

LONG-TERM ATHLETIC DEVELOPMENT (LTAD) FOR THE PERSONAL TRAINER

A THREE-PART SERIES—PART ONE: AWARENESS—WHAT IS LTAD AND WHY IS IT IMPORTANT FOR PERSONAL TRAINERS?

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Trends in health and wellbeing data of youth are of particular interest because healthy children tend to become healthy adults (10). Unfortunately, current efforts are failing as physical activity rates continue to decline, mental health is a major concern, and the parents of youth are also in declining health.

SERIES INTRODUCTION

To fully embrace long-term athletic development (LTAD) as a framework toward physical literacy, personal trainers seeking to improve the fitness, health, and wellbeing of clients at all levels, abilities, and ages need to fully integrate the acquisition and refinement of skills related to play, fitness, and sports participation across the lifespan. To do so requires awareness of protocols that lead youth and adults through the progressions and regressions necessary to achieve motor skill competence and self-efficacy as well as proper muscle strength and other fitness attributes. This leads to the action of knowing how best to use LTAD to guide the physical literacy journey. Then, tracking the success of clients' journeys will enable personal trainers to share results of the efficacy of personal training toward a physically literate culture, which has been lacking in the profession (12). This three-part series shows how personal trainers can create a physically literate cradle-to-grave culture for all, with LTAD as the framework. This first article in this series addresses awareness, as well as what LTAD is and why is it important for personal trainers. The second article covers actions and how personal trainers can integrate LTAD into their programs for clients. The third and final installment is about accountability and how personal trainers measure success.

WHAT IS LTAD?

According to the National Strength and Conditioning Association (NSCA) Position Statement on LTAD, LTAD is the “habitual development of athleticism over time to improve health and fitness, enhance physical performance, reduce the relative risk of injury, and develop the confidence and competence of all youth,” (11). According to this definition, “athleticism” is a term that applies across all populations and can continuously be developed across the lifespan. Getting clients of all ages to think of themselves as athletes improving their athleticism helps personal trainers create a growth mindset that focuses on the clients' current abilities. LTAD provides the framework for personal trainers to build a physically literate culture.

CLEAR COMMUNICATION IS KEY TO THE PHYSICAL LITERACY JOURNEY

Consistent definitions of the terms that personal trainers use with clients is the first step to increasing clients' understanding and buy-in for their own physical literacy. Several studies have pointed out the difficulties that can arise when definitions are not clear,

are ambiguous, or are not well understood (13,15,16). While many of these terms are not clearly defined in current LTAD literature, it is worthwhile to suggest workable definitions that help delineate which term should be used when to help clients take better control of their physical literacy journey.

“Physical literacy” is a global umbrella term that refers to a “multidimensional concept that describes a holistic foundation for physical activity engagement,” (5). Physical literacy is a process that includes the affective (motivation and confidence), physical (physical competence), cognitive (knowledge and understanding), and behavioral (engagement in physical activities for life) domains. A systematic review of the effectiveness of physical literacy interventions found that physical literacy interventions positively influenced these domains in decreasing order: physical competence, physical literacy, knowledge and understanding, physical activity behavior, and motivation and confidence (4). Physical literacy has been described as both a concept and an application (9). As a concept, physical literacy has been defined as the confidence and competence to be physically active across the lifespan by engaging in a variety of activities on a variety of surfaces under a variety of conditions (8). In academic terms, physical literacy has been likened to literacy in other school subjects, such as health literacy and math literacy. Without developing the fundamental building blocks of “ABCs” and “123s,” it is less like that students will be able to understand more complex material. For physical literacy, without developing fundamental motor skills and muscle strength, it is less likely that clients will seek to continue their physical literacy journey. Physical literacy includes physical work literacy, physical activity literacy, and physical cultural literacy, all concepts that extend well into adulthood. As clients continue their physical literacy journey and learn skills in all domains, physical literacy becomes a lifelong journey where each client's disposition, learning, and interest evolve and lead to changes along the journey to meet clients where they are, at that stage. For this reason, physical literacy is not something that is ever achieved, but it acts as a guide through the purposeful pursuit of physical activity as an integral part of a healthy lifestyle.

PHYSICAL ACTIVITY AND PHYSICAL LITERACY ARE NOT THE SAME

“Physical activity” is another umbrella term. Physical activity focuses predominantly on the physical domain rather than all four domains like physical literacy, so physical activity is a broad term but not as broad as physical literacy. Physical activity is any bodily movement that uses the muscular system and uses energy (burns calories). This is an important distinction when working with clients as many times the terms “physical activity,” “exercise,” and “fitness” are often used interchangeably; there are distinct

differences between these terms. “Exercise” is a specific type of physical activity that is a structured, planned, and repetitive bodily movement done to improve and/or maintain one or more components of physical fitness (2). “Fitness,” then, is the measure of the client’s abilities in these physical components, which have been determined to be vital for overall health and wellbeing, and sometimes performance. The fitness measures with which clients are most familiar are cardiorespiratory fitness (measure of the heart and lungs’ ability to use oxygen), muscle fitness (which lumps muscle endurance [repeated contractions against submaximal resistance], muscle strength [fewer repetitions against heavier resistance], and muscle power [muscle force expressed quickly together in one category]), and flexibility (range of motion at a specific joint).

WHAT THE FITNESS INDUSTRY TENDS TO MISS ABOUT PHYSICAL LITERACY

The fitness industry tends to focus on fitness measures within the fitness domain and not integrate holistic measures within the affective, cognitive, and behavioral domains. When thinking more holistically with physical literacy, clients do not necessarily need to be targeting specific measures of fitness through exercise—the physical literacy journey, which might include learning a new activity, challenging oneself in a different environment, or enjoying the variety of movement experiences, may be enough motivation to keep the client active. Although physical literacy does not necessarily focus on fitness, clients can certainly have fitness as a focus along the journey, but it is not the only measure. It is part of the holistic celebration of choosing a lifestyle of physical activity throughout the lifespan. Physical literacy, with LTAD as the framework, can therefore be a strategy to increase fitness, health, and wellbeing. In fact, a recent study suggested that “physical literacy may present a novel and holistic framework for health-enhancing physical activity interventions that consider factors vital to sustained participation in physical activity across the life course” (5).

“Health” is a difficult term for many clients to come to grips with as it has been represented in many different ways. Health can be described as the state of not being sick or injured or as a client’s state of health, as measured by a client’s physical, mental, and social wellbeing. A client’s state of health aligns more closely with the concept of physical literacy. “Health” and “wellness” are terms that are often linked together, and “health” is often included in definitions of “wellness.” The definitions of “wellness” and “wellbeing” can also be confusing. Some definitions use “wellness” as the state of health and “wellbeing” as the pursuit of health and others transpose the terms. If the same logic is applied as with exercise and fitness, wellness can be defined as “active pursuit of activities, choices, and lifestyles that lead to a state of holistic health” and wellbeing can be thought of more personally and individually as a measure of what is intrinsically valuable relative to a client’s self-interest at that point of time. If personal trainers can agree on common terminology, which is sorely needed to help change the tide in the low measures of each term, it follows that it should be easier to get clients on the same page with their fitness, exercise, health, wellness, and wellbeing.

DESPITE OUR EFFORTS, FITNESS, HEALTH, AND WELLBEING ARE NOT IMPROVING

Personal trainers are called upon to improve the fitness, health, and wellbeing of a wide variety of clients, from seniors to adults, to children. The challenge is that fitness, health, and wellbeing in the United States are not improving. Research shows that only 35 – 44% of adults 75 years or older are physically active, and 28 – 34% of adults ages 65 – 74 are physically active (14). Less than 5% of adults participate in 30 min of physical activity each day and only 33% of adults receive the recommended amount of physical activity each week (14). Unfortunately, nearly 80% of adults and children do not meet the World Health Organization guideline of 60 min per day of physical activity (14).

In a five-year study that tracked the health and wellbeing of 174,551 children between 2016 – 2020, there was a decrease in daily physical activity from 24.2% to 19.8%, an increase in anxiety from 7.1% to 9.2%, and an increase in depression from 3.1% to 4.0% (10). In addition, from 2019 – 2020, there were increases in behavior or conduct problems from 6.7% to 8.1%. The health and wellbeing trends for parents were not better, with parent or caregiver mental health decreasing from 69.8% to 66.3% and coping with parenting demands decreased from 67.2% to 59.9% (10). It is difficult for parents to positively influence children’s health behaviors if they struggle with their own issues.

AWARENESS OF LTAD AND THE NSCA POSITION STATEMENT ON LTAD

A holistic approach has been proposed in the NSCA Position Statement on LTAD (11). Ten pillars of LTAD were proposed to address the most important considerations for the long-term success of youth athletes. At the core of LTAD is the cradle-to-grave concept upon which long-term success toward a physically literate culture can be attained for people of all ages and abilities.

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TABLE 1. THE NSCA 10 PILLARS OF LTAD

Pillar 1	LTAD pathways should accommodate for the highly individualized and non-linear nature of the growth and development of youth.
Pillar 2	Youth of all ages, abilities, and aspirations should engage in LTAD programs that promote both physical fitness and psychosocial wellbeing.
Pillar 3	All youth should be encouraged to enhance physical fitness from early childhood, with a primary focus on motor skill and muscular strength development.
Pillar 4	LTAD pathways should encourage an early sampling approach for youth that promotes and enhances a broad range of motor skills.
Pillar 5	Health and wellbeing of the child should always be the central tenet of LTAD programs.
Pillar 6	Youth should participate in physical conditioning that helps reduce the risk of injury to ensure their on-going participation in LTAD programs.
Pillar 7	LTAD programs should provide all youth with a range of training modes to enhance both health- and skill-related components of fitness.
Pillar 8	Practitioners should use relevant monitoring and assessment tools as part of a LTAD strategy.
Pillar 9	Practitioners working with youth should systematically progress and individualize training programs for successful LTAD.
Pillar 10	Qualified professionals and sound pedagogical approaches are fundamental to the success of LTAD programs.

LTAD has been shown to have success in promoting physical literacy (1,4,6,7). Interventions included sports participation, exercise, and physical education. The Balyi model of LTAD is the model most studied as the identified stages lend themselves to structured evaluation (3). The stages of the Balyi model are:

- Stage 1: Active Start (0 – 6 years old)
- Stage 2: FUNdamental (girls 6 – 8, boys 6 – 9)
- Stage 3: Learn to Train (girls 8 – 11, boys 9 – 12)
- Stage 4: Train to Train (girls 11 – 15, boys 12 – 16)
- Stage 5: Train to Compete (girls 15 – 21, boys 16 – 23)
- Stage 6: Train to Win (girls 18+, boys 19+)
- Stage 7: Active for Life (any age)

The stages of the Balyi model provide guidance for each chronological age of youth with a focus on development from “the playground to the podium,” while the pillars of the NSCA model provide strategies to consider across ages and stages with a focus on holistic youth development. Both models have the ultimate aim of continuing to be active throughout the lifespan. With that in mind, the next step is to determine how best to use the models to promote physical literacy from cradle to grave.

LTAD IS A CRADLE-TO-GRAVE CONCEPT

The application of physical literacy across the lifespan needs to be the focus of all practitioners in the fitness industry, including personal trainers. One important highlight of LTAD as a cradle-to-grave concept is that the opportunities to play and participate in organized sports and activities in youth builds skills that can be used throughout the lifespan. Any gap, overuse, or negative experience can diminish the skill development and enjoyment of the sport or physical activity. Application of the prominent models of LTAD can provide personal trainers important information for training youth to increase measures of physical literacy.

While there is limited scientific literature that measures the efficacy of personal training programs, a recent study found that personal training could positively affect clients' readiness to change (12). There are two challenges that need to be addressed: 1) the actions within LTAD that personal trainers should consider to truly affect all four domains of physical literacy need to be delineated, and 2) there does not exist a lot of data on the efficacy of personal training on physical literacy.

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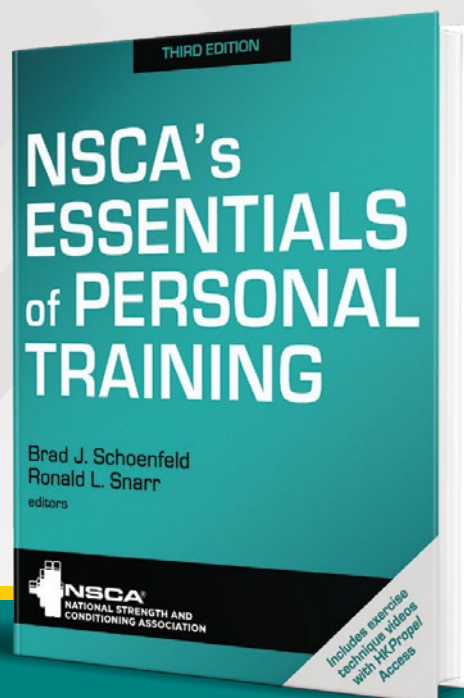
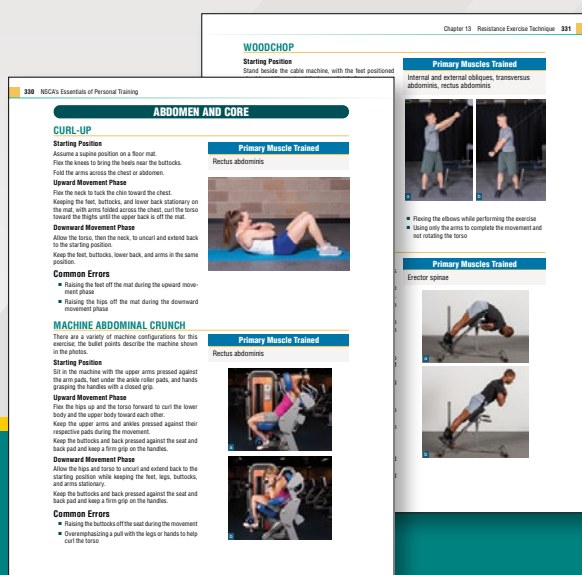
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