



MAPPING THE LANDSCAPE OF YOUTH MOTOR COMPETENCY DEVELOPMENT: A SURVEY OF STRENGTH AND CONDITIONING COACHES' PERCEPTIONS AND PRACTICES

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Abstract:

This research paper investigates the landscape of youth motor competency development through a comprehensive survey of strength and conditioning coaches. With a focus on understanding coaches' perceptions and practices, the study aims to bridge existing gaps in the literature surrounding the critical nexus of motor competency, youth development, and strength and conditioning coaching. The research employs a mixed-methods approach, integrating quantitative data from a survey instrument with qualitative insights gathered from experienced coaches. The participants, drawn from diverse coaching backgrounds, contribute to a nuanced exploration of their beliefs and methodologies in nurturing motor skills among youth athletes. The findings not only shed light on common trends and patterns in coaches' approaches but also offer critical insights into potential areas for improvement in current coaching practices. The implications of this research extend to the practical realm, providing valuable guidance for the design and enhancement of youth strength and conditioning programs. By mapping the perspectives and practices of strength and conditioning coaches, this study contributes to a holistic understanding of the factors influencing youth motor competency, fostering the groundwork for more effective and tailored interventions in youth sports development.

Introduction:

Motor competency in youth development is crucial for the holistic growth and well-being of children and adolescents. Motor competency refers to the ability to perform various motor skills effectively and efficiently. This encompasses fundamental movement skills such as running, jumping, throwing, catching, and balance. Motor competency lays the foundation for a physically active lifestyle. Proficiency in fundamental movement skills is linked to overall physical fitness and health. Well-developed motor skills contribute to the prevention of sedentary behaviours and obesity in children. Motor skills are closely linked to cognitive functions. The development of motor competency is associated with enhanced cognitive abilities, including memory, attention, and problem-solving skills. Learning and mastering motor skills often involve complex cognitive processes, fostering brain development. Motor competency influences social interactions and peer relationships. Children with well-developed motor skills may experience greater success and enjoyment in physical activities and team sports. Success in physical activities contributes to improved self-esteem and confidence, positively impacting overall emotional well-being. Research suggests a positive correlation between motor skills and academic performance. Physical activity and the development of motor competency may enhance cognitive functioning, potentially benefiting academic achievement. Early development of motor skills establishes a foundation for lifelong physical activity and sports participation. Children who are competent in fundamental movement skills are more likely to engage in physical activities throughout their lives, promoting long-term health. Motor competency is essential for coordination and control of movements, reducing the risk of injuries during physical activities and sports. Children with well-developed motor skills are better equipped to navigate their environment safely. Developing a range of motor skills enhances a child's adaptability to various physical activities and sports. This adaptability is valuable for participating in a diverse array of recreational activities and adapting to new challenges. Fostering motor competency in youth is not only essential for physical health but also plays a vital role in cognitive, social, and emotional development. Investing in the development of



these skills during the formative years sets the stage for a healthy and active lifestyle throughout an individual's life.

The significance of strength and conditioning in fostering motor competency in youth is substantial, as it plays a pivotal role in enhancing various aspects of physical development and overall well-being. Strength and conditioning programs are designed to improve muscular strength and endurance. These physical attributes are fundamental for executing motor skills effectively, providing the necessary power and stamina required for activities such as running, jumping, and lifting. Strength and conditioning exercises often involve functional movement patterns that mimic activities of daily living and sports-related movements. These activities contribute to the development and refinement of motor skills essential for coordinated and efficient movement. Strength and conditioning workouts often incorporate exercises that challenge coordination and balance. These challenges are directly beneficial for the development of motor skills, as they require precise control of movements and spatial awareness. Flexibility is a critical component of motor competency. Strength and conditioning programs that include stretching and mobility exercises contribute to improved flexibility and a broader range of motion, supporting the execution of various motor skills. Strength and conditioning programs aim to strengthen muscles, ligaments, and tendons, reducing the risk of injuries during physical activities. This is particularly important in youth sports where injury prevention is a priority. Participation in strength and conditioning activities can boost a child's confidence by providing a structured environment for skill development. As children see improvements in their physical capabilities, they are likely to feel more confident in their overall motor skills. Strength and conditioning coaches often incorporate drills and exercises that directly target fundamental movement skills. These skills, such as running, jumping, and throwing, are the building blocks of motor competency, and their targeted development is crucial for overall physical competence. Strength and conditioning programs can be tailored to specific sports, focusing on the motor skills and physical attributes needed for optimal performance in those activities. This sport-specific training contributes to well-rounded athletic development. Instilling the importance of strength and conditioning at a young age can promote a lifelong commitment to physical fitness. Youth who engage in regular strength and conditioning activities are more likely to carry these habits into adulthood, contributing to sustained motor competency. In summary, strength and conditioning serve as a catalyst for the development of motor competency in youth by targeting key physical attributes, teaching fundamental movement skills, and providing a foundation for a healthy and active lifestyle. Integrating these principles into youth fitness programs can have lasting benefits on both physical and motor skill development.

Motor Competency in Youth:

Motor competency in youth refers to the proficiency and development of fundamental movement skills that form the basis for more complex physical activities. These skills are essential for children and adolescents to navigate their environment, engage in sports and physical activities, and support overall physical, cognitive, and socio-emotional development. Motor competency involves the mastery of fundamental movement patterns that contribute to fluid, coordinated, and efficient motion. Basic movements involving transportation from one place to another, such as running, jumping, hopping, and skipping. Skills related to object control, including throwing, catching, kicking, and striking. Involving larger muscle groups and whole-body movements, such as crawling, walking, running, and jumping. Involving smaller muscle groups and more precise movements, like grasping, writing, and using tools. Maintaining stability while stationary, essential for activities like standing on one foot or maintaining a balanced posture. Maintaining stability during movement, crucial for activities like running, changing direction, and participating in sports. Understanding one's body in relation to the surrounding space and objects, crucial for activities that require navigation, agility, and reaction to the environment.



Coordination involving the use of both sides of the body, helping in activities that require bilateral coordination and symmetry. Awareness of one's body position and movements without relying on visual cues. Proprioceptive skills are important for activities that involve body control and spatial orientation. Mastery of skills related to handling and controlling objects, such as throwing, catching, kicking, and striking. The ability to process sensory information and integrate it with cognitive functions, supporting effective decision-making during physical activities. Motor competency follows a developmental progression. Children typically acquire basic motor skills before progressing to more complex and refined movements. Motor competency is interconnected with cognitive, social, and emotional development. Proficient motor skills contribute to enhanced self-esteem, confidence, and the ability to engage in a variety of activities. Early intervention in motor skill development is crucial for setting a foundation for a physically active lifestyle and fostering a positive attitude toward physical activity. In summary, motor competency in youth encompasses a range of fundamental movement skills, balance, coordination, and spatial awareness. Its development is vital for overall well-being, supporting children and adolescents in their physical, cognitive, and social growth. Encouraging and facilitating the acquisition of motor competency in youth contributes to a foundation for a lifetime of healthy, active living.

Motor competency plays a fundamental and multifaceted role in overall child development, influencing various aspects of physical, cognitive, social, and emotional well-being. Here's an overview of the key roles of motor competency in the holistic development of children:

1. Physical Health and Fitness:

- **Motor Skills and Physical Activity:** Proficient motor skills enable children to engage in a wide range of physical activities, promoting cardiovascular health, muscle development, and overall physical fitness.

- **Obesity Prevention:** Competence in fundamental movement skills contributes to an active lifestyle, reducing the risk of sedentary behaviour and obesity in children.

2. Cognitive Development:

- **Brain Development:** Learning and mastering motor skills involve complex cognitive processes. The neural connections formed during motor skill development contribute to overall brain development.

- **Executive Function:** Motor competency is linked to improved executive functions, including attention, working memory, and problem-solving skills.

3. Social and Emotional Well-being:

- **Self-Esteem and Confidence:** Successfully mastering motor skills enhances a child's self-esteem and confidence, positively influencing their self-perception and social interactions.

- **Peer Relationships:** Motor competency can impact how children relate to their peers, influencing their ability to participate in group activities and sports, fostering positive social interactions.

4. Academic Achievement:

- **Cognitive Engagement:** Physical activities that involve motor skills can enhance cognitive engagement, potentially contributing to improved academic performance.

- **Readiness for Learning:** Fundamental movement skills support the physical readiness needed for classroom activities and learning experiences.

5. Emotional Regulation:

- **Stress Reduction:** Physical activity, including activities that develop motor skills, can serve as a stress outlet for children, promoting emotional regulation and mental well-being.

6. Adaptability and Spatial Awareness:

- **Adaptability:** Proficiency in motor skills enhances a child's adaptability to various physical activities and environments, fostering a sense of flexibility and resilience.



- Spatial Awareness: Motor competency contributes to spatial awareness, helping children navigate their environment and interact with objects and people around them.

7. Fine and Gross Motor Skills Integration:

- Fine Motor Skills: The development of fine motor skills, such as hand-eye coordination and manual dexterity, is crucial for activities like writing, drawing, and using tools.

- Gross Motor Skills: Fundamental movements involving larger muscle groups support activities like running, jumping, and playing sports.

8. Lifelong Physical Activity:

- Establishing Habits: Early development of motor skills sets the stage for a lifelong commitment to physical activity and a healthy lifestyle.

- Preventing Sedentary Behaviour: Proficient motor skills encourage children to participate in physical activities, reducing the likelihood of sedentary behaviour and associated health risks.

In conclusion, motor competency is integral to the holistic development of children, influencing physical health, cognitive abilities, social interactions, emotional well-being, and overall readiness for lifelong learning and physical activity. Encouraging and supporting the development of motor skills in childhood lays the foundation for a healthy and well-rounded adulthood.

Strength and Conditioning in Youth Sports:

Strength and conditioning in youth sports involves a structured and age-appropriate approach to physical training with the goal of enhancing athletic performance, preventing injuries, and fostering long-term physical development. Strength training helps develop muscle strength, which is essential for overall physical performance, injury prevention, and the ability to engage in various sports. Conditioning programs improve cardiovascular endurance, supporting sustained effort during sports activities. Proper strength and conditioning programs target the development of muscles, tendons, and ligaments, reducing the risk of injuries associated with sports participation. Conditioning exercises enhance stability and flexibility, key components in preventing injuries and supporting safe movement. Tailoring strength and conditioning programs to the demands of specific sports helps athletes enhance skills and improve performance.

Training drills improve agility and coordination, crucial for sports that require quick changes in direction and precise movements. Strength and conditioning programs for youth should be designed with consideration for the physical and cognitive developmental stages of the athletes. Awareness of growth spurts and potential overtraining risks, especially during periods of rapid development. Integrating nutrition education into strength and conditioning programs fosters healthy habits and supports optimal performance. Teaching young athletes about the importance of sleep, hydration, and recovery contributes to overall well-being. Achieving physical milestones through strength and conditioning can boost self-esteem and confidence in young athletes. Group training sessions provide opportunities for teamwork, camaraderie, and mutual support among athletes. Strength and conditioning programs can align with LTAD models, considering the athlete's stage of development and emphasizing the importance of diverse physical activities. Encouraging participation in various sports during youth can contribute to overall athleticism and reduce the risk of burnout. Regular evaluations of an athlete's physical progress and readiness help adjust and individualize training programs. Recognizing individual differences and adjusting training based on each athlete's needs, abilities, and goals. Clear communication between coaches, strength and conditioning professionals, and parents ensures a collaborative and supportive environment. Educating parents and coaches on the benefits of proper strength and conditioning fosters a holistic approach to youth athlete development. Encouraging a well-rounded athletic experience and avoiding early specialization helps prevent overuse injuries and promotes a diverse set of physical skills. In summary, strength and conditioning in youth sports are integral components of a comprehensive athlete development program. When implemented appropriately, these programs contribute to physical development, injury prevention,



skill enhancement, and the cultivation of healthy habits, laying the groundwork for a lifelong commitment to physical fitness and sports participation.

Coaches' Influence on Youth Development:

Coaches play a pivotal role in shaping the overall development of youth, extending beyond the athletic domain to influence various aspects of their lives. Here are key ways in which coaches impact youth development:

1. Character Development:

- Role Modelling: Coaches serve as role models, demonstrating essential values such as sportsmanship, integrity, and perseverance.

- Teaching Life Skills: Through coaching, valuable life skills such as teamwork, discipline, and resilience are imparted, contributing to the character development of young athletes.

2. Self-Esteem and Confidence:

- Positive Reinforcement: Supportive and encouraging coaching practices enhance the self-esteem and confidence of young athletes.

- Acknowledgment of Effort: Recognizing effort rather than just outcomes fosters a positive and growth-oriented mindset.

3. Skill Acquisition and Mastery:

- Technical and Tactical Guidance: Coaches provide technical instruction and tactical strategies, contributing to the skill development and mastery of the sport.

- Individualized Coaching: Recognizing and nurturing the unique strengths and weaknesses of each athlete facilitates personalized skill development.

4. Emotional Regulation:

- Coping Strategies: Coaches teach athletes how to cope with stress, pressure, and setbacks, promoting emotional regulation.

- Creating a Positive Environment: A positive and supportive coaching environment fosters emotional well-being and resilience among young athletes.

5. Goal Setting and Motivation:

- Setting Expectations: Coaches set performance expectations and goals, promoting motivation and a sense of purpose among athletes.

- Celebrating Achievements: Acknowledging individual and team accomplishments reinforces motivation and a sense of achievement.

6. Teamwork and Social Skills:

- Collaboration: Team sports provide a platform for learning teamwork and collaboration, with coaches guiding the development of effective interpersonal skills.

- Conflict Resolution: Coaches address conflicts within the team, teaching athletes how to navigate interpersonal challenges.

7. Time Management and Responsibility:

- Balancing Commitments: Coaches help athletes learn to balance sports commitments with academics and other responsibilities.

- Accountability: Encouraging accountability for attendance, punctuality, and preparation instills a sense of responsibility in young athletes.

8. Ethical Decision-Making:

- Fair Play: Coaches emphasize the importance of fair play, ethical behaviour, and respect for opponents and officials.

- Integrity: Modelling and promoting integrity contribute to the ethical development of young athletes.

9. Inclusion and Diversity:



- Creating an Inclusive Environment: Coaches foster inclusivity by ensuring that all athletes, regardless of background or ability, feel welcome and valued.

- Cultural Competence: Sensitivity to cultural diversity and creating an environment that respects and celebrates differences.

10. Communication Skills:

- Effective Communication: Coaches enhance communication skills, teaching athletes how to express themselves, provide feedback, and work effectively as a team.

- Parental Communication: Keeping open lines of communication with parents ensures a collaborative and supportive approach to youth development.

11. Long-Term Impact:

- Lifelong Values: The lessons and values instilled by coaches can have a lasting impact, shaping the character and values of individuals long into adulthood.

- Positive Memories: Positive coaching experiences contribute to lasting memories and a lifelong love for sports and physical activity.

In summary, coaches exert a profound influence on the holistic development of youth, shaping their character, instilling values, and providing a foundation for success both within and beyond the realm of sports. The impact of positive coaching extends far beyond the field, contributing to the growth and well-being of young individuals.

Methodology:

For this review, an electronic poll approach was taken on. In opposition to different methodologies (e.g., eye to eye/phone interviews, postal surveys), online polls are easy to utilize, reasonable, time productive and limit information section mistakes (Sebo et al., 2017). Moreover, web based surveys can be conveyed universally to upgrade member reach (Jones et al., 2008). Accordingly, the underlying and follow up polls were circulated online to S&C mentors liable for creating engine skill in first class (e.g., ability advancement) and non-tip top (e.g., school) youth conditions. The surveys were created and directed utilizing Qualtrics™ programming (Qualtrics, Provo, USA) among April and June 2020.

Members At first, potential members were welcome to take part and given admittance to the surveys through proficient organizations (e.g., LinkedIn), and openly accessible messages, according to the techniques for comparable examinations (e.g., Robertson et al., 2017). To increment possible reach, subtleties of the review and the connection to take part were flowed via online entertainment (e.g., Twitter). To partake, S&C mentors required 1) at least 3 years' involvement with youth conditions (e.g., schools, sports clubs, and ability improvement pathways including youngsters and teenagers matured 18 or more youthful) in view of Drury et al. (2021); what's more, 2) license from a significant overseeing body (e.g., Joined Realm Strength and Molding Affiliation, Public Strength and Molding Affiliation, Australian Strength and Molding Affiliation, English Relationship of Game and Exercise Sciences) as well as a pertinent post graduate capability (e.g., MSc). Such subtleties are inseparable from the base information and experience prerequisites for passage level youth S&C training positions. Altogether, 71 youth S&C mentors (n = 67 male; n = 4 female; experience = 8.2 ± 4.9 years; range = 3-26 years), from 13 nations, finished the two polls. Respondents expressed their essential association (n = 41 group activities; n = 8 individual games; n = 19 school/multi-sports; n = 3 scholarly world) and worked with S&C programs for a few games including: Games (n = 1), Baseball (n = 1), Ball (n = 1), Cricket (n = 2), Free-form snow sports (n = 1), Gaelic Athletic Affiliation (GAA) throwing (n = 1), Aerobic (n = 2), Ice hockey (n = 1), Judo (n = 1), Various games (n = 19), Netball (n = 1), Paddling/Kayaking (n = 1), Rugby (association and association; n = 20), Soccer (n = 17), Short track speed skating (n = 1) and Swimming (n = 1). This study was directed with formal moral endorsement with members giving assent.



Prior to planning the underlying poll, the first creator, who is MSc qualified and has information and involvement with youth S&C, distinguished and characterized a rundown of engine skills. This rundown comprised of 58 abilities, which depended on writing connecting with FMS (Giblin et al., 2014), primary development abilities (Hulteen et al., 2018; Tompsett et al., 2014) and AMSC (Lloyd et al., 2015a). The characterized engine skills were introduced to the fifth creator, who is a teacher of youth athletic turn of events, for assessment and scrutinize. Based the fifth creator's input, 19 definitions were altered and a further 18 capabilities were characterized and included. The modified rundown was investigated once more, and afterward affirmed by means of conversations between the first and fifth creators. Altogether, 76 engine skills were recognized and characterized during this cycle (Strengthening Table 1), and introduced to members during area 2 of the underlying poll. Inside the underlying poll, members gave proposed increments or changes to the underlying rundown introduced. Like other S&C practice research (e.g., Well et al., 2011; Jones et al., 2017), these unconditional reactions were broken down by means of content investigation, (Elo and Kyngäs, 2008) to distinguish and report normal examples inside the information (i.e., recommended extra skills as well as alters to definitions). The cycle included distinguishing key expressions inside reactions that addressed an engine capability, for instance, "I would add development designs connected with creeping", "I would likewise track down it fundamental to foster slithering subsidiaries", and "I would likewise recommend slithering" were recognized as "creeping". Such expressions were contrasted with the underlying rundown introduced, and any comparable expressions were limited. The first creator then audited the expressions that were genuinely not quite the same as those introduced in the underlying rundown, to distinguish and characterize extra engine skills. The characterized rundown of extra capabilities was then evaluated and affirmed through conversations between the first and fifth creators to improve the legitimacy of the subsequent poll. This cycle distinguished and characterized 14 extra engine skills, which were introduced to members in the subsequent survey.

The underlying survey comprised of three areas.

Segment 1 mentioned segment data connecting with the members essential alliance, number of years' involvement with youth S&C, and the age scopes of their competitors/people. The 76 characterized engine abilities were introduced to S&C mentors in segment 2 of the underlying poll. Members were first requested to rate the significance from creating skill in every development in youth populaces on a 5-point scale (1] "not significant", 2] "little significance", 3] "fairly significant", 4] "significant", 5] "vital") (Croasmun and Ostrom, 2011; Fernandes and Randall, 1991). In the wake of rating each of the 76 capabilities, an inquiry without a right or wrong answer inquired as to whether any alters were required, in light of the underlying rundown introduced (e.g., feature a skill that was not initially included; propose alters to the definitions introduced). Segment 3 of the underlying survey expected members to express their recurrence of S&C conveyance (i.e., "month to month", "fortnightly", "week by week", "2 x each week", "3 x each week", "4 x each week" or "> 4 x each week") and their typical meeting length (i.e., "0-30 mins", "31-45 mins", "46 mins - 59 mins", "1-90 minutes" or "> 90 minutes"). Following this, members evaluated how regularly they fostered each engine capability in light of their contact time with their young people on a 5-point Likert-scale (1] "never", 2] "seldom", 3] "some of the time", 4] "frequently", 5] "consistently"). The subsequent survey was created, in light of the unconditional reactions (14 augmentations: Advantageous Table 2) from area 2 of the underlying poll. Members were expected to rate the significance of, and how regularly they designated each extra engine ability. Altogether, S&C mentors appraised their apparent significance and instructing practices of 90 engine capabilities. Information investigation Likert-scale reactions were accounted for as means and standard deviations and level of absolute reactions. Likert-scale reactions were arranged as by the same token "significant" ("significant" + "vital") or "not significant" ("not significant" + "little significance") for discernments, or "regularly grew" ("frequently" + "consistently") or "not habitually grown" ("never" + "once in a long while") for rehearses. To decide the extent of the rates of all out reactions for each engine skill, subjective terms were relegated as follows: Minority = 1.2, huge



(Hopkins, 2000). Skills were positioned by mean score to think about the distinctions between discernments (i.e., significance) and practices (i.e., recurrence of creating capability) for each engine ability.

Conclusion:

This study assesses and looks at the discernments and practices of S&C mentors answerable for creating engine ability in young people. Mentors see it vital to create an expansive scope of capabilities (e.g., speed, opposition preparing, readiness, plyometrics) which is recreated in their training practice conveyance. Discoveries mirror an inclination towards creating obstruction preparing capabilities (e.g., positioned mean scores for it were 18-30 to foster chest area engine capabilities places higher than saw significance), to get ready adolescents for game and more serious S&C programs at following stages in their preparation vocations. This recommends mentors ought to think about their practices to guarantee they are conveying capabilities connected with their competitors/person's necessities. Meeting recurrence however not meeting span altogether affected the number of engine abilities created by mentors, with the people who conveyed 3-4 meetings each week creating 15%- 18% a larger number of capabilities than the people who conveyed meetings two times week after week or less.

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