

PTMs in Sports Sciences: bridging the gap between theory and practice?

I PTM nelle scienze dello sport: colmare il divario tra teoria e pratica?

FERDINANDO CEREDA

The incorporation of practical training modules (PTMs) in Sport Sciences (SSs) degree programmes has been a longstanding subject of controversy in the field. Although the inclusion of the practice of physical activity in undergraduate SSs programmes has recommended, the implementation of PTMs varies across different programmes. The central question persists: should physical activity be mandatory for all SSs students? In this article, the case for PTMs in SSs degree programmes is presented. The theoretical objections encompass dualism, materialism, and utilitarian pragmatism, while the practical objections pertain to cost and public perception. Subsequently, the article discusses why these theoretical and practical objections lack persuasive force. Taking an unequivocal stance on this matter, the primary objective is to demonstrate why PTMs should be an integral part of every SSs degree programme, irrespective of concentration or area of emphasis.

KEYWORDS: SPORTS SCIENCES; PRACTICAL TRAINING MODULES; DEGREE PROGRAMMES; THEORETICAL OBJECTIONS; PRACTICAL OBJECTIONS.

Introduction

The integration of practical training modules (PTMs) within Sport Sciences (SSs) degree programmes has remained a subject of enduring debate and controversy in the field. As the world becomes increasingly health-conscious and sedentary lifestyles prevail, the role of kinesiology¹ in promoting physical well-being and

¹ In Italy, the academic discipline pertaining to physical activity and sports is commonly denoted as "Scienze Motorie e dello Sport" or "Scienze delle Attività Motorie e Sportive," falling under the broader umbrella of Sport Sciences. Conversely, internationally, the prevalent terminology utilised to describe a comparable field of study is "Kinesiology." Although these two designations may exhibit some overlap, "Kinesiology" is widely adopted in many English-speaking countries. In Italy, with D.L. 28 febbraio 2021, n. 36, who hold a Bachelor's and/or Master's degree in Sport Sciences works as a kinesiologist (see <https://www.gazzettaufficiale.it/eli/id/2021/03/18/21G00043/sg>). In this paper, Kinesiology and Sport Sciences will be used interchangeably to refer to the same field of study.

active living has become paramount. Nevertheless, the extent to which PTMs should be incorporated into undergraduate kinesiology programmes continues to elicit differing opinions and practices, especially with the rise of online kinesiology and sports science degree programmes.

The inclusion of the practice of physical activity has advocated for a fundamental aspect of kinesiology education. Despite this recommendation, there exists a divergence in the implementation of PTMs among various academic institutions. The fundamental question persists: should physical activity be mandated for all students pursuing SSs degrees?

This article aims to present a compelling case for the inclusion of PTMs in kinesiology degree programmes. It will delve into both theoretical and practical objections that have been raised against this integration. The theoretical objections encompass philosophical standpoints such as dualism, materialism, and utilitarian pragmatism, which question the necessity of requiring physical activity in an academic context. On the other hand, practical objections pertain to concerns about cost and public perception, which can pose significant challenges to the successful implementation of PTMs.

Nonetheless, the article will critically examine these theoretical and practical objections and demonstrate their lack of persuasive force. It will conduct a comprehensive analysis of the reasons why PTMs should be regarded as indispensable and integral components of every kinesiology degree programme, regardless of the concentration or area of emphasis chosen by the students. The primary aim of this article is to highlight the significance of PTMs in cultivating a holistic comprehension of kinesiology and emphasise their role in preparing future kinesiologists to set a positive example by promoting active and healthy lifestyles. By refuting objections and advocating for a unified stance on this subject, the intention is to contribute to the ongoing discourse concerning kinesiology education and its impact on fostering a physically active society.

The Kinesiology "Undergraduate Core Curriculum" aims to encompass the multi-dimensional study and application of physical activity (Cereda, 2023, p. 29). To achieve this objective, kinesiology requirements should encompass four fundamental areas: physical activity in health, wellness, and quality of life, the scientific foundations of physical activity, the cultural, historical, and philosophical dimensions of physical activity, and the practice of physical activity. Notably, the latter two areas, often referred to as the "sociocultural" and "activity" branches of kinesiology, appear to be relatively underrepresented in the

discipline. Although the neglect of the "sociocultural" area is a crucial concern, it is not the focus of the current discussion. Instead, the attention is directed towards advocating for the inclusion of "the practice of physical activity" as a compulsory component within all kinesiology degree programmes.

A fundamental question arises: Why should all kinesiology students be obligated to engage in physical activity as an integral part of their degree programme?

If indeed these reforms and requirements are deemed necessary, it becomes evident that many programmes, including some highly esteemed ones, are falling short in furnishing students with a crucial element of a comprehensive kinesiology education. However, the underlying reasons for this deficiency remain uncertain. Are the objections to PTMs in the programmes of a theoretical nature or rooted in practical concerns? Should they be founded on theoretical grounds, is it possible to present a robust academic rationale that can persuade sceptics and surmount institutional inertia? If such a basis exists, what are the key arguments supporting it? Concurrently, the implementation of these reforms will not only necessitate conviction and determination but also call for substantial resources such as financial means, time allocation, faculty involvement, and others. Hence, any genuine endeavour to introduce curricular reforms involving activity courses must adequately address both theoretical and practical objections.

If a solid foundation supporting the implementation of PTMs cannot be established, activity courses can be rightfully perceived as a luxury rather than a necessity. Consequently, the proposition to include activity courses in undergraduate core curricula may need to be reconsidered. Given the finite nature of time and resources, if the arguments in favour of PTMs prove ineffective, kinesiologists should prioritise their limited time, energy, and resources on more significant aspects concerning the discipline. For instance, if pre-professional courses, theory courses, or laboratory courses hold greater importance and value for the students, then dedicating any efforts to address the absence of movement in kinesiology programmes would be an inefficient allocation of time and energy.

Alternatively, if activity classes are indeed indispensable for a comprehensive kinesiology education, the prevailing status quo in which such courses are treated as an afterthought becomes untenable. This matter warrants serious and diligent attention. The critical question that arises is: which of the two positions holds a stronger position? Can the current state of minimal commitment to PTMs

be adequately defended? Or does it seem incongruous for a discipline centred around "human movement" to seldom mandate its students to engage in physical activity?

In the realm of kinesiology, proposals advocating for the inclusion of activity in departmental curricula often encounter substantial scepticism and resistance. While some of these doubts may be presented as "pragmatic objections," such as concerns over high costs or inadequate facilities, it becomes evident that beneath these practical concerns lie underlying philosophical objections. The prevalence of these objections implies that many sceptics harbour reservations not only based on pragmatic reasons but also due to philosophical misgivings.

Two possible explanations emerge when considering the chorus of objections raised against the implementation of practical training modules (PTMs). Firstly, some may genuinely support the underlying idea but express reservations about its feasibility given the current circumstances. Their objections are thus pragmatic in nature rather than principled. This perspective is held by certain sceptics of PTMs in kinesiology.

However, a second and more common explanation is that opponents of PTMs raise practical objections not out of genuine appreciation for the idea, but as a strategic means to dismiss it swiftly and persuasively without confronting the underlying philosophical issues. In the modern university, financial considerations wield significant influence, and using such indirect criticism allows one to avoid contentious debates over the philosophy of kinesiology. By confining objections to the pragmatic realm, proponents of PTMs can sidestep revealing their genuine convictions or uncertainties, recognising that voicing theoretical objections could trigger controversies.

As faculty members, they recognise that pragmatic objections may effectively achieve their objectives without risking confrontation over philosophical disagreements. Thus, by focusing on practical concerns, they can advance their stance without divulging their true convictions or doubts.

The extent to which kinesiologists may fall into the duplicitous category remains uncertain, but it is likely not negligible. Addressing solely the pragmatic objections to practical training modules (PTMs) in kinesiology degree programmes will prove insufficient without a corresponding defence of the underlying theoretical and philosophical justifications for their necessity. Without robust philosophical support, any attempts to implement reforms are at risk of

collapse or being stalled in committees, as faculty, department heads, and deans may remain unconvinced of the need for such changes.

To address this challenge, the objective of this paper is to examine the prevalent theoretical and practical objections against PTMs in kinesiology programmes. This examination aims to inspire potential allies to act and provide insights to sceptics. Firmly advocating for the integration of physical activity in kinesiology, it is asserted that physical activity forms an essential foundation of the discipline and should be mandatory for all students. The absence of compelling theoretical or practical grounds reinforces the need to cease neglecting the incorporation of PTMs in the programmes.

Considering the common objections raised, on the theoretical front, three typical objections emerge: dualism, materialism, and utilitarian pragmatism. Dualism posits that the human person consists of two independent components, the "mind" and the "body." Materialism, on the other hand, asserts that only the physical realm is real, defining the human being solely as their material self. Lastly, utilitarian pragmatism emphasises that "good" is synonymous with what is pragmatic and useful, prioritising efficiency and tangible outcomes.

On the practical side, two familiar objections come to light: cost and public perception. The cost objection contends that the university's limited financial resources would be better allocated elsewhere. Lastly, proponents of the public perception argument posit that endorsing PTMs might reinforce outdated stereotypes of kinesiologists as "dumb jocks," from which the discipline has worked to break free.

Perspectives from dualism...

Among the philosophical perspectives that have significantly shaped the Western conception of the human person, mind-body dualism stands out. Popularized by the seventeenth-century philosopher René Descartes (2008), this perspective remains influential in Western societies. Dualism posits a radical distinction between the mind and the body, viewing them as entirely separate and distinct realities. The mind is considered immaterial, transcending the physical and natural worlds, while the body is understood as a material substance composed of cells and atoms. Such a philosophical stance holds profound implications; as the mind is immaterial, it is perceived as the only aspect of the individual that could potentially survive death. In contrast, the body is subject to limitations like

disease, pain, decay, and mortality. Consequently, adherents of Cartesian dualism prioritise the primacy of the mind over the body.

A fundamental principle of dualism posits that thinking or cognitive processes operate independently of bodily emotions and passions. The mind, considered non-physical and potentially existing without the body, is regarded as the essential aspect of personhood. Consequently, activities involving cognitive processes such as thinking, calculating, and reflecting are deemed superior and more reliable compared to bodily tasks such as artistic pursuits, sports, or musical performance. Dualism further contends that the mind can engage in unbiased and dispassionate contemplation, providing a disembodied perspective known as the "God's eye view" of the world.

This perspective is often presented as a scientific or objective way of perceiving the world, free from the limitations imposed by the physical body. Objective measurement allows individuals to transcend subjective limitations and gain a more elevated vantage point, akin to seeing the world as God would supposedly see it. As an example, consider the act of running. From the runner's personal perspective, what aspects of the running experience can be considered actual knowledge? Which aspects can be objectively verified?

According to dualism, if the individual can extract quantifiable data from their running experience through measurement and quantification, the knowledge produced is deemed objective. Utilising sophisticated measurement tools, the mind analyses variables such as lung capacity, oxygen uptake, and speed, generating objective data that constitutes knowledge. On the contrary, subjective knowledge claims about the experience of running are viewed with suspicion due to the intangible, inarticulate, non-theoretical, and non-empirical nature of such assertions. Relying solely on subjective skills or experiences, it is argued, hinders a comprehensive understanding of the essence of running.

Consequently, according to the dualistic perspective embraced by kinesiologists, science plays a crucial role in enabling individuals to perceive activities like running in their truest and most accurate form. The knowledge acquired through theoretical and academic pursuits is perceived as enduring, articulate, and readily transferrable across individuals and generations. Dualism assigns great value to "objective knowledge," considering it the most esteemed form of knowledge that humans can aspire to attain. The dualist's objective is to comprehend the world from a scientific standpoint that transcends the limitations inherent in an individual's embodied perspective.

Given this understanding, how does dualism address the question of whether PTMs should be included in kinesiology degree programmes? Dualism places greater importance on activities associated with the mind, such as studying, reflecting, and thinking, while assigning inferior status to activities linked with the body, such as engaging in dance, exercise, or sports. Consequently, in kinesiology, theory always holds a higher standing than practice. For instance, comprehending the biochemistry of respiration or studying the biomechanics of a kicking motion will consistently be deemed more significant and academically commendable than completing a fitness routine or displaying skill in soccer.

According to dualism, kinesiologists should prioritise scientific inquiry as the primary means of acquiring knowledge. Students studying kinesiology should focus on the scientific aspects of movement, encompassing disciplines such as biomechanics, exercise physiology, motor control and behaviour, and physical activity epidemiology. Although limited space in the curriculum might allow for some exploration of psychological and sociocultural aspects related to physical activity, these areas are considered secondary to the empirical sciences as they rely on evidence that is not easily quantifiable. In this framework, there is no place for mandating individual participation in physical activity as part of the degree programme. Engaging in physical activity is viewed as a personal pursuit that students can undertake in their own time. A comprehensive education prioritises the cultivation of the mind through the study of scientific and objective knowledge, without dedicating time to helping students explore their interests and capabilities in bodily-based activities like exercise or sports. Physical activity is perceived as lacking the necessary "academic" rigour to be integrated into degree programmes. While learning motor or sport skills may have cultural significance, they are considered extracurricular pursuits that cannot match the scientific comprehension of physical activity. At best, games, play, and sports contribute to health, while at worst, they are viewed as mere distractions or entertainment (Sperber, 2000).

... and why they fail

The legitimacy of dualism is based on multiple false dichotomies, the first of which is the distinction between thought and body. It is critical to emphasise that seeing the human being as two separate components misunderstands the core of human life. Humans, not separate "minds," participate in thought, reflection,

and dreaming. Human beings, rather than distinct "bodies," are the agents of movement, activity, and emotion. As Aristotele (2023) argued in the *Nicomachean Ethics*, humans are "rational animals" (1098a), with reason being an essential feature of human nature. Being a human implies being a cohesive psychosomatic being, rather than thinking and embodiment being mutually incompatible. This does not mean that the mind and body are unreal, but rather that they exist throughout a person's existence. Johnson & Twietmeyer (2018) stated that the presence of a whole thing presupposes the existence of its constituent elements. These components, however, are always submissive to and can only be understood in connection to the full human person. As a result, the mind/soul and body are not separate entities; rather, they are interconnected components of the individual that work together during all types of human activity. The separation between "physical activity" and "mental activity" is false because the two are inextricably linked. Trying to differentiate or dissociate these fragments would result in the individual's dissolution.

Embodiment is vital to human identity and essence. As a result, kinesthetic abilities have the same potential for human advancement as any other field of knowledge or activity. This is hardly unexpected given that historical giants such as Kant, Einstein, and Jane Austen did not ignore their bodies while making significant contributions to philosophy, science, and literature. Furthermore, the astounding achievements of kinesthetic talent demonstrate its importance. Consider Hillary and Norgay's ascent of Everest, Kerri Strug's gold medal-winning vault on a fractured ankle at the 1996 Olympic Games, or Maradona's football genius. However, exceptional knowledge is not the only criterion for relevance. Even minor kinesthetic endurance can elicit intense feelings, as seen by marathon runners or women giving birth. It is critical to note that kinaesthetic abilities, like any other "sedentary" talent, do not exist in isolation. Willpower, passion, ideas, and virtue all play important parts in kinesthetic achievements. Women, for example, endure the agony of delivery as an act of love. The universality of such love, as seen by the difficulties of delivery, is fundamental to the existence as humans.

The second erroneous division propagated by dualists in the field concerns the strict dichotomy they establish between theory and practice in kinesiology. However, both inside and outside the realm of kinesiology, theory and practice are not antagonistic but rather interdependent partners. Theory influences practice, but practice also shapes and influences theory.

The impact of theory on practice becomes evident in various ways. Theories play a vital role in determining the establishment and pursuit of practices and policies. Additionally, theory provides the framework(s) through which practice is comprehended and evaluated. An individual's perception is influenced not only by what they observe but also by their previous visual-conceptual experiences. This illustrates how theory contributes to the shaping of practice in significant ways (Kuhn, 1996; Schmaus, 2023).

The importance of theory in developing and comprehending praxis, however, is not the only component of the story. Practice also has an impact on and propels the development of theory. Kinesiologists theorise based on their own experiences, abilities, beliefs, and interests. For example, a strong interest in soccer may result in the invention of unique techniques to understand the game. Similarly, practice frequently comes before theory. Practitioners' refined abilities and intuitions typically motivate theorists to arrange and describe the concepts underlying practices. However, this does not imply that practice is preferable than theory. A fresh theory that emerges from current practice can then contribute to improving, understanding, and refining preexisting practice.

Finally, it is critical to emphasise that kinesiology is not simply or completely concerned with theory. Kinesiology is primarily concerned with the investigation of physical activity. While theory is important, it must be supported by actual application. Simply talking about, measuring, and describing games, sports, exercise, and dance does not capture the spirit of kinesiology. Anderson (2002) stated that the significance of movement in kinesiology is akin to the practice of music in the study of music or the practice of the arts in the study of fine arts. Being a "sedentary kinesiologist" is analogous to being a "tone-deaf musician" in that it defies the fundamental nature of the field.

Perspectives from materialism...

In contrast to dualism, a materialistic viewpoint holds that there is only one reality, the physical or material reality. This reality includes measurable anatomical and physiological data like heart rates, muscle fibre types, and body fat percentage. Because they lack solid existence and cannot be measured, intangible components of human experience, such as ideas, meanings, and values, are not deemed real. These ethereal characteristics are viewed as subjective preferences or even illusions until they can be explained in terms of

material causes. For example, a golfer's satisfaction at hitting the ball on the sweet spot of the clubface is judged insignificant unless it can be reduced to chemical and/or neurophysiological causes. As a result, the materialist does not see the sense of joy as actual reality; rather, truth is in the underlying chemical and physical principles that have given rise to the "joyful experience." Understanding anything, according to the materialist, entails breaking it down into its smallest constituents, such as cells and atoms. Because everything is regarded as material, examining what can be measured and reducing it to its essential components is regarded as the road to actual comprehension and verifiable knowledge.

A materialistic perspective on kinesiology shares similarities with dualism in its orientation towards scientific inquiry. However, it places greater emphasis on technological innovation and the pursuit of faster and more effective methodologies. In this view, as the only tangible reality that exists, the primary objective of the discipline is to conduct scientific research that enables kinesiologists to identify the most efficient ways to extend health and performance benefits to a wide population.

From this standpoint, physical activity holds significance insofar as scientific research has revealed its numerous physiological health benefits for individuals engaged in regular participation. People are encouraged to engage in physical activity to lead longer and healthier lives, but such engagement is not regarded as the essence of kinesiology. Rather, kinesiology entails the meticulous and scientific examination of the nature and advantages of exercise in enhancing or maintaining human health. Physical activity within kinesiology is perceived as a mere prescription, intended to improve health in alignment with the principles of "Exercise is Medicine" (Thompson et al., 2020).

Given this focus, physical activity, whether in the form of dance, play, or sports, is always considered a means and never an end. As a tool or instrument, physical activity can be replaced if a more effective or efficient means to improve health emerges. The concern arises from the realisation that many individuals may be disinclined to dedicate time to physical activity or may lack interest in being active solely for health-related purposes. This consideration is far from trivial.

According to this perspective, if scientific research identifies more effective methods for enhancing health and performance outcomes than individual participation in physical activity, then such involvement may become unnecessary. Inefficient means of promoting health should be discarded if they

hinder progress. Two examples highlight this viewpoint. Firstly, if the health benefits of physical activity can be delivered to the public through a medical procedure or a pill, individuals would not be obligated to engage in physical movement if they chose not to (Oaklander, 2015; The Nestlé Group, 2014). Secondly, if certain games or activities, such as archery, fail to facilitate maximum calorie burn or optimal fitness, they should be modified or eliminated from the curriculum (SHAPE America, 2014). The ultimate goal is to prioritise the end result, which is health, rather than the means, which include play, games, sports, exercise, and dance.

To be at the forefront of kinesiology, it is advocated that students should not devote curricular time to participating in physical activity. Instead, they should focus on studying the scientific aspects of physical activity to discover more efficient ways of promoting improved health and performance outcomes for the general population. In summary, the materialist perspective emphasises that the purpose of studying physical activity lies in unveiling the fundamental anatomical, physiological, genetic, chemical, and physical mechanisms that underlie its role in promoting health. To genuinely impact society and the lives of the students, kinesiologists should prioritise the exclusive dedication to the scientific study of physical activity, forsaking other approaches.

...and why they fail

Three crucial rebuttals must be offered in response to the objection raised by materialism. Firstly, the plausibility of this objection relies on accepting premises that, upon examination, prove to be self-refuting. Secondly, materialism overlooks the reliance on abstract, non-material concepts and objectives within scientific materialism, which attempts to reduce all knowledge to measurable and demonstrable scientific principles. Thirdly, materialists within kinesiology have misconstrued the proper relationship between means and ends, thereby distorting the nature of the discipline. While health is undoubtedly a real and fundamental good, it should be rightly regarded as a means rather than an ultimate end. In its proper context, health serves to pursue the ideals cherished by classical philosophers—the good, the true, and the beautiful (Bice, 2017). This perspective holds profound implications for kinesiology, exemplified by the prioritisation of play rather than health as the primary focus.

Regarding the self-refutation aspect, it becomes evident that materialism itself is an idea, one that cannot be demonstrated solely through the scientific method or the philosophy of materialism. If matter is the sole reality, then the "idea of materialism" is reducible to physical reality, such as random neuron firing. Consequently, there is no reason or ability to evaluate the truth of materialism. As mere material entities, human beings lack the capacity to reason or evaluate. Thus, if materialism is true, no argument, including those in support of materialism itself, can be deemed trustworthy (Feser, 2010).

In a similar vein, the mathematics employed in scientific endeavours represents an abstract reality that transcends materiality. Numbers lack physical attributes like weight and exist purely as immaterial entities. Nevertheless, their indispensable role in measuring and quantifying physical reality aligns with the materialists' objectives. As pointed out by philosopher David Berlinski (2011), numbers do not constitute physical objects; they exist independently as non-physical entities. When, for instance, three sheep are present in a pasture, no additional numerical entities coexist alongside the sheep. This foundational reliance on mathematics within science challenges materialism.

Furthermore, health serves as a means to an end rather than an ultimate goal. Individuals do not live solely for health; rather, they live with the purpose of embracing various aspects of life, such as love, play, family, and career. Human beings are willing to undertake significant risks, even risking their lives, in pursuit of other goods they consider profoundly important. Consequently, the most influential interventions are intrinsically motivated. Passionate kinesiologists derive their drive from a genuine love for physical activity, not from stern obligations or attempts to reduce kinesiology to the notion that "exercise is medicine" (Hochstetler, 2014).

If this proposition holds, one additional point must be emphasised. Love requires time and specificity. It is not an abstract concept but rather arises from familiarity with specific elements. The cultivation of a love for physical activity demands an unapologetic and intentional introduction to distinct forms of play, sports, dance, and the like for everyone, including clients and students. Truly nurturing a love for "triathlon," "ballet," or "climbing" necessitates dedicated practice and skill development. In the realm of kinesiology, a genuine love for "physical activity" is best nurtured through active engagement and playful exploration. The significance and essence of "running, jumping, kicking, and throwing" within

kinesiology cannot be fully grasped or conveyed through propositional, vicarious, or quantifiable knowledge.

Perspectives from utilitarianism...

Utilitarianism is a variant of consequentialism that aims to maximize pleasure or happiness. Consequentialism, an ethical theory, deems a decision or course of action as "good" if its outcomes or "consequences" are likely to be better compared to alternative decisions. In the context of kinesiology, this translates to considering consequences as favorable if they enhance people's health and well-being, and unfavorable if they do not. Determining the best course of action involves a cost-benefit analysis, aligning with a pragmatic focus on "efficiency" and tangible results. Health occupies a central position in this perspective for two reasons: firstly, health measures are readily quantifiable, such as Body Mass Index (BMI); secondly, advocates of "efficiency" in kinesiology often align with materialism or dualism, making health a natural emphasis.

Hence, the term "utilitarian pragmatism" succinctly encapsulates the emphasis on outcomes, efficiency, and measurable benefits. Given these principles, the significance of studying the science of physical activity outweighs individual participation in physical activity for students. From the standpoint of utilitarian pragmatism, it is essential to acknowledge that students typically attend college to prepare for future careers or obtain necessary job training. A well-rounded liberal arts education is considered, at best, a distraction, and at worst, counterproductive. Additionally, considering the escalating costs of college tuition and fees, students seek a tangible return on their investment (Seltzer, 2017).

Consequently, supporting the overall well-being of college students is best achieved through university degree programmes that prepare them for the workforce and economic success. In the context of kinesiology, this involves emphasizing the tangible benefits derived from rigorous academic and professional coursework. While employers may value a kinesiology graduate's ability to accurately monitor blood pressure or prescribe exercises, they are less concerned with the graduate's proficiency in activities like the "Fosbury flop" or making "80% of their free throws."

Although physical fitness and performance capabilities in sports have some value, university students primarily need to develop academic and professional

knowledge and skills relevant to their future employment, rather than excelling in particular activities. The acquisition of academic knowledge in the science of physical activity is more crucial than being skilled in a specific sport. Such knowledge will contribute significantly to students' future employability and societal advancement. Thus, degree programmes should prioritise preparing students for the job market and take seriously the responsibility of making students "job-ready."

Understanding the scientific principles underlying movement takes precedence over mere engagement in physical activities. Additionally, given the pressures from university administrations to keep degree requirements manageable, it is prudent for kinesiology programmes to avoid dedicating academic credits to unnecessary practical training modules (PTMs). Instead, focusing on more relevant subjects will lead to better outcomes for both students and society as a whole.

...and why they fail

Focusing on utilitarian principles directs attention to extrinsic goods. However, this approach encounters inherent limitations, mainly revolving around two crucial questions. (i) For whom are these goods deemed useful? (ii) Useful for what specific purpose? The concept of utility is restricted by the reality that any set of outcomes or consequences will benefit some individuals more than others. The question arises as to why the interests of one party should take precedence over those of another. This consideration should be applied when evaluating any cost-benefit analysis. While utilitarians claim to "maximize pleasure" by selecting options that yield the "greatest good for the greatest number," skepticism is warranted. Firstly, comprehending and incorporating everyone's interests into such decisions would be an overwhelming and unattainable task due to the immense amount of knowledge required. Secondly, common experience reveals that seemingly impartial analyses are often tainted by factors such as expediency, political correctness, or personal selfishness. Frequently, the assertion that a decision was made based on the "greatest good for the greatest number" merely serves as a cover for a concealed underlying commitment to the greatest pleasure for me... by any means necessary.

Of greater significance, however, is the second inquiry: What is the ultimate purpose behind the endeavours? Extrinsic goods, regardless of their potency,

hold no inherent value. Even the most influential means, whether it be health, employment, or any other, are merely instruments. In the absence of a larger vision, intrinsic meaning, or overarching purpose, these goods, though real, bear limited significance. Joseph & Kriger (2021) contend that reducing the concept of good solely to productivity lacks coherence. To bestow genuine value upon production, it must be directed towards an end, a purpose, or a telos beyond itself. Kinesiology cannot be a perpetual succession of means, even if those means encompass vital aspects such as health or gainful employment. Rather, it necessitates the establishment of a definitive end, a profound good, or a sublime objective pursued purely for its intrinsic worth. In this regard, play emerges as a superior focal point for kinesiology compared to health and employment. Play is inherently sought for its own sake (Mareš, 1977), encompassing child-like qualities devoid of childishness. As highlighted by Huizinga (1955), play allows one to venture beneath the realm of seriousness akin to that of a child yet also ascend above it, transcending to the realm of beauty and sanctity. At its zenith, physical activity embodies the playful essence described by Huizinga. Well-structured activity courses serve as potent sources of meaning and intrinsic gratification. Hence, in the field of kinesiology, aspirations might be limited when attention is restricted solely to outcomes and benefits. Although these aspects possess some value, they fail to encompass the entirety of capabilities. Instead, objectives should be more ambitious, reaching into the realm of play.

Emphasising play does not imply that health is excluded from kinesiology. As recognised by Kretchmar (2005), prioritizing certain aspects does not necessitate the exclusion of others; it simply means assigning importance accordingly. When the focus is on enhancing the quality of life through movement and play, improved health naturally becomes a likely outcome. Individuals who integrate physical activity as an integral part of their lives are more likely to experience the health benefits associated with active living.

It is a source of pride to be the academic field most closely connected with play and games. Any feelings of shame associated with this association should be abandoned (Johnson, Turner & Metzler, 2017). Instead, high-quality physical activity courses should be supported, advanced, and integrated into the curriculum. An asset is grown and supported in this way.

Perspectives from cost...

A rapid examination of the mission statements of kinesiology faculties reveals a prevalent and overarching objective of pursuing and disseminating knowledge concerning physical activity. Despite the existence of compelling counterarguments against dualism, materialism, and utilitarian pragmatism in this article, the reality remains that the majority of kinesiology faculties persist in aligning their missions with the scientific study of physical activity rather than emphasizing practical engagement in physical activity.

There is prudence in establishing a core mission and allocating resources accordingly to support that mission. If the contemporary mission of kinesiology is to generate and share scientific knowledge related to physical activity, then it would be unwise to invest resources in activities that divert attention from this central objective. Channelling funds towards PTMs could potentially distract from the core mission of kinesiology.

The financial implications of implementing PTMs are manifold: (i) the expenditure on competent instructors, encompassing salaries and possibly fringe benefits; (ii) costs associated with facility rental and maintenance (or construction) of gymnasiums, exercise rooms, fields, courts, etc.; (iii) procurement and maintenance expenses for sports and exercise equipment, including balls, rackets, goals, mats, resistance machines, treadmills, etc.; and (d) the need to hire medical personnel and provide essential medical services, such as athletic trainers and liability insurance.

Incorporating PTMs into a kinesiology programme entails significant expenses. These financial resources could be better allocated to enhance the overall quality of the offered degree programmes. For instance, they could be utilised to acquire improved laboratory equipment or recruit additional research faculty. As kinesiology is a multi-disciplinary field, there are numerous potential courses related to the science of physical activity that could be included in the degree programme to enhance its overall calibre. Investing in the categories may divert funds from the crucial objective of guiding students to comprehend the scientific foundations of physical activity, thereby equipping them for their prospective careers in fields like physical therapy, occupational therapy, and others.

Moreover, during a time when publicly funded institutions face reduced state-appropriated funding, higher education has had to adopt a more business-oriented approach to ensure sustainability (NCES, 2022). Administrators now

prioritise revenue generation from programmes and courses. Given this cost-conscious climate, it becomes challenging for kinesiology programmes to justify the establishment and maintenance of expensive practical training modules. In conclusion, since PTMs do not align with the fundamental mission of kinesiology and demand significant resources to be implemented and sustained, it is unwise to incorporate them into kinesiology degree programmes. Even if all theoretical objections are proven wrong, the prohibitive cost associated with introducing PTMs hinders kinesiology departments from initiating, supporting, or sustaining such programmes. Even potential benefits from PTMs do not outweigh the excessive costs involved.

...and why they fail

Like the objection from utilitarianism, comprehending the relationship between means and ends is crucial for understanding the failure of the "objection from cost. If a robust PTM genuinely promotes play, it supports one of the highest values within kinesiology. Play is intrinsically good, not merely instrumental. Money, in contrast, lacks inherent value and is considered a real good solely due to its utility. It serves as a potent tool but remains a means rather than an end. Once this distinction is recognised, the issue of cost becomes secondary. Every kinesiology department operates with budgetary constraints and limited resources, even those facing financial challenges. Thus, the key question is whether activity programme requirements merit prioritisation within the budget. Are PTMs an essential aspect of kinesiology that must be provided?

Regardless of how "idealistic" kinesiologists may be, they acknowledge the reality of limited resources. However, the point is not to evade difficult choices or adopt a naïve perspective but to emphasise that the debate over "cost" is, fundamentally, a philosophical dispute concerning kinesiology's essence. If the ends, such as the practice of physical activity, are deemed sufficiently significant, the means will be found. Focusing solely on the costs deflects from the genuine issue, if the expenses render PTMs impractical based on an underlying philosophical stance deeming them insignificant in kinesiology. Yet, it is precisely these foundational commitments regarding the philosophy of kinesiology that are under scrutiny. Is the practice of physical activity integral to kinesiology or not?

Nevertheless, a critic may persist in acknowledging the philosophical importance while raising valid concerns about the real costs. How, then, can these costs be addressed? What can kinesiologists do to advance and promote this vital yet neglected aspect of the discipline? Three points merit consideration. Firstly, kinesiology faculties should start from where they can, even if it means beginning with modest offerings like jogging and basketball as part of an activity requirement. The key is to initiate something, since activity requirements are core to kinesiology. Once established, such programmes can expand. Secondly, embracing creativity and flexibility is essential. Exploring options like online courses or dance classes as supplements to existing offerings or incorporating an "activity lab" within theoretical courses can be explored. The focus should be on finding solutions rather than fixating on limitations or obstacles. Thirdly, a long-term commitment is crucial. Advocating for the significance of PTMs, developing potential course syllabi, publishing, and presenting on the concept contribute to making it a reality. If the idea aligns with the essence of kinesiology and physical activity holds central importance, then PTMs are worth the effort and support.

Perspectives from public perception...

Since the 1960s, academics in the USA have underscored the necessity for physical education in higher education to advance and mature by adopting a predominant emphasis on the study of movement from disciplinary perspectives rather than from professional perspectives like teaching, coaching, or performance (Henry, 1964). The focal point of this academic discipline, as highlighted by Henry, should be theoretical and scholarly content, distinct from technical and professional aspects. Consequently, actual engagement in physical activity, while valuable, should not be regarded as an integral part of the academic discipline of physical education. As stated by Henry (1964), the development of personal skills in motor performance is undoubtedly a commendable objective on its own. However, it should not be confused with the academic realm of knowledge. To be recognised as academic, physical education should concentrate on knowledge derived from scientific and sociocultural investigations of physical activity rather than from professional practices or individual performance in physical activities (Tinning, 2023).

In the years following Henry's publication, the field underwent a name change, adopting the term "kinesiology," which had several significant effects. Firstly, the new name carried public relations value, as "kinesiology" held a more esteemed connotation of scientific study compared to "physical education." Secondly, the change broadened the field's scope beyond the limited focus on preparing students solely for physical education teaching. Lastly, the name "kinesiology" played a crucial role in countering the stigma associated with Cartesian dualism that had been linked to "physical education." Consequently, this shift contributed to bestowing the discipline with greater scientific and academic credibility.

These alterations had a profound impact on the objectives and goals of the discipline, making kinesiology an increasingly popular major for both undergraduate and graduate students. Moreover, in 2006, the National Research Council formally recognised "kinesiology" as a legitimate academic discipline (Thomas et al., 2007). This recognition, combined with the field's emphasis on the scientific foundations of physical activity, solidified an undergraduate degree in kinesiology as a viable pathway for those pursuing further graduate or professional education in fields like physical therapy, occupational therapy, physician's assistant, and medical school.

In 1952, in Rome, under the direct auspices of the State, the ISEF (Istituto Superiore di Educazione Fisica, Higher Institute of Physical Education) began its endeavours. Between 1959 and 1968, the ISEFs of Turin (1959), Bologna and Naples (1960), Milan at the Catholic University of Sacred Heart (1964), Palermo (1965), Perugia and Urbino (1967), and Milan Lombardy (1968) were established. In 1999, the ISEFs concluded their operations, and in various university settings, four-year degree courses in motor sciences were activated. In 2001, a reform of university studies was introduced, entailing a three-year undergraduate degree coupled with a two-year specialist degree (now referred to as the master's degree).

Considering these developments, the inclusion of PTMs in kinesiology degree programmes may seem irrelevant and counterproductive. Such a requirement could potentially jeopardise the academic standing that the discipline has carefully cultivated over the course of years or even decades.

Despite the significant progress made by kinesiologists over the past three decades, the discipline still faces challenges in gaining full recognition within the academic community. Some faculty and administrators might still associate kinesiology with its previous names, such as "physical education." Reminding

colleagues of these associations is unhelpful, as it may reinforce outdated perceptions that kinesiology primarily caters to "dumb jocks" and "gym rats." To promote kinesiology as a serious academic field, it is crucial to dispel such stereotypes. The progress achieved in the discipline should not be jeopardised by implementing practical training modules (PTMs), even if their importance were to be demonstrated.

Excluding activity coursework from the programmes reinforces the message that kinesiology is a rigorous academic pursuit. If the goal is to uphold the academic status of kinesiology and maintain a positive public perception, then mandating activity coursework is not a viable option. Instead, kinesiologists should focus on projects that can further enhance the prestige and value of the discipline, considering the constraints of limited time and resources, as highlighted by the cost.

Kinesiologists need to be pragmatic and engage with the reality of the political, social, and public policy landscape. Pursuing PTMs, even if they were deemed ideal, does not align with the current context. Therefore, it is advisable to abandon the pursuit of PTMs in favour of strategies that can continue to elevate the academic standing and reputation of kinesiology.

...and why they fail

At times, swimming upstream becomes imperative. Salmon do not undertake this endeavour due to a penchant for hardship; rather, it is an inherent aspect of their nature. Their biological imperative necessitates spawning eggs in shallow waters where food is plentiful and where the young and vulnerable salmon can return downstream to the ocean. In essence, salmon swim upstream to serve the future of their species.

In a similar vein, the nature and purpose of kinesiology may also require swimming upstream. The affiliation with "games, play, and sport" is a source of pride, irrespective of whether such associations enjoy popularity within the broader academic culture (Twietmeyer, 2012). Undeniably, activity courses often carry a negative perception, both within and outside the realm of kinesiology. However, acknowledging this reality should not lead to despair. Rather, this issue should be confronted directly, refraining from ignoring, rationalising, or denying it. The primary concern should lie in remaining true to the discipline and prioritising knowledge and truth over public perception.

The transition to the name "kinesiology," while potentially politically advantageous, only holds merit if it fosters a comprehensive discipline that recognizes the multifaceted nature of physical activity. Such an approach should encompass a diverse range of perspectives, including those that lack prestige or academic cachet. Whether deliberate or inadvertent, Franklin Henry's legacy has led to an overemphasis on theoretical and scientific knowledge in kinesiology. While this emphasis has its merits, it has also limited the effectiveness of our teaching and programmes by narrowing the disciplinary scope.

Kinesiology must avoid narrow perspectives. While the scientific and theoretical facets hold great significance, they do not encompass the entirety of the discipline. The "study of physical activity" also necessitates direct engagement in skilled and culturally relevant movement. In Western culture, and in many others throughout history, this typically involves activities like games, sports, exercise, and dance. Anderson (2002) emphasised that skillful physical activity is cultivated through habits and discipline, becoming a kind of embodied faith. Therefore, the most compelling argument for the importance of movement arises not from articulation, theory, or scientific evidence but from the direct experience of its significance. Convincing individuals of the value of activities like running, jumping, kicking, and throwing is most effectively achieved by teaching them to execute these actions proficiently. To truly grasp the significance of kinesiology, active involvement in physical activity is essential and must be consistently emphasised.

Kinesiologists must develop an affinity for physical activity. Love for the discipline does not emerge solely from abstract propositions, dispassionate observation, or logical argumentation. Rather, it arises through direct relationships and experiences. To foster a genuine passion for kinesiology, kinesiologists must learn or rediscover the joy of play and movement.

Neglecting the experiential aspect inherent in physical activity by reducing it to mere theoretical models or experimental data overlooks the profoundly human element that such encounters invariably involve. Denying students the opportunity to directly engage in this experience as a mandatory part of programmes intentionally deprives them of an important kind of knowing, which underlies all forms of human physical activity (Anderson, 2002). Failing to acknowledge this type of knowledge may also impede the clarity with which physical activity is perceived in experimental studies and theoretical models.

Therefore, the justification for incorporating practical training modules into the suggested undergraduate core curriculum becomes apparent. As kinesiologists, it is imperative to maintain confidence and self-awareness to enforce the inclusion of physical activity in programmes, independent of prevailing political or societal influences. Essentially, it should be willing to challenge conventional norms to advance the future of the discipline.

Conclusions

Having thoroughly examined the most substantial theoretical and practical objections to PTMs in kinesiology programmes, it is evident that they lack validity. Consequently, kinesiology programmes must now embark on the challenging task of implementing these requirements. However, the rationale for doing so extends beyond the mere dismissal of failed objections. In fact, by refuting objections rooted in dualism, materialism, and utilitarian pragmatism, as well as those related to cost and public perception, a positive case in favour of PTMs emerges.

There are three primary affirmative arguments supporting PTMs. Firstly, requiring physical activity is feasible and can be accomplished if kinesiologists recognise its significance. Practical objections do not withstand scrutiny. Secondly, physical activity lies at the core of the discipline, serving as the foundation for all scientific, theoretical, and sociocultural inquiries that other branches of kinesiology explore and investigate. Engaging in physical activity not only sparks passion and meaning but also represents an irreplaceable source of comprehension and knowledge. It rightfully stands as our lifeblood. Hence, mandating physical activity becomes imperative. If kinesiology indeed revolves around the examination of physical activity, why would the discipline forego the invaluable insights that arise from active engagement? Why would something so essential be disconnected from individuals? As observed by Bain (1991), kinesiology without participation in movement activities is like a music programme in which no one ever plays an instrument.

Lastly, physical activity holds significant power. When conducted adeptly, it can transcend into the realm of play. Although play may not be the highest ideal, unlike many utilitarian pursuits within the field, it possesses inherent value as an end. Embracing and promoting play within kinesiology acknowledges and celebrates its intrinsic worth. This recognition does not imply the exclusion of

other valuable aspects within kinesiology; rather, it emphasises the acknowledgment of play as an essential dimension.

Promoting health is not inherently problematic, and considering kinesiology as related to "health or play" creates a false dichotomy. Nonetheless, if kinesiologists could promote play, it would be unwise to overlook it. Firstly, as previously discussed, existence revolves around health as a means towards achieving the goods of life, rather than living solely for health itself. Secondly, play serves as a powerful motivational tool. While individuals cannot engage in play solely for the sake of health, it often results in important "side benefits" for well-being. As Kretchmar et al. (2023) emphasised, individuals motivated by play do not specifically seek to be healthy, yet health improvements often manifest because of their playful activities.

To further illuminate the significance of physical activity in kinesiology, a quote from the twentieth-century philosopher Ludwig Wittgenstein can be valuable. Although not delving into the technical details of his argument regarding the congruity or incongruity of language and reality, Wittgenstein's statement in his text "Tractatus Logico-Philosophicus" is worth considering: "Wovon man nicht sprechen kann, darüber muss man schweigen" (Wittgenstein, 2009). The German phrase and its inevitable loss in translation reinforce the point that certain aspects of physical activity can only be grasped through direct experience. Like the loss that occurs in translation, vicarious experiences of physical activity can also lack a complete understanding of its essence.

Its beauty, power, and significance indeed justify the theoretical and experimental research undertaken in kinesiology. Such research is authentic, valuable, and pertinent. However, the essence of the field, the true nature of a kinesiologist, surpasses mere numbers, words, or even introspection alone. When involved in activities like "dancing," "running," "catching," or "climbing," kinesiologists are not restricted to silence; on the contrary, they are liberated to communicate, to interact with the world, to create, to engage in play, to foster love, and to experience life fully, even without uttering a word.

FERDINANDO CEREDA
University of the Sacred Heart of Milan

References

- Anderson D.R. (2002). *The humanity of movement or "It's not just a gym class."* *Quest*, 54(2), 87–96. <https://doi.org/10.1080/00336297.2002.10491768>
- Aristotele (2023). *Etica nicomachea*. (M. Zanatta, Ed., Trans.). Unicopoli.
- Bain L.L. (1991). *Further reactions to Newell: Knowledge as contested terrain*. *Quest*, 43(2), 214–217. <https://doi.org/10.1080/00336297.1991.10484023>
- Berlinski D. (2011). *One, two, three: Absolutely elementary mathematics*. New York, NY: Pantheon Books.
- Bice M. R., Hollman A., Bickford S., Bickford N., Ball J.W., Wiedenman E.M., Brown G.A., Dinke, D. & Adkins M. (2017). *Kinesiology in 360 Degrees*. *International Journal of Kinesiology in Higher Education*, 1:1, 9–17. <https://doi.org/10.1080/24711616.2016.1277671>
- Cereda F. (2023). *Methods and teaching of motor activities - From theory to evidence practice*. Mantova: Universitas Studiorum.
- Descartes R. (2008). *Meditations on first philosophy*. (M. Moriarty, Trans.). New York, NY: Oxford University Press.
- Feser E. (2010). *The last superstition: A refutation of the new atheism*. South Bend, IN: St. Augustine's Press.
- Group T. N. (2014, November 19). *Unlocking the metabolic 'master switch' to potentially echo exercise effect*. Retrieved July 31, 2023 from <https://www.nestle.co.nz/media/pressreleases/allpressreleases/unlocking-metabolic-master-switch-potentially-echo-exercise-effect>
- Henry F. (1964). *Physical education: An academic discipline*. *Journal of Health, Physical Education, and Recreation*, 35, 32–69. <https://doi.org/10.1080/00221473.1964.10621849>
- Hochstetler D.R. (2014). *Another look at "Exercise is Medicine"*. *The Journal of Physical Education, Recreation & Dance*, 85(1), 7–8. <https://doi.org/10.1080/07303084.2014.855574>
- Huizinga J. (1955). *Homo ludens: A study of the play element in culture*. Boston, MA: Beacon Press.
- Johnson T.G., Twietmeyer G. (2018). *The Necessity of Physical Activity in Kinesiology Degree Programs*. *Journal of Physical Education, Recreation & Dance*, 89:2, 42–48. <https://doi.org/10.1080/07303084.2017.1404513>
- Johnson T.G., Turner L., Metzler M. (2017). *Physical Activity Education: The New Name for Our Field*. *Journal of Physical Education, Recreation & Dance*, 88, 5–7. <https://doi.org/10.1080/07303084.2016.1249769>
- Joseph J., Kriger D. (2021). *Towards a decolonizing kinesiology ethics model*. *Quest*, 73(2), 192–208. <https://doi.org/10.1080/00336297.2021.1898996>
- Kretchmar R.S. (2005). *Practical philosophy of sport and physical activity* (2nd ed.). Champaign, IL: Human Kinetics.
- Kretchmar R. S., Dyreson M., Llewellyn M., Gleaves J. (2023). *History and philosophy of sport and physical activity*. Champaign, IL: Human Kinetics.
- Kuhn T. (1996). *The structure of scientific revolutions* (3rd ed.). Chicago, IL: University of Chicago Press.
- Mareš L. (2022). *The Role of Sport in a Good Life: Aristotle and Suits*. *Sport, Ethics and Philosophy*, 16:4, 544–562. <https://doi.org/10.1080/17511321.2021.2020441>
- NCES, National Center for Education Statistics (2022). *Postsecondary Institution Expenses. Condition of Education*. U.S. Department of Education, Institute of Education Sciences. Retrieved July 30, 2023, from <https://nces.ed.gov/programs/coe/indicator/cue>.
- Oaklander M. (2015, October 5). *Exercise pills may be in your future*. Retrieved from www.time.com/4061511/exercise-pills/
- Rudan D. (2013). *On play and playing*. *Collegium antropologicum*, 37(4), 1385–1391.
- Schmaus W. (2023). *Cournot and Renouvier on Scientific Revolutions*. *J Gen Philos Sci*, 54, 7–17. <https://doi.org/10.1007/s10838-021-09577-z>
- Seltzer R. (2017, October 25). *Net price keeps creeping up*. Retrieved from <https://www.insidehighered.com/news/2017/10/25/tuition-and-fees-still-rising-faster-aid-college-board-report-shows>
- SHAPE America. (2014). *National standards and grade level outcomes for K-12 physical education*. Reston, VA: Author.
- Sperber M. (2000). *Beer and circus: How big-time college sports is crippling undergraduate education*. New York, NY: Henry Holt and Company.
- Thomas J.R., Clark, J.E., Feltz D.L., Kretchmar R.S., James R., Morrow J., Wade M.G. (2007). *The Academy promotes, unifies, and evaluates doctoral education in kinesiology*. *Quest*, 59(1), 174–194. <https://doi.org/10.1080/00336297.2007.10483547>
- Thompson W. R., Sallis R., Jo, E., Jaworski C. A., Stuhr R. M., Trilk J. L. (2020). *Exercise Is Medicine*. *American journal of lifestyle medicine*, 14(5), 511–523. <https://doi.org/10.1177/1559827620912192>
- Tinning R. I. (2023). *Falling towards academia: A memoir about the changing nature of PETE*. *Curriculum Studies in Health and Physical Education*, 14(1), 41–55. <https://doi.org/10.1080/25742981.2022.2044363>
- Wittgenstein L. (2009). *Tractatus logico-philosophicus e Quaderni 1914–1916*. (A. G. Conte Ed.). Torino: Einaudi.
- Zanatta M. (2006). *Aristotele. L'anima*. Roma: Aracne.