like it
- Remember, you can pulse out your Instagram photos to Facebook and Twitter

Sample Post
The teens of [Insert CLUB NAME] are having a great day at the National Fitness Competition! Everyone is working hard to complete each new challenge. They set a positive example for leading a healthy lifestyle. Keep it up, everyon

SIGN-UP SHEET

PARTICIPANT NAME	PRESENT YES/NO	CERTIFICATE AWARDED
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SIGN-UP SHEET

PARTICIPANT NAME	PRESENT YES/NO	CERTIFICATE AWARDED
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SIGN-UP SHEET

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SIGN-UP SHEET

PARTICIPANT NAME	PRESENT YES/NO	CERTIFICATE AWARDED
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Training Tips for the Limited Space Model adaption of the NFC

PACER Shuttle Run
Prepare to run a short distance as fast as you can. Wear comfortable sneakers. Breathe deeply before and during your run. Pace yourself.

Curl-Ups
Lay on the floor with your arms crossed against your chest, then sit up and touch your elbows to your thighs. Keep your chin tucked tightly to your chest as you sit up. Inhale as you lean back and exhale as you come forward.

Push-Ups
Space your arms away from your body and spread your legs evenly apart so your body is perfectly straight. Most people will do best if their hands are shoulder-width apart. Always inhale as you go down and exhale as you push up.

4x10-meter Shuttle Run Challenge
Start from a stationary standing position, with one foot behind the starting line and the other behind it. Bend forward at the waist, with your back flat and knees flexed. Keep your head up, and look straight ahead. The key is to relax during the run, going as fast as you can until you reach the finish line. When picking up a sponge, be sure to get as low as possible once you've reached the finish line.

Broad Jump
Stand with your feet together behind the starting line. Take a deep breath, bend your knees and jump as far forward from the line as you can. The point where you land is measured and recorded. If you fall back or step back or if a hand touches the ground due to poor balance, the point nearest the starting line is recorded.

Standing Vertical Jump
Before you jump, be sure to stretch your legs, arms and abdominal muscles. Look at the spot on the measuring tape that you want to hit. Bend your knees and swing your arms forcefully as you jump up. This will help you jump higher.

Hula- Hoop
Jump rope for 60 seconds, completing as many single jumps as you can. Relax, focus and time your jumps for when the rope is passing over the ground. The goal is to complete as many jumps as you can within the time allotted, with the rope passing beneath your feet each time. If you trip or miss a jump, don't stop the clock. Continue jumping!

Watch Your Scores Soar!

With a little practice and a whole lot of fun, you can increase your scores and do your best in the NFC.

1. Drink Lots of Water
Members should drink 14 to 22 ounces of fluid two hours before physical activity. Drinking water will increase your endurance and coordination during events. Never wait until you're thirsty to drink. To prevent dehydration, drink plenty of water before, during and after exercise. Water helps us digest our food, keeps our body temperature right, moves our blood throughout our bodies, carries nutrients and oxygen to cells throughout the body, removes toxins and other wastes, keeps our joints from rubbing together, protects our tissues and organs, and makes us feel more full (less hungry).

2. Warm up
Don't forget to warm up before your events. Some people think they can save energy by not warming up. The purpose of the warm-up is to prepare the body for the activity ahead by slowly elevating the heart rate, and increasing body temperature and blood flow to the muscles. Once the body temperature is elevated, muscles are better able to perform, decreasing the potential for strains, pulled muscles and aches. A good five- to 10-minute warm-up fills your muscles with oxygen-rich blood and increases flexibility. Heart rate also rises, which means you'll perform more efficiently right off the bat.

3. Practice
You can easily test yourself under competitive conditions. Have a friend or staff member time you on each event. Complete the entire set of activities several times before the official competition. Consider it “doing your homework.” Make sure you log five or six practice sessions before the big day.

4. Visualize
Part of preparation for any event is mental. You can build up physical conditioning, but mental preparation is just as important. Much of the improvement in anyone’s physical performance happens because of practice and conditioning, but it’s often mental preparation that gives competitors that “winning edge.”

5. Eat Smart
Try to eat a full breakfast on the day of the NFC. Wake up earlier, if you have to, to allow enough time to digest your breakfast before the competition. If the competition is in the afternoon, definitely eat a full breakfast in the morning. By fueling up on the days prior to the race, your body can replace the nutrients burned up through exercise.

6. Get Plenty of Rest
You've probably heard that the two days before the race are the most important. By getting plenty of sleep in the days prior to the competition, you’ll accrue enough rest for the competition even if you don’t sleep so well the night before the big day.

National Fitness Competition Resource Guide:

Sample Staff/ Volunteer Guide

Use this real-life example as a guide for creating your own staff/volunteer guide

BOYS & GIRLS CLUBS OF AMERICA

In partnership with

Nestlé

Good Food, Good Life

Welcome to the National Fitness Competition

This program supports the entire culture of wellness Boys & Girls Clubs foster throughout the year. Twice annually – once in the spring and again in the fall – Clubs will hold local fitness competitions for their members. This field-day competition will allow all members to test their levels of physical fitness. Each participant will compete against themselves and each other to achieve the highest possible score in [insert NUMBER OF EVENT STATIONS] competitions

Please consider this Volunteer Guide as your toolkit to effectively support this event.

The Run-Down

When: [Insert DATE]; [Insert TIME]

What: Boys & Girls Clubs of [Insert CLUB NAME] will hold a one-day Fitness Competition for their members

Who: [Insert **NUMBER OF MEMBERS**] Club members are expected to attend the event

Where: [Insert ADDRESS where event will be held]

Why: BGCA and our partners believe in the benefits of a healthy lifestyle. Club members will compete against themselves and strive for improvement-building intrinsic motivation, confidence and physical competence- thus enhancing the Club's overall culture of wellness.

How: Members will assemble in [Insert NUMBER OF GROUPS] groups of [Insert NUMBER OF MEMBERS PER GROUP], each group moving from station to station together. Because there are more event stations than groups, there will always be multiple open event stations. Upon completion of each event, groups can vote which station to complete next. At least [Insert NUMBER OF VOLUNTEERS PER STATION] volunteers will be stationed at each event station, recording scores on scorecards. Boys & Girls Club staff will serve as group leaders, staying with their previously assigned group throughout the competition, moving from station to station with the group.

National Fitness Competition Run of Show

[Insert DATE]
[Insert TIME]

You will support Boys & Girls Club staff to ensure all National Fitness Competition participants have a fun, safe and meaningful experience.

[TIME]	Arrival
[30 minutes]	Volunteer Orientation
[TIME]	BGCC members arrive
[30 minutes]	Preparation/ Warm-up with Club members
[30 minutes]	Remarks
[2 hours]	Fitness Competition; Supervise competition stations

- Each volunteer will be assigned to run one station for the duration of the competition. There will be at least [Insert NUMBER] volunteers at each station.

[10 minutes]	Awards
[45 minutes]	Lunch with Club members
[TIME]	Depart

During arrival time, you will guide members in various preparation/ warm-up activities. You will be assigned a group to engage in the following activities until the event starts. There will be a labeled area for each group to gather upon their arrival, to begin warm-up activities.

Below are some activities you can facilitate with the Club members:

- Create a team name
- Create a team chant
- Create a team walk
- Lead group warm up exercises

Description of Stations

Each time a new group rotates to your station, you will be responsible for giving instructions to the members, facilitating the competition for your station with all participants, and recording the scores of all participants.

[Include a description of each event station your Club has decided to include in your NFC.]

Scorecard

_____ _____

Member Name Date

Event	Score
Aerobic Capacity Challenge	
Curl-ups	
Push-ups	
Front Plank	
Broad Jump	
Standing Vertical Jump	
Forward Lunges	
4x10-meter Motor Fitness Challenge	
Sport Stacking	
Hula-Hoop Challenge	

BOYS & GIRLS CLUBS OF AMERICA

NATIONAL FITNESS COMPETITION

COMMIT! BE FIT!

SPONSORED BY Nestlé

Goal Setting Sheet

GOAL SETTING

Member Name

Age Date

1 Did you have fun? YES NO

2 Did you try something new? YES NO

3 Write your Fall National Fitness Competition scores for each of these events:

SHUTTLE RUN CURL-UPS PUSH-UPS

4 Rank your feelings about your National Fitness Competition results:
Circle a number from '1' for 'help!' to '10' for 'nailed it!'

1 2 3 4 5 6 7 8 9 10

5 Why do you feel that way about your National Fitness Competition results?

6 Check which fitness event(s) you want to improve for the Spring National Fitness Competition:

SHUTTLE RUN CURL-UPS PUSH-UPS

WE ARE GOING TO WORK AT THE BOYS & GIRLS CLUB TO HELP YOU IMPROVE YOUR SCORE.

What will you do at HOME and SCHOOL to improve your score?

What exercises will you practice to meet your goal?

My goal is to do _____ SHUTTLE RUN CURL-UPS PUSH-UPS
Enter number Circle one

by the next National Fitness Competiton.

I, _____, COMMIT TO BE FIT!
Print name

Signature Date

GOAL SETTING

Member Name

Age Date

1 Did you have fun? YES NO

2 Did you try something new? YES NO

3 Write your Fall National Fitness Competition scores for each of these events:

SHUTTLE RUN CURL-UPS PUSH-UPS

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SHUTTLE RUN CURL-UPS PUSH-UPS

WE ARE GOING TO WORK AT THE BOYS & GIRLS CLUB TO HELP YOU IMPROVE YOUR SCORE.

What will you do at HOME and SCHOOL to improve your score?

What exercises will you practice to meet your goal?

My goal is to do _____ SHUTTLE RUN CURL-UPS PUSH-UPS
Enter number Circle one

by the next National Fitness Competiton.

I, _____, COMMIT TO BE FIT!
Print name

Signature Date


BOYS & GIRLS CLUBS OF AMERICA
NATIONAL FITNESS COMPETITION
COMMIT! BE FIT!
SPONSORED BY Nestlé
Fall 2016
CERTIFICATE OF PARTICIPATION
BOYS & GIRLS CLUBS OF AMERICA
NATIONAL FITNESS COMPETITION
COMMIT! BE FIT!
SPONSORED BY Nestlé
THANK YOU
for participating in Boys & Girls Clubs of America's
National Fitness Competition.
Jim Clark, President and CEO
Boys & Girls Clubs of America

BOYS & GIRLS CLUBS OF AMERICA

NATIONAL FITNESS COMPETITION

COMMIT! BE FIT!

SPONSORED BY Nestlé

Spring 2016

CERTIFICATE OF PARTICIPATION

THANK YOU

for participating in Boys & Girls Clubs of America's
National Fitness Competition.

Jim Clark, President and CEO
Boys & Girls Clubs of America