



A History of the President's Council on Physical Fitness and Sports *Research Digest*

Editor's Note:

In 2006 the President's Council on Physical Fitness and Sports (PCPFS) celebrated its 50th anniversary. As a new chapter in the history of the PCPFS begins and sights are set on what can be accomplished in the next fifty years, it seems fitting we devote this issue of the PCPFS *Research Digest* on the publication itself—its origins, some of the landmark articles, and turning points for the publication, including changes in the fields of physical activity, fitness, and sports.

The terms *physical fitness*, *exercise*, and *physical activity* are used throughout this article. The use of a specific term is meant to reflect the manuscript that is being discussed at that time.

Research Digest: 1971-1979

The *Research Digest* owes its beginnings to H. Harrison Clarke, Ed.D., a research professor of physical education at the University of Oregon and a part-time research consultant to the PCPFS. Dr. Clarke started the *Physical Fitness Research Digest* in July 1971 and served as its editor for over eight years. By the time he began as editor, he had completed his work as the lead investigator of the Medford, Oregon Boys' Growth Study where he and his team of researchers analyzed the relationships between intelligence and sixteen different measures including physique type, body size, and motor ability.¹

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His predecessors and colleagues were engaged in research to understand the components of fitness, and a few pioneers had been promoting the health benefits of exercise for some time.

Dr. Thomas K. Cureton drew attention to fitness in the 1940s through research on the benefits of regular exercise and the role of fitness in improving health.² He also established one of the first physical fitness research labs in the country at the University of Illinois Urbana-Champaign (now the T.K. Cureton Physical Fitness Research Laboratory) in 1944. In the 1950s one of those fitness pioneers, Jack LaLanne, started to bring fitness to the masses through his popular television series, "The Jack LaLanne Show," which aired from 1951-1984. In the late fifties, fitness for children and youth was brought to the forefront after Hans Kraus published the results of a study he conducted comparing the fitness of American children to their European counterparts. Kraus's findings caught the attention of the media and high-ranking officials in the Eisenhower administration. In

June 1956, the White House hosted the President's Conference on the Fitness of American Youth at the United States Naval Academy. One month later, President Eisenhower, a former military officer familiar with the complaints of military recruiters and officers who were dismayed by the poor fitness levels of draftees during World War II and the Korean War, established the President's Council on Youth Fitness. The purpose of the new agency was to educate, stimulate, motivate, and encourage local communities and individual Americans to promote and adopt active lifestyles.³ President Kennedy continued to make the subject of fitness a matter of national pride when he wrote two articles for *Sports Illustrated*, "The Soft American" in 1960 (written as President-elect) and "The Vigor We Need" in 1962.

In "The Soft American," Kennedy outlined the national fitness program he would create. His plan included the development of a White House committee on health and fitness with oversight by the Department of Health, Education, and Welfare* and an annual youth fitness conference attended by governors. Kennedy also made the assertion that physical fitness was the business of the federal government.³

Dr. Clarke was fortunate to be able to pull from many of the larger studies that were initiated during his professional career including the time he wrote the *Digests*. From 1957-1960 and again

*In 1980 the Department of Health, Education, and Welfare became the Department of Health and Human Services.

The establishment of the American College of Sports Medicine in 1954 and the ongoing work of the American Alliance for Health, Physical Education, Recreation and Dance (AAHPERD), created in 1885, continued to advance and support professionals in the fields of kinesiology, exercise science, health promotion, and physical education in an effort to advance and improve the health of the population. In March 2007, the AAHPERD Board of Governors will vote to change the name to American Alliance for Health and Physical Activity (AAHPA).

in 1962-1964, Dr. Henry Taylor led a study in which 3,043 American men were assessed to determine if there is a relationship between physical fitness and heart disease.⁴ Known as the U.S. Railway Workers' Study, Taylor's work was the U.S. arm of the Seven Countries Study (also conducted in Yugoslavia, Greece, Italy, Finland, Netherlands, and Japan). Participants of the U.S. study took a sub-maximal treadmill test in a Pullman car that was converted into a makeshift laboratory. While much of the focus of the Seven Countries Study was on the role of the diet on cardiovascular risk, physical activity was a lifestyle factor tracked by the researchers.⁵ The results of the U.S. Railway Workers' Study showed that middle-aged men with lower levels of fitness identified through a sub-maximal treadmill test have a greater risk of dying from heart disease, cardiovascular disease (CVD), and all causes.

The landmark Framingham Heart Study added further evidence of the health benefits of physical activity. Starting in 1948, investigators from the National Heart Institute (now the National Heart, Lung and Blood Institute) and Boston University School of Medicine began tracking the lifestyle and physical characteristics of 5,209 men and women living in Framingham, Massachusetts, in an effort to identify common patterns in CVD development.⁶ The dedicated work of the Framingham researchers and participants have resulted in many milestones, including the 1967 finding that physical activity reduces the risk of heart disease and that obesity increases the risk.⁷ Data from the Framingham Study continue to be tracked and monitored today. The third generation (the grandchildren of the original sample) was enrolled into the study in July 2005.

The findings of Framingham, the U.S. Railway Workers' Study, and other epidemiological investigations are evidence of a shift in the way physical activity and fitness were viewed in relation to health. Evidence suggested that physical or fitness-enhancing activities were not only necessary to improve performance, but that certain types or degrees of physical activity produced health benefits as well.⁸

Research Digest: the early years

In the first issue in 1971, Dr. Clarke defined the

nature and components of physical fitness.⁹ While physical fitness wasn't a new term or a new field, the issue provided readers with an overview of the components of physical fitness (muscular strength, muscular endurance, and circulatory-respiratory endurance) and opened doors to the world of research that was happening at that time.

Afterwards, the publication continued to highlight and summarize the research on the relationship of physical fitness to "mental alertness, nervous tensions, and psychological adjustments."⁹ Dr. Clarke's writings emphasized a holistic view of the role of fitness and the human body, a notion that was put forth in subsequent issues, including a two-part series, "The Totality of Man."^{1,10} Here, Dr. Clarke reviewed the relationships between physical fitness and health and mental achievement, personality traits, and psychological characteristics.

In the early *Digests*, Dr. Clarke discussed the research on the relationship between learning potential or mental achievement and physical fitness. He wrote:

. . . physical fitness is not a guarantee of superior mental achievement . . . However, the evidence overwhelmingly relates the individual's general learning potential to his fitness. While physical educators have several worthy objectives, the need to maintain a proper physical fitness program should be a basic one. Physical fitness has fundamental benefits other than improved learning potential . . . However, educators at all education levels should recognize this value and strongly support physical fitness programs for this benefit . . .¹

While the relationship between physical fitness and academic achievement remains unclear to this day, Dr. Clarke encouraged physical education and other programs that improve fitness and motor skills because of the positive impact on self-concept, relationships with peers, and other psychological characteristics.¹⁰

The idea that both mind and body can benefit from enhanced fitness, while not a new concept, was not prevalent during the time when Dr. Clarke wrote the early *Digests*. According to Chuck Corbin, Ph.D., former editor of the *Digest* who was also a recent chair of the PCPFS Science Board,

performance or skill-related fitness was the focus in the field prior to 1980. In fact, the PCPFS was established in 1956 because of the belief that American youth would need to be fit in order to respond optimally to the stressors placed on the body or to perform a specific skill set at a higher level.

Shortly after the PCPFS was founded, the American Alliance of Health, Physical Education, Recreation, and Dance (AAHPERD)* published the first survey of American youth (1958).¹¹ However, the tests mainly assessed performance-related skills measured through activities such as the softball throw, long jump, and the 50-yard dash. As a health-related definition of fitness gradually evolved, performance-related measures were removed from the test in order to assess measures that were predictive of health (e.g., cardiovascular fitness, flexibility, muscular strength and endurance). The Council released its own fitness test, the Presidential Physical Fitness Award, in 1966. In a 1975 issue of the *Digest*, Dr. Clarke provided a review of the fitness tests available to physical educators in primary, secondary, and post-secondary educational institutions and the military.¹² Clarke described the

- AAHPER Youth Fitness Test,
- PCPFS Screening Test,
- California Physical Fitness Test,
- Indiana Motor Fitness Test,
- New York State Physical Fitness Test,
- Oregon Motor Fitness Test,
- Washington Motor Fitness Test,
- Marine Corps Physical Fitness Test,
- Department of the Navy Test, and
- tests of the United States Military Academy, United States Naval Academy, United States Air Force Academy, and United States Coast Guard Academy.

While the emphasis for fitness was shifting from improving skills to enhancing health in kids, the research was still being amassed on the health benefits for adults. A 1974 issue of the *Research Digest* reported the results of the National Adult Physical Fitness Survey, which was conducted for

*At the time the test was released, the name of the organization was the American Association for Health, Physical Education, and Recreation. (endnote Corbin and Pangrazi)

the PCPFS by the Opinion Research Corporation.¹³ The survey questioned 3,875 adults (male and female) in their homes. The questions asked participants about their involvement in school sports; if they took a physical education class and if they felt it was beneficial; the exercises they engage in and the reasons for doing such exercises; and whether or not they had heard any messages about the importance of physical fitness and sports.

The findings of this survey were summarized in the *Digest* article. Dr. Clarke's recommendations are strikingly similar to what has been published in recent years:

. . . expand physical education programs into elementary schools, especially, and junior high schools . . . more than 90 percent of all adults believe that all people should have physical education from elementary school through college.¹³

Similar findings were publicized by the National Association of Sport and Physical Education (NASPE). NASPE contracted with the Opinion Research Corporation to assess parental attitudes towards physical activity and physical education. According to a NASPE news release dated April 29, 2003:

Three in four parents (76%) think more school physical education could help control or prevent childhood obesity . . . 95% think physical education should be part of a school curriculum for all students in grades K-12.*

*Sample included 2,038 adults (50% male/50% female). The news release can be found at www.aahperd.org/naspe/template.cfm?template=pr_042903.html.

These opinions were supported by the non-federal Task Force on Community Preventive Services, which recommended physical education as a means to increase youth physical activity and fitness levels.¹⁴

Results of the National Adult Physical Fitness Survey also found "A major need [is] to make easily accessible paths for bicycling, jogging and walking; greater opportunities for swimming are also needed, with pools reasonably accessible to

participants."¹³ Again, Dr. Clarke's writings almost seemed ahead of their time. The expressions "active living," "smart growth," and "livable communities" have become standard expressions in the physical activity field and fitness promotion and research in recent years. Journal articles have been written and talks given that report associations between the way neighborhoods are designed and the levels of physical activity among residents.^{15,16} The latest systematic review of the Task Force on Community Preventive Services recommends community-scale¹⁷ and street-scale¹⁸ urban design land use policies and practices as methods to facilitate increasing physical activity.

From 1974 to 1979, Dr. Clarke reported on the latest research, much of which continues to be of interest today: athletes and academic achievement,¹⁹ exercise and the knee joint,²⁰ physical fitness in elementary and secondary schools,²¹ exercise and aging,²² and updates on physical fitness and exercise and coronary risk factors.^{23, 24}

The final editions of the first phase of the *Digest* came full circle. Before launching into a new era of the nation's history, Dr. Clarke wrote about the importance of physical fitness and exercise for cardiovascular health and started utilizing the term "physical activity."²³ Up until that point, emphasis was given to exercise and fitness-enhancing or sports-related activities. There is no indication as to what led Clarke to address physical activity, other than, perhaps, the focus on physical activity in two of the studies he featured in one of those last editions of the *Digest*: the 22-year follow-up study of San Francisco longshoremens and the Harvard alumni study, both of which were led by Dr. Ralph Paffenbarger. In summarizing the results of these studies, Clarke wrote:

The studies consistently supported the need for a moderate level of physical activity as a lifestyle for maintaining a sound cardiovascular system; strenuous physical activity, including competition, does not appear to reduce further the incidence of coronary heart disease.²³

Reflecting on an issue that had much of the nation's attention, the last edition of the *Digest* written by Dr. Clarke addressed female fitness and

the differences in fitness-related abilities between males and females. He wrote, “. . . questions are being raised from many sources as to the physical ability of girls and women to participate on par with boys and men at all levels of demanding physical work.”²⁵ To put this in context, the deadline for ratification of the Equal Rights Amendment (ERA) was March 22, 1979, but failing to have enough states ratify the amendment and with enough pressure from supporters, Congress granted a 3-year extension.²⁶ Dr. Clarke noted that males and females exhibit differences in physique, structure, and body composition that cause differences in physical and motor performance and that these differences can be increased or decreased depending on lifestyle. Dr. Clarke retired shortly after he wrote his final *Digest* in 1979. He felt he had made his contributions to the field and he was ready to move on to other things. (Personal communication with Chuck Corbin.)

Research Digest: 1993-Present

As he set out to do in 1971, Dr. Clarke continued to try to shed light on issues that were important to physical fitness research. His efforts did not go unnoticed. In 1988, Charles “Chuck” Corbin, Ph.D., Brian Sharkey, Ph.D., and Hal Morris, Ph.D. attended a meeting of the President’s Council on Physical Fitness and Sports to ask, among other things, that the *Research Digest* be resurrected and that the Council establish a science board comprised of researchers in the field who could help to ensure the scientific integrity of the Council’s programs and publications. Corbin, Sharkey, and Morris felt that the *Digest* served a niche. There were journals for scholarly articles and original research and professional journals for practitioners, but there wasn’t anything that provided a summary of the scientific evidence. What set the *Digest* apart from some of the other fitness journals available was its in-depth exploration of specific topics related to physical activity and fitness in a manner that allowed a large audience to understand these issues. The recommendation was approved. With the corporate sponsor, Chiquita Brands International, Inc., the first issue of the PCPFS *Digest* with Chuck Corbin, Ph.D. and Robert Pangrazi, Ph.D. as co-editors was published in February 1993, under the

name of the *PCPFS Physical Activity and Fitness Research Digest*.

Christine Spain, now Director of Research Planning and Special Projects at the PCPFS, was instrumental in the resurgence of the *Digest* by following up on the request of Corbin, Sharkey, and Morris. She helped secure the funding from Chiquita (1992-1994) and, later, from the Advil Forum on Health Education (1995-1997), which sponsored the printing of the *Digest* as a public service. It should also be noted the publication changed its name again in December 1996 when it became the President’s Council on Physical Fitness and Sports *Research Digest*.

For the first time, *physical activity* was included in the title. The co-editors recognized that “both the process of physical activity and the product of physical fitness are important to good health and quality of living.”²⁷ The inclusion of physical activity and the focus on physical activities as a means to improving health was listed as the first priority area in the 1990 publication of *Healthy People 2000*, the federal governments’ 10-year public health objectives for the nation.²⁸ Although Corbin and Pangrazi noted that research had proven the role of physical activity in prevention and treatment of disease, the impact of physical activity on quality of life and well-being was still unclear. Dr. Corbin felt the first issues of the “new” *Digest* “helped practitioners make the transition from focusing on physical *fitness* to focusing on the promotion of physical *activity*.” (Personal communication.) The initial co-editors reflected on other issues that marked a turning point in the field:

- Whitehead J. (May 1993) “Physical Activity and Intrinsic Motivation.” This issue marked a change in the thinking practitioners had about the use of extrinsic rewards for promoting physical activity.
- Bouchard C. (November 1993) “Heredity and Health-related Fitness.” Bouchard explained that many factors including physical activity and genes play a role in the fitness of an individual. This was particularly helpful in understanding fitness testing outcomes. Heredity, age,

and maturation have a bigger impact on fitness testing in youth than levels of physical activity.

- Corbin C., Pangrazi R., and Welk G. (November 1994) “Toward an Understanding of Appropriate Physical Activity Levels for Youth.” The article called for the development of and provided the basis for the first national guidelines for physical activity for children. In 1998 the National Association for Sport and Physical Education and the Health Education Authority independently published youth physical activity guidelines.²⁹
- Wells C. (March 1996) “Physical Activity and Women’s Health.” The benefits of physical activity for select population groups had often been ignored. This issue reached out to one of those groups—women.
- Welk G. and Blair S. (December 2000) “Physical Activity Protects Against the Health Risks of Obesity.” Elaborated on the idea that obese individuals benefit from physical activity and that physical activity has positive effects for all individuals regardless of their physical condition.
- Ainsworth B. (June 2003) “The Compendium of Physical Activities.” Especially noteworthy from the standpoint of the Council. The compilation of the Compendium provided the data on which the President’s Challenge Presidential Champions award and web-based physical activity tracker are based.

Drs. Corbin and Pangrazi served as co-editors of the *Digest* until March 1998. From June 1998 to March 2002, Don Franks, Ph.D., professor in the Department of Kinesiology at the University of Maryland (retired), served as a third co-editor of the publication. Combined, they edited over fifty *Digest* articles and compiled two volumes of selected topics: *Toward a Better Understanding of Physical Fitness and Activity* (Volumes 1 and 2). In that time they also saw the boom of the web and the opportunity it provided to distribute the

publication to an even greater number of users through both the website of the President’s Challenge (www.presidentschallenge.org) and the PCPFS (www.fitness.gov). Today, most *Digest* readers access the publication in a web-based format through a listserv maintained by the President’s Challenge program. Anyone can register to receive this free publication at http://www.presidentschallenge.org/misc/news_research/research_digest.aspx. Copies can also be accessed on the PCPFS website http://www.fitness.gov/pcpfs_research_digs.htm. A limited number of copies are printed and are available through the Council’s office.

In 2004 following the establishment of the PCPFS Science Board, some members of the Board began a rotating service as “lead” and “junior” editors. Following Franks’ retirement, Deborah Rohm Young, Ph.D., associate professor in the Department of Kinesiology and researcher at the University of Maryland, joined Corbin and Pangrazi as an editor. With Dr. Corbin’s retirement and the end of his term as a member of the Science Board, Barbara Ainsworth, Ph.D., MPH, professor in the Department of Exercise and Wellness at Arizona State University, began a term as co-editor in June 2005. In January 2007, Dr. Michael LaMonte, Ph.D., MPH, assistant professor in the Department of Social and Preventive Medicine, School of Public Health and Health Professions, University of Buffalo, joined the PCPFS *Research Digest* as a junior editor.

The *Research Digest* is fortunate to have so many esteemed researchers and practitioners contribute to its pages. In keeping with H. Harrison Clarke’s original intent, the editorial team does its best to identify and produce *Digests* that are current to the fields of physical activity, fitness, physical education, and sports. If you have topics that you feel would be of particular interest to your colleagues or students, please don’t hesitate to share them with the editorial team by emailing them to the author at jane.wargo@hhs.gov. When suggesting a topic, please recommend an author.

Author’s note: The author wishes to thank Drs. Corbin, Franks, and Pangrazi for the information they supplied for this article.

The seal of the President's Council on Physical Fitness & Sports is centered in the background. It features an eagle with wings spread, holding an olive branch and arrows. The eagle is superimposed on a shield with vertical stripes. The seal is circular with the text "PRESIDENT'S COUNCIL ON PHYSICAL FITNESS & SPORTS" around the perimeter. The text is in a serif font, with "PRESIDENT'S COUNCIL" at the top and "ON PHYSICAL FITNESS & SPORTS" at the bottom. There are stars separating the top and bottom text.

The Research Digest is fortunate
to have so many
esteemed researchers and
practitioners contribute to
its pages.

Please Post

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References

1. Clarke H. (1971). The totality of man. *Physical Fitness Research Digest*. 1(2). Washington, DC. President's Council on Physical Fitness and Sports.
2. Dalleck L. and Kravitz L. The history of fitness. Retrieved December 6, 2006, from <http://www.unm.edu/~lkravitz/Article%20folder/history/html>.
3. President's Council on Physical Fitness and Sports. *History of the President's Council on Physical Fitness and Sports*. Retrieved December 7, 2006, from <http://www.fitness.gov/50thanniversary/toolkit-firstfiftyyears.htm>.
4. Slattery M. and Jacobs D. (1988). Physical fitness and cardiovascular disease mortality. *Amer Jnl Epi*, 127(3). Retrieved December 26, 2006 from PubMed.
5. University of Minnesota, Division of Epidemiology and Public Health. The Seven Countries Study in brief. Retrieved December 26, 2006, from <http://www.epi.umn.edu/about/7countries/overview.shtm>.
6. Framingham Heart Study (2006). Profile of the Framingham Heart Study. Retrieved January 8, 2007, from www.framingham.com/heart/profile.htm.
7. National Heart, Lung and Blood Institute. (2002). Research milestones. In *Framingham Heart Study: 50 years of research success*. Retrieved December 26, 2006, from <http://www.nhlbi.gov/about/framingham/timeline.htm>.
8. U.S. Department of Health and Human Services (1996). *Physical Activity and Health: A report of the Surgeon General*. Atlanta, GA: USDHHS, Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion.
9. Clarke H. (1971). Basic understanding of physical fitness. *Physical Fitness Research Digest*. 1(1). Washington, DC. President's Council on Physical Fitness and Sports.
10. Clarke H. (1972) The totality of man (continued). *Physical Fitness Research Digest*. 2(1). Washington, DC. President's Council on Physical Fitness and Sports.
11. Corbin C. and Pangrazi R. (1992). Are American children and youth fit? *Res Q Exer Sport*, 63(2), 96-106.
12. Clarke H. (1975). Physical fitness testing in schools. *Physical Fitness Research Digest*. 5(1). Washington, DC. President's Council on Physical Fitness and Sports.
13. Clarke H. (1974). National adult fitness survey. *Physical Fitness Research Digest*. 4(2). Washington, DC. President's Council on Physical Fitness and Sports.
14. Centers for Disease Control and Prevention. Enhanced physical education classes in schools are recommended to increase physical activity among young people. Guide to Community Preventive Services Website. Retrieved January 8, 2007, from www.thecommunityguide.org/pa.
15. Ewing R., Schmid T., Killingsworth R., Zlot A., and Raudenbush S. (2003). Relationship between urban sprawl and physical activity, obesity, and morbidity. *Amer Jnl Health Promotion*. 18(1), 47-57.
16. Frank L., Sallis J., Conway T., Champman J., Saelens B., and Bachman W. (2006). Many pathways from land use to health. *Jrnl Amer Planning Assoc*. 72(1). 75-87.
17. Centers for Disease Control and Prevention. Increasing physical activity: Community-scale urban design and land use policies and practices are recommended to increase physical activity. Guide to Community Preventive Services Website. Retrieved December 28, 2006, from www.thecommunityguide.org/pa.
18. Centers for Disease Control and Prevention. Increasing physical activity: Street-scale urban design and land use policies and practices are recommended to increase physical activity. Guide to Community Preventive Services Website. Retrieved December 28, 2006, from www.thecommunityguide.org/pa.
19. Clarke H. (1975). Athletes: their academic achievement and personal-social status. *Physical Fitness Research Digest*. 5(3). Washington, DC. President's Council on Physical Fitness and Sports.
20. Clarke H. (1976). Exercise and the knee joint. *Physical Fitness Research Digest*. 6(1). Washington, DC. President's Council on Physical Fitness and Sports.
21. Clarke H. (1976). Physical fitness practices and programs for elementary and secondary schools. *Physical Fitness Research Digest*. 6(4). Washington, DC. President's Council on Physical Fitness and Sports.
22. Clarke H. (1977). Exercise and aging. *Physical Fitness Research Digest*. 7(2). Washington, DC. President's Council on Physical Fitness and Sports.
23. Clarke H. (1979). Update: physical activity and coronary heart disease. *Physical Fitness Research Digest*. 9(2). Washington, DC. President's Council on Physical Fitness and Sports.
24. Clarke H. (1979). Update: exercise and some coronary risk factors. *Physical Fitness Research Digest*. 9(3). Washington, DC. President's Council on Physical Fitness and Sports.
25. Clarke H. (1979) Physical and motor sex differences. *Physical Fitness Research Digest*. 9(4). Washington, DC. President's Council on Physical Fitness and Sports.
26. Francis R. The Equal Rights Amendment. In *The history behind the Equal Rights Amendment*. Retrieved December 29, 2006, from <http://www.equalrightsamendment.org/era.htm>.
27. Corbin C. and Pangrazi B. (1993). The health benefits of physical activity. *Physical Activity and Fitness Research Digest*. 1(1). President's Council on Physical Fitness and Sports. Washington, DC.
28. U.S. Department of Health and Human Services. Healthy People: What is Healthy People. Healthy People website. Retrieved January 11, 2007, from <http://www.healthypeople.gov/About/whatis.htm>.
29. Corbin C., Pangrazi R., and LeMasurier G. (2004). Physical activity for children: current patterns and guidelines. *PCPFS Research Digest*. 5(2). Washington, DC.