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Mount Vernon Ventures publishes a quarterly Transformation R&D Report, analyzing impactful topics in education for leaders and professionals navigating a complex world. Exploring the drivers, signals, and trends affecting the education sector, we serve schools by conducting extensive research, synthesizing ideas, identifying their implications, amplifying their potential, and providing recommendations for any school to consider.

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TOTAL HEALTH

The Wholeness of People in an Age of Technology

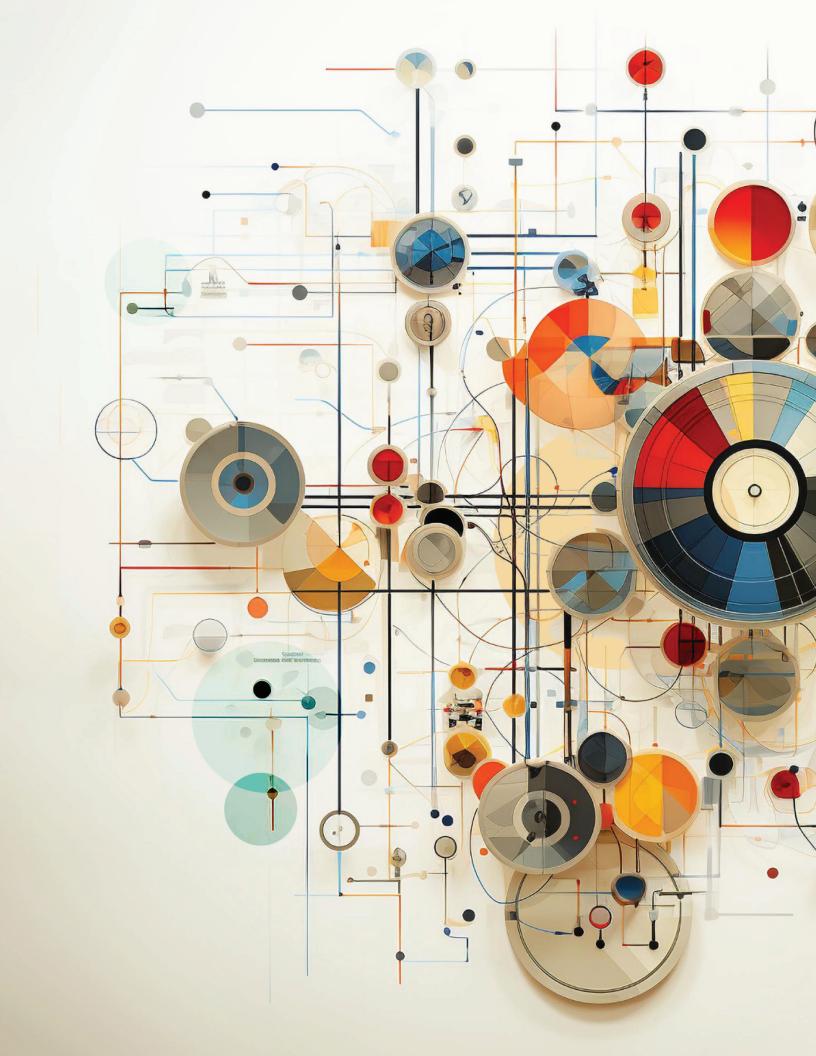


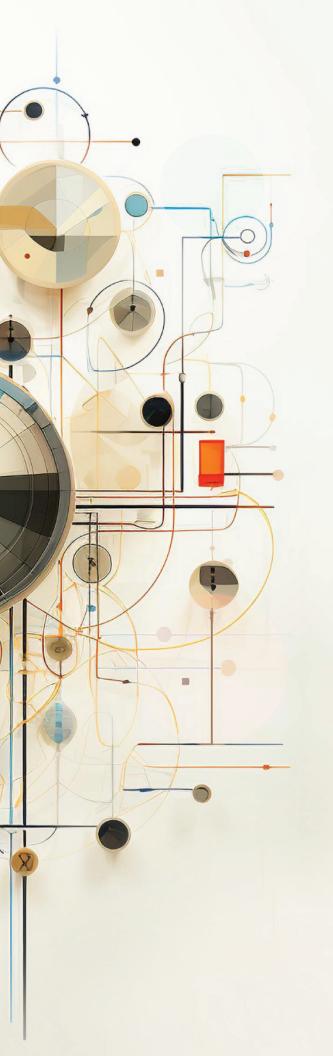
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INTRODUCTION

A community's health and fitness has strong implications for the happiness and effectiveness of an organization. A recent study published in the Journal of Occupational Health Psychology in 2023 found that "physical activity before work is beneficially related to several types of well-being outcomes by increasing challenge appraisal and decreasing threat appraisal." These results are consistent with what early morning runners and weight lifters have intuitively known for a long time: the mental and physical aspects of health are deeply connected. "[What] is good for the body is good for the brain," says Catherine de Lange, editor at New Scientist and author of Brain Power: Everything You Need to Know for a Healthy, Happy Brain. De Lange adds that, "exercise improves white matter integrity, which helps different parts of the brain speak to one another, allowing people to process information guicker and do better mental gymnastics like multitasking and planning."2

Changes in technology, most recently the advancement of artificial intelligence, have garnered widespread discussion in every corner of the web. In an age of increasingly sophisticated technologies, there is certainly much to discuss. However, at times, the emphasis solely on the emerging technologies comes at the expense of discussion about the possibilities for the status of the human body in an age of new and emerging forms of intelligence. In a technocentric world, the human body is often an afterthought. The irony, however, is that limitations in the development of artificially intelligent technology may be due to the fact that these intelligent machines lack a functioning, autonomous body. As one Al expert put it, "Thinking about the complexity and scale of the problem further, a seemingly inescapable conclusion for me is that we may

also need embodiment" if we want AI to develop true intelligence.3 The body is inextricably linked to intelligence and to our minds, and this kind of total intelligence means when we need to think about the total health of the human learner as well. especially in the age of intelligent machines. With this in mind, how might we reframe the discussion of the human body and its relationship to emerging technologies?

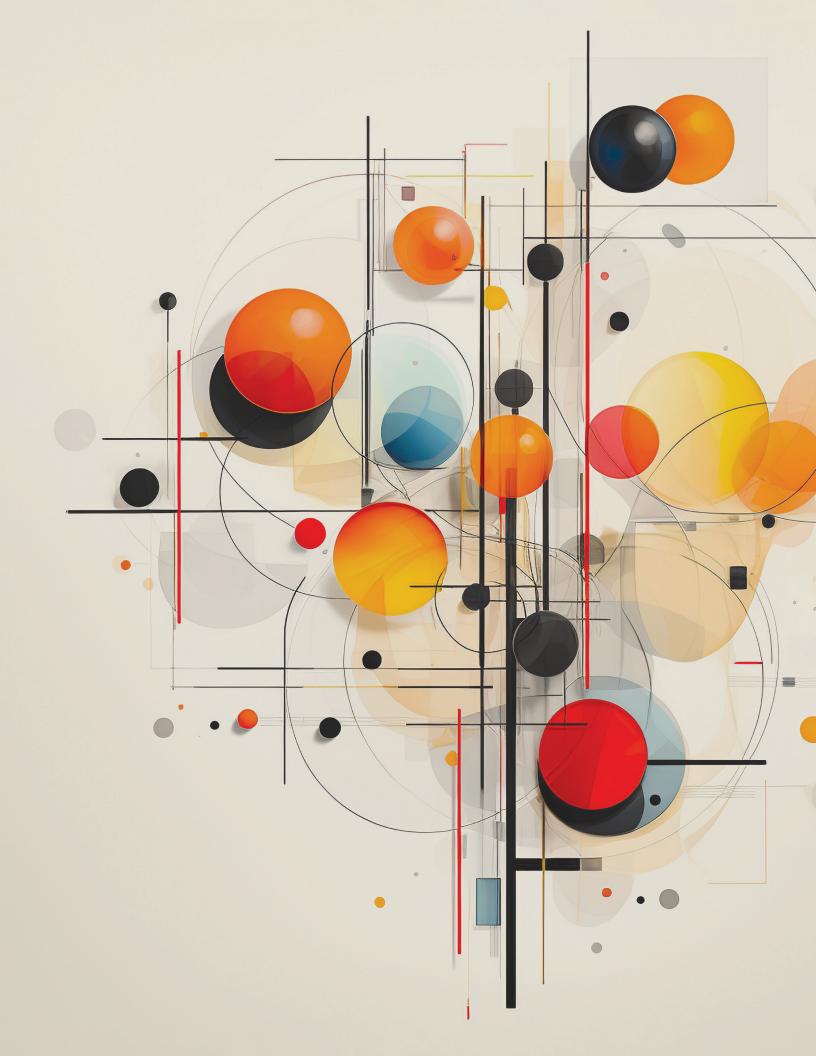
Opportunities for connection between these technologies and health and wellness initiatives in schools are more readily available than ever, and the possibility of fostering the total health of an institution is quickly becoming a reality. The emergence of "health and wellness" as a priority in forward-thinking sectors of the contemporary workplace marks one important development. The availability of personalized and customizable data is of equal significance, as wearable technologies have become ubiquitous among the general population. Yet, the trends go much deeper and the implications stretch much farther than these recent signals of change. The time is ripe for a robust discussion of these connections.

How might we best promote the total health of the human body at the intersection of emerging technologies? What are the latest trends in exercise science/physiology, health and wellness, and organizational collaboration that point to an answer for moving forward? What do these trends and developments mean for us, both in the present moment and in the very near future? When it comes to the human body, the future is indeed bright, but more pointedly, the future will be customizable. The future will be individualized. The future will be finetuned to the heartbeat of each individual. What we do to prepare for that future is up to us.



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WHEN IT COMES TO THE HUMAN BODY, THE FUTURE IS INDEED BRIGHT, BUT MORE POINTEDLY, THE FUTURE WILL BE CUSTOMIZABLE.



DEFINITIONS

For our purposes, total health refers to the overall state of a person's wellbeing, constituting physical fitness, mental health, and happiness. The pursuit of total health treats the mind, body, and brain as so interconnected that it is impossible to extrapolate one component from another. The term total health does not imply that a person must or should be in peak physical shape or live a completely stress-free lifestyle. Rather, the pursuit of balance and well-being in every aspect of health is the point.

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While most of our terminology is fairly straightforward, there are a handful of terms and phrases that require a brief explanation, "health and wellness technologies," and/or various references to "technology," "technologies," "tech," etc..., refers to devices, programs, or software that track biological data. These tools tell us something about an individual's physical operations, often by tracking heart rate, exercise, and sleep. These emerging technologies provide data that may yield insights into a person's athletic performance, level of fatigue, or variables a person would not be able to measure without its usage. Examples include smart watches, GPS trackers, and sports simulators.

"Exercise" is best defined as "a structured movement process that individuals consciously and voluntarily engage in." Exercise entails physical activity and may be competitive or noncompetitive. Common examples of noncompetitive exercise may include gardening, partaking in an evening stroll, and dancing at a wedding reception. All sports entail exercise on some level. Athletic sports, such as basketball, tennis, football, and soccer also constitute exercise.

We repeatedly use the terms "exercise science" and "exercise physiology" when exploring the trends and implications of a total health approach. Any attempt to define "exercise science" must account for its rapid growth over the last thirty years. As research has expanded, so has the definition of exercise science. The term now encompasses numerous disciplines and subfields that can, and do, constitute entire career pathways. For our purposes, if a topic or field involves human physical movement, chances are that it falls under the umbrella of exercise science. This characterization holds for both informal exercise and organized sports. Nonetheless, it is important to settle on some parameters for this discussion.

The American College of Sports Medicine defines "exercise science" as "the study of various aspects of physical activity, exercise, sport, and athletic performance that have the common characteristic of physical movement and the adaptations that occur as a result of participation in physical activity and regular exercise."5 Though human movement has been studied in some form for thousands of years, the modern field of exercise science has its roots in physical education. As the field grew through the formation of professional alliances, exercise science formed an identity as an academic discipline, adopted by departments in major research universities around the world.6

Today, "exercise science" acts as an umbrella term for a multitude of subfields and specializations, including exercise physiology, biomechanics, nutrition, sports psychology, athletic training and sports medicine, and many others. Opportunities for connection between these disciplines and the curricula in modern K-12 schools abound. Some, such as athletic training and sports medicine, are already commonplace, even ubiquitous, in athletic departments. Where is the potential for connection in education the strongest? Which area of exercise science has the greatest "potential" and the most profound implications for educational institutions? For reasons that will become clear, the signs point to the subfield of exercise physiology.

As an academic discipline, exercise physiology consists of three components. First, it is a "[body] of knowledge built on facts and theories derived from theoretical, clinical, and practical research." Second, it constitutes a "[formal] course of study in accredited institutions of higher learning." Finally, it entails "[professional] preparation and certification of practitioners and future investigators and leaders in the field." Evolving concurrently with exercise science, exercise physiology has emerged as the field that "emphasizes the body's response to physical activity."8

Broadly defined, "exercise physiology is the study of the body's response and ability to adapt to physical activity. Exercise physiology, like exercise science, focuses on how physical activity can improve health and wellness."9 While exercise science and exercise physiology are inseparable fields, the key strength of the latter is its specialization on "the body's response to physical activity."10 Exercise physiologists concern themselves with topics such as body composition, energy expenditure, weight control, bodily systems/organs, and environmental influences on the body.11 How much oxygen can a cross-country runner circulate per-minute during exercise, and how might that athlete enhance her or his ability to process oxygen? This is a question the specialty of exercise physiology can address within the broader context of exercise science.

THEMES

Possibilities abound for leveraging the strengths of emerging themes for leading change. The intersection between exercise science/physiology and organizational change point to the role and potential of the human body in an era of unprecedented interconnectedness and ever-accelerating technologies. The most prominent trends are (1) the attempt to understand the potential and limitations of the human body's performance and durability, (2) the adoption of technologies that measure a person's performance and workload, (3) the rise in partnerships between exercise science organizations, private companies, and professional facilities, and (4) the emergence of "health and wellness" as a priority in forward-thinking sectors of the contemporary American workplace.



Where is the intersection between exercise science/physiology and organizational change? What trends are developing and, more importantly, how might those trends inform our strategies as we imagine the future? First, it is important to stress that the possibilities of exercise science and physiology, as they pertain to the workplace, extend far beyond sports. Simply put, the reason we should combine exercise science and physiology with our organizations is so our communities can become happier and healthier. So, where is this already happening? One possible answer is "nowhere." Another answer is "all over the world." The more complicated, and the most accurate, answer is that we can see examples of different trends in several places, but nowhere do we see them all at once.

THEME 1

Understanding the Potential and Limitations of the Human Body

What is the human body truly capable of? The potential and limitations of the body, perhaps more than any other topic, have shaped the popular discourse surrounding exercise physiology in recent decades. The general public has taken a noticeable interest, resulting in an abundance of popular literature. As this trend has developed, the most important sub-topics are (a.) endurance/ survival (what can the human body endure and withstand?) and (b.) nature versus nurture (How do genetics and behavior affect human limitations?) in physical performance.

For example, Alex Hutchinson's masterful survey of human endurance discusses "how our physiology interacts with our psychology." ¹² He addresses topics as wide-ranging as the mind/body dichotomy (and whether that dichotomy is actually real), the role of pain in demarcating physical limitations, and the effects of actual nutrition versus merely perceived nutrition.¹³ His work is dedicated to the study of endurance through the lens of sports. By contrast, journalist Scott Carney approaches the topic of the body's potential and limitations within the context of nature itself, rather than that of competitive sports. Carney "explores how changing the environment around the body also fundamentally changes the body itself. More importantly, it shows how it is possible to manipulate our external environment to trigger autonomic responses in predictable ways."14 Essentially, he shares Hutchinson's conviction that the human body is much stronger than most people realize and that "when the moment of truth comes, science has confirmed what athletes have always intuited: that there's more in there-if you're willing to believe it."15

The equally fascinating question of nature versus nurture has also been discussed ad nauseum in the field of exercise science. In The Sports Gene: Inside the Science of Extraordinary Athletic Performance, David Epstein seeks to trace "where [scientists] have gone and to examine much of what is known or haggled over about the innate gifts of elite athletes."16 In a sweeping survey of genetics research, he wades into topics as benign as sled dogs and as contentious as race and gender. The reception of Eptein's book is just as important as its contents: The Sports Gene became yet another New York Times bestseller in popular exercise science literature, showcasing the wide appeal of this trend. Other popular titles dedicated to unlocking the potential of the human body and exploring its limitations include Mark McClusky's Faster, Higher, Stronger: The New Science of Creating Superathletes, and How You Can Train Like Them¹⁷ and Matt Fitzgerald's How Bad Do You

Want It? Mastering the Psychology of Mind Over Muscle. 18 At times play, sports, and exercise are studied as interconnected topics and, at others, they are isolated.

The point here is that the public has caught up to what exercise scientists and physiologists have been studying for years. There is a genuine thirst for knowledge regarding the optimization of the human body. At the same time, we now have an abundance of resources for accessing the latest scientific research. The wide availability of technologies and the proliferation of exciting health and wellness partnerships further attests to the demand for maximizing health and performance. The time is ripe for exploring how knowledge regarding the potential and limitations of the human body can impact schools.

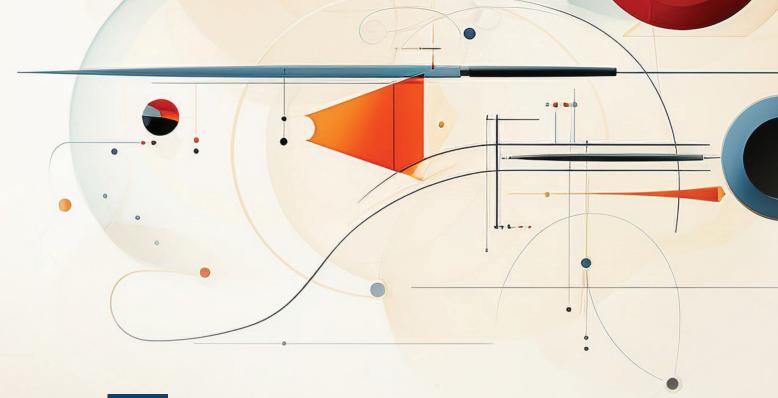
THEME 2

Technologies for Measuring Performance and Workload

It is impossible to disentangle the trends in exercise science from the emerging technologies that accompany them. In fact, the technologies are what make the study of exercise science and its partnership with education possible in the first place. Again, the public is catching up with the research, evidenced by the surge in popularity of wearable fitness technologies such as Garmin, Polar, and Apple watches that track data as varied as steps, heart rate, sleep quality, distance, exertion, and cairo load. But these gadgets constitute only the tip of the iceberg.

Other emerging technologies include The Ghost Pacer, which allows runners to race against Algenerated avatars, simulating the competition 66

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that comes from group training in which athletes push one another to achieve their best racing times. Similarly, exercise scientists are conducting research "using NeuroTracker, a cognitive training software...to test if attentional training has an impact on decision-making skills in soccer players." The possibilities of these simulations highlight the potential for partnerships between artificial intelligence and real, human physicality, an important reminder that an essential competency in the age of intelligent technology will be how well we work with these machines.

Other promising technological developments include individualized plans for athletes based on their own body chemistry. Precision Fuel and Hydration provides a low-cost method for sweat and salt testing, which helps athletes to know how much they sweat and how much sodium/ electrolytes they lose via sweat. Through the use of these plans, athletes gain a better understanding of how to replenish fluids and electrolytes during training and competition.²⁰ Likewise, Inside Tracker provides fitness plans and nutrition advice based on the user's blood, DNA, and habits. These plans are marketed as affordable options for everyday athletes.

THEME 3

Emerging Partnerships

Another exciting trend is the merger of institutions with common interests in exercise science. Recent partnerships between exercise science organizations, private companies, and professional facilities and labs has obvious implications for independent schools, which we will cover in the next section. In the UK, The University of Leeds has joined forces with a local rugby team (Leeds Rhinos) to offer funding for exercise science PhD students.²¹

In January of 2023, the American College of Sports Medicine (or ACSM, one of the world's premier exercise science/physiology institutions) announced a partnership with the medical technology company EXI. The ACSM hailed the alliance as a huge development: "The EXI platform combines decades of scientific knowledge with pioneering technology to create the future of AI-powered health care. By uniting science with sophisticated motivational systems, the platform can help achieve lasting behavioral change for all, including those who need it the most."²² Again, the future is not a robot takeover. These developments foreshadow a world in which humans leverage AI for *human* purposes, not the other way around.





IMPLICATIONS

How might the prioritization of health and wellness impact the ways in which schools approach leading change? What institutional and/or programmatic changes might we make to better serve our communities? We can leverage these trends to optimize the human body in an unprecedented age of expanding technology.

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Of course, health and wellness does not constitute a new topic in schools, which have increasingly embraced policies and programs that promote the mental and physical health of students, staff, and faculty. In fact, any school (public or independent) receiving federal funds for Child Nutrition Programs is required to adhere to strict policies, including the adoption and implementation of "wellness policies to meet the unique needs of each school under its jurisdiction."23 In the private sector, organizations such as the Wellness in Independent Secondary Education (WISE) Program are responding to our nation's growing mental health crisis by providing resources for individuals who otherwise may not receive care. WISE prides itself in being the "only program that provides resources for both students and school leaders to receive medical support when they need it most."24

Other schools have adopted and implemented wellness plans particular to their organizations that promote student and employee health. For example, Collegiate School in Richmond Virginia has an incredibly robust system in place for equipping students, teachers, administrators, and staff with tools for a healthy lifestyle. The Collegiate community has access to treadmill desks, fitness classes, and healthy foods throughout the year. They were ahead of their time and remain a model for schools in virtually all regards of health and wellness.²⁵

So what does all of this mean for the total health of organizations in 2023 and beyond?

KEY COMPETENCIES FOR EXERCISE AND SPORTS SCIENCE

Staying Physically & Mentally Fit

This competency serves as an ideal starting point for organizations hoping to optimize the human body because the tools are readily available. It also is an essential competency for thriving in the age of intelligent machines, an age where the complexity of problems and challenges will demand highly functional human thinkers and performers. As one author claims, what is needed to be successful in this age is not new knowledge, per se, but extra brain power and cognitive bandwidth, and that kind of "complex thinking requires the body to be delivering more energy and oxygen to the brain, and that happens more successfully in healthy people."26 Exercise, in other words, boosts brain power, which the research confirms: "Studies have shown that exercise produces chemicals that make it easier for new brain cells to communicate and that is one of the few things that can stimulate new brain cell growth in humans too, particularly in areas of the cortex vital for learning, memory and mood."27 Staying physically and mentally fit blends elements of play, wellness, and fitness, each contributing to the health of individuals and communities. Essential components include:

Making time for unstructured and nonproductive activity

Scholars have long-contended that play serves as a "creative force" only when it is free of obligation.²⁸ Michelle Lee Schmidt, partner and managing director at IDEO's Play Lab, has recently extolled the benefits of play in the workplace: "We tie it to curiosity. We tie it to creativity and innovation. Play opens up the possibilities."²⁹ Far from a waste of time, play

promotes mental health, creativity, and overall physical wellness.

Promote and encourage healthy habits

Partaking in regular exercise and eating a balanced diet are essential for mental and physical health. In addition to the cardiovascular and muscular benefits, regular exercise reduces anxiety and depression while improving cognitive function.³⁰ The physical and mental benefits of a healthy diet are also easy to locate and well-documented.³¹ Promoting mental and physical fitness is the cornerstone of optimizing the human body.

Working Well With Machines

The sheer volume of new technologies hitting the marketplace demands, at the very least, a casual fluency in their functionality and purposes. Technological literacy can help us stay mentally and physically fit by allowing us to gather data unique to the individual, and with artificial intelligence on the rise, humans do not risk being outperformed by a robot, per se, but one will be outperformed by individuals who work well with intelligent machines.

• What are the machines trying to tell us? What information is available? If a wearable device has a feature that measures VO2Max³² or heart rate variability³³, it stands to reason that we should know what those terms mean and what the metrics say about our health. One does not need to have a degree in exercise science to become technologically literate. Rather, simple experimentation through regular tracking and exercise will pay dividends.

Evaluating and Using Information

Having gathered individualized data through the use of emerging technologies, how might we put that information to use? This process demands a new set of skills: namely the ability to interpret information and act on its implications in ways that maximize impact.

- Expanding on the example above, a person's wearable device could reveal that they currently have a VO2Max of 40. This piece of information by itself and devoid of interpretation is essentially useless. A VO2Max of 40 is outstanding for a 65-year-old woman, but horrible for a 25-year-old man.34 In order to maximize and optimize the body's ability to process oxygen, an individual needs to contextualize the data from their wearable devices and plan accordingly. More generally, with so much personalization, the ability to evaluate and act on one's data also demands a certain level of informational and technological literacy.
- Facilitating Collaborative Activity

While emerging technologies offer data at the individual level, the implications for these new tools, and for the human body, extend to the communal realm as well. We have at our disposal the ability to build diverse networks of professionals seeking to improve health and wellness.

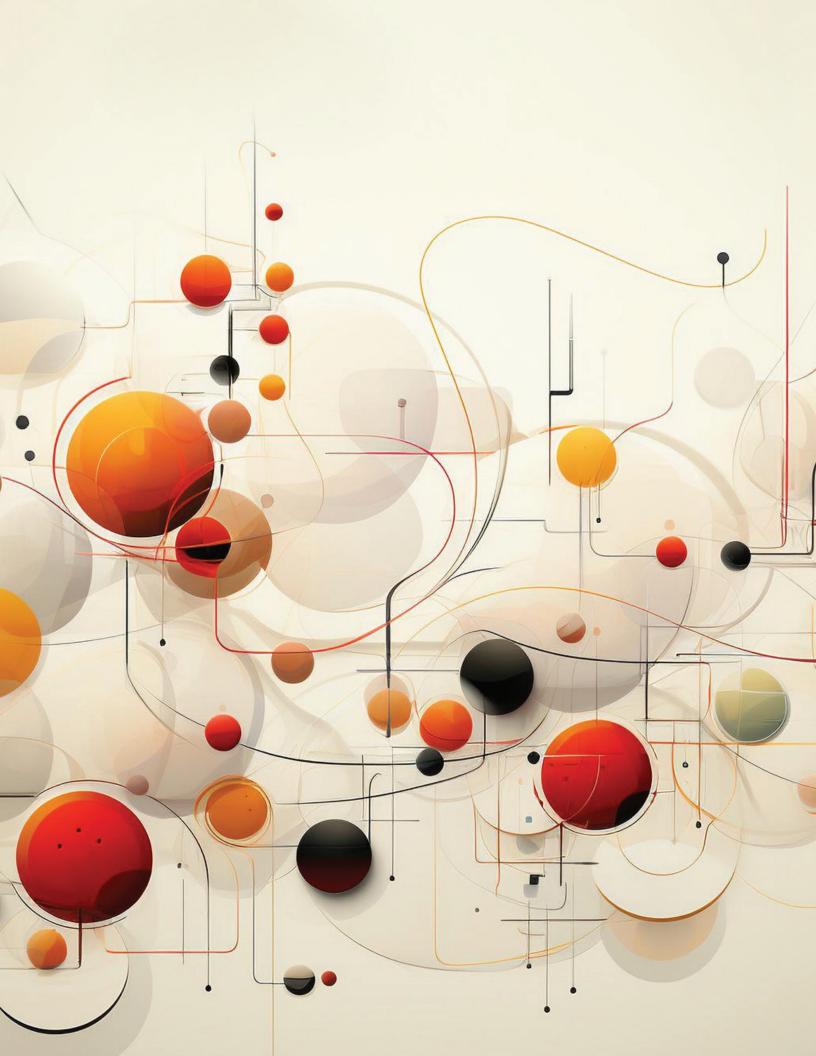
- Developing an eye for potential partnerships is essential for organizations hoping to optimize the body's potential. Is there a university nearby studying health and wellness in the workplace?
 Perhaps they may be interested in exchanging ideas and tools.
- Leading technological companies may be willing to partner with your organization as well. Schools, in particular, frequently use GPS and workload measurement systems through a company offering a competitive price, and new technologies and company start-ups are emerging everyday at a historically unprecedented moment of promising technological acceleration.

These competencies may serve as a starting point for fostering healthier and happier organizational environments. They mark just the beginning of possibilities to come, as leaders explore how exercise science fits and integrates into different systems and cultures within the workplace. Perfection is likely not possible, but improvement is within arms reach for those who prioritize the minds and bodies of their communities.





How might schools begin to adopt and implement these competencies? The answer will depend upon the context and setting of the school. However, the research suggests certain steps for getting started at any organization, steps that pertain to people and tools as well as space and time. Due to the interconnected nature of these steps, fully extrapolating one concept from another is impossible. However, leaders will benefit from this interconnected framework as they work to promote total health in their peoplecentered organizations.

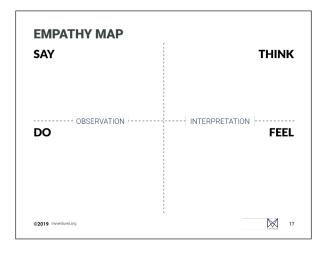


PEOPLE

Effective organizational leaders know that people should come before programs. In a world driven by efficiency and results, the well-being of people should always constitute the top priority in any school setting. A people-centered approach can also inspire confidence in new initiatives and ideas.

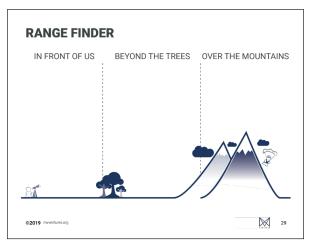
Conduct Empathy Interviews

Where might you have room to improve access to resources that promote health and wellness for your community? What training opportunities might you offer? In order to answer these questions, it is imperative to hear the voices of your community. Assemble a team to conduct empathy interviews to find out what opportunities interest the people in your community. Be sure you interview a diverse array of students, staff, and faculty.



Identify Opportunities

Use the insights from your empathy interviews to identify areas where you could improve opportunities to promote total health in your community. What changes is your organization capable of making at this moment? What resources are at your disposal? Do you already have faculty who are well-versed in health and wellness technologies? Who in your community is passionate about healthy nutritional choices? Perhaps they could help lead training sessions.



Prototype

What is one actionable goal you have for your community? Choose one area to focus on. You do not have to change everything all at once. Meet with a diverse team of students, staff, and faculty to discuss possible ways to implement a new idea. How will it actually work? Your goal will need to be small enough to implement quickly, but also have the potential to scale for the rest of the community. For example, your school may offer free yoga

sessions for faculty after school one day per week and gauge the interest level. If attendance is strong, you may want to increase offerings throughout the week and at different times of the day.

TOOLS

If school communities hope to work well with machines, leaders must ensure they have access to the tools that will yield reliable information for maximizing the total health of the human body. Organizations do not need to buy all available tools at once or become experts in the language of exercise science and physiology to get started. A small-scale approach is likely advisable for most schools.

EFFECTIVE
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Identify One Key Tool

Again, starting small is likely the best approach. What is a tech tool that you can explore for your organization? Perhaps wearable technology is the best avenue, as it is usually more accessible and affordable than exercise lab equipment. As of 2020, one out of five Americans regularly wore smart watches, so it is likely your community is already familiar with these devices.³⁵

Develop a Plan to Invest in Technologies

Another advantage of starting small is that it allows your organization to become familiar with tech tools in the short-term while planning for the long-term. As you continue to explore the tech options, discuss possibilities for funding the adoption of new tools in future years. Are you interested in GPS and load management tools for student athletes? If so, discuss budgeting possibilities with your athletic department.

Recruit Pilot Group Volunteers

In order to make the most of your foray into health and wellness technology, it may be helpful to have a group of similarly interested members of your community to test the usefulness of your tools. Recruit members of your community to form a pilot group for experimenting with a tech tool. Perhaps, team members could compare data from smart watches and use that information to set new goals. What can you learn from the data? It is also important to remember that many of our organizations have the opportunity to partner with research centers, such as universities or health and wellness institutions, to help us implement, evaluate, and improve forward thinking pilot programs,

whether those partners are in our community or connected to us online. Remember to be bold, to reach out, and to expand your innovative networks of experts and fellow professionals.

TIME AND SPACE

Creativity loves constraints, and among the most universal of those are the manner in which we allocate our time and utilize our physical spaces. Perhaps total health means de-siloing the classroom from the weightroom. Such an approach need not mean moving a set of dumbbells into the art studio. Rather, by identifying opportunities to rethink the use of time and space, our communities may discover avenues of health and well-being that would not have been evident otherwise.

Identify Your Opportunities

Where might you have room in your schedule or facilities to improve access to resources that promote total health for your community? How might the technologies of exercise science assist?

• Example: Perhaps your school has an excellent gym, weight room, or exercise facility for student athletes, but no such facilities for faculty. How might you designate time for faculty to take advantage of these resources? Perhaps you could implement an incentive program for employees who track their workouts with wearable technology. Regardless of your solution, you have identified an important opportunity for improvement.

Evaluate Your Capacity

What scheduling changes is your organization capable of making at this moment? Where can you

consolidate or rearrange space for multipurpose use? What resources are at your disposal?

• Example: Perhaps you want to implement an incentive program for employees who track their workouts with wearable technology, but do not have an excellent gym, weight room, or exercise facility for student athletes. You might consider offering a faculty yoga class, or a weekly opportunity for high intensity interval training. Evaluating your capacity for change will help you chart the course for acting on the opportunities you have identified.

Prototype

What is one actionable goal you have for your organization's schedule or use of facilities? Choose one area to focus on. You do not have to change everything all at once. Meet with a diverse team of students, staff, and faculty to discuss possible ways to implement a new idea. How will it actually work? A community's budget will factor heavily into its choices. An organization with a greater amount of financial resources may want to design a facility for exercise science and health and wellness, while a school with fewer resources may want to find opportunities to reimagine the time and spaces currently in use.

• Example: Your first prototype might be to host a faculty yoga session on Monday afternoons and a session for students the following morning. You may decide that faculty and staff will have access to the fitness center after hours and on weekends. Perhaps athletic trainers host faculty sessions about injury prevention and planning for workouts once per month. It all depends on the opportunities

you have identified and your capacity for addressing them.

Iterate

Honestly evaluate the successes, pain points, and potential for improvement in your prototype. Is your solution contributing to a happier, healthier community? How do you know? Make minor tweaks or sweeping changes, depending on your situation.

• Example: You may find that faculty do not utilize the fitness center because they have too many other duties throughout the week. Or, maybe the injury prevention sessions are not well-attended. You can adjust the times or completely revamp your idea. Just make sure your iterations are based on honest feedback from a diverse group of students, staff, and faculty.

Journeys to optimize the human body will be infinitely varied. The tools of exercise science are there for us, but they are not equally accessible. Furthermore, it can be difficult to embark upon this journey due to all of the other pressing needs and concerns that comprise the daily, weekly, and yearly logistical operations of today's workplace. We encourage organizations to begin anyway. The mental and physical health of communities is of the utmost importance, not only as a matter of productivity. Rather, a healthier community is a happier community, and we must account for the wholeness of people in an age in which we increasingly celebrate the rise of technologies. In order to work effectively within this context, and to leverage emerging AI technologies appropriately, individuals must also be in touch with what makes them remarkable: the simple state of being human.

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PLAYLIST

- Roswag, M., Abdel Hadi, S., Häusser, J. A., & Mojzisch, A. (2023). Running toward my challenges: Day-level effects of physical activity before work on appraisal of the upcoming workday and employee well-being. Journal of Occupational Health Psychology. Advance online publication. https://doi.org/10.1037/ocp0000360
- de Lange, Catherine. (2023, June 3-9). Mental muscle. New Scientist.
- Karpathy, Andrej. (2012, October 22). The state of Computer Vision and Al: we are really far away. Andrej Karpathy Blog.
- Potteiger, Jeffrey A. (2014). ACSM's Introduction to Exercise Science, 2nd Edition.
- 5. Ibid.
- 6. Ibid.
- McArdle, William D. (2016). Key Essentials of Exercise Physiology, Fifth Edition.
- 8. Ibid.
- 9. Concordia University Chicago. (2023, June 22). Exercise Science vs. Exercise Physiology. Retrieved June 22, 2023https://exsci.cuchicago.edu/exercise-science-careers /exercise-science-vs-physiology/#:~:text=Exercise%20 science%20is%20a%20broader,of%20study%20within%20 exercise%20science.
- Maryville University. (n.d.) Exercise Science vs. Exercise Physiology: What's the Difference? Retrieved on June 22, 2023 from https://online.maryville.edu/online-bachelorsdegrees/exercise-science/careers/exercise-science-vsexercise-physiology/
- **11.** Ibid
- **12.** Hutchinson, Alex. (2018). Endure: Mind, Body, and the Curiously Elastic Limits of Human Performance. Custom House.
- **13.** Hutchinson's discussion of the "central governor theory" of performance is, by itself, good enough reason to read this book.
- 14. Carney, Scott. (2017). What Doesn't Kill Us: How Freezing Water, Extreme Altitude, and Environmental Conditioning Will Renew Our Lost Evolutionary Strength. Rodale Books and Crown Publishing.

- Hutchinson, Alex. (2018). Endure: Mind, Body, and the Curiously Elastic Limits of Human Performance. Custom House
- **16.** Epstein, David. (2013). The Sports Gene: Inside the Science of Extraordinary Athletic Performance. Current.
- McClusky, Mark.(2014). Stronger: The New Science of Creating Super Athletes, and How You Can Train Like Them. Plume.
- 18. Fitzgerald, Matt. (2015). How Bad Do You Want It? Mastering the Psychology of Mind Over Muscle. Velo.
- 19. Murray, Lauren. (2018, February 21). WATCH: Exercise science software look to aid decision making. The Ithican. Retrieved on August 31, 2023 from https://theithacan.org/28731/sports/features/exercise-science-software-looks-to-aid-decision-making/.
- 20. Blow, Andy. (n.d.). How to estimate how much sodium you lose in your sweat. Precision Fuel & Hydration. Retrieved on August 31, 2023 from https://www.precisionhydration.com/performance-advice/hydration/how-to-estimate-sweat-salt-loss/.
- Leeds Beckett University. (2022). Leeds Rhinos with Carnegie School of Sport are looking to recruit a highly motivated to a prestigious PhD. Retrieved on August 31, 2023 from https://www.leedsbeckett.ac.uk/courses/ studentships/css/css-leeds-rhinos-contact-load-2022/.
- 22. The American College of Sport's Medicine. (2023, January 5). ACSM Exerecise is Medicine Initiative Announces Strategic Partnership with EXI. Retrieved on August 31, 2023 from https://www.acsm.org/news-detail/2023/01/05/acsm-exercise-is-medicine-initiative-announces-strategic-partnership-with-exi.
- 23. CDC Healthy Schools. (n.d.). Local School Wellness Policy. Centers for Disease Control and Prevention. Retrieved on August 31, 2023 from https://www.cdc.gov/healthyschools/nutrition/wellness.htm.
- 24. Independent School Management. (n.d.) Wellness in Independent Secondary Education (WISE) Program. ISM. Retrieved on August 31, 2023 from https://isminc.com/ insurance/student-benefits/wellness-in-secondaryeducation.

- 25. Wrenn, Kathy. (2017, Spring). Incorporating Wellness into School Life. National Association of Independent Schools. Retrieved on August 31, 2023 from https://www.nais.org/magazine/independent-teacher/spring-2017/incorporating-wellness-into-school-life/.
- **26.** Lesgold, Alan M. (2019). Learning for the Age of Artificial Intelligence: Eight Education Competencies. Routledge.
- 27. de Lange, Catherine. (2023, June 3-9). Mental muscle. New Scientist.
- 28. Besnier, Nike, Brown, Susan, and Carter, Thomas F. (2018). The Anthology of Sport: Bodies, Borders, Biopolitics. University of California Press.
- 29. Nazeer, Cari. (2023, July 2). The Importance of Play at Work. Charter in partnership with Time.
- 30. Sharma A, Madaan V, Petty FD. (2006). Exercise for mental health. Prim Care Companion J Clin Psychiatry. Retrieved on August 31, 2023 from https://www.ncbi.nlm.nih.gov/pmc/articles/PMC1470658/#:~:text=Exercise%20 improves%20mental%20health%20by,self%2Desteem%20 and%20cognitive%20function.&text=Exercise%20has%20 also%20been%20found,self%2Desteem%20and%20 social%20withdrawal.
- 31. Perry, Georgina. (2022, September 15). Eating well for mental health. Michigan State University. Retrieved on August 31, 2023 from https://www.canr.msu.edu/news/eating-well-for-mental-health.
- **32.** Cleveland Clinic. (2022, January 19). VO2 Max: How to Measure and Improve It. Retrieved on August 31, 2023 from https://health.clevelandclinic.org/what-is-vo2-max-and-how-to-calculate-it/.
- **33.** Cleveland Clinic. (2021, September 1). Heart Rate Variability (HRV). Retrieved on August 31, 2023 from https://my. clevelandclinic.org/health/symptoms/21773-heart-rate-variability-hrv.
- **34.** Garmin. (2022, July 12). What's a Good VO2 Max for Me? Your Aerobic Fitness Explained. Retrieved on August 31, 2023 from https://www.garmin.com/en-US/blog/fitness/whats-a-good-vo2-max-for-me/.

35. Vogels, Emily A. (2020, January 9). About one-in-five Americans use a smart watch or fitness tracker. Pew Research Center. Retrieved on September 18, 2023 from https://www.pewresearch.org/short-reads/2020/01/09/about-one-in-five-americans-use-a-smart-watch-or-fitness-tracker/.

