

A.H.W.P¹ 2000 Report Metropolitan Andrei School

Results & Summary of Major Findings

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Objectives of Report

This summary report is intended for teachers and community leaders working in the field of physical activity and child obesity. A technical report, with methodological details, is to be completed after a 10-year comparative study on various age groups.

The primary objective of the A.H.W.P. is to empower children with the knowledge to prevent diseases associated with physical inactivity such as cardiovascular disease, obesity and diabetes.

The objectives of this report for the current demographic are:

- to identify physical activity skills required to maintain long-term health.
- to identify the current physical education curriculum in relation to long-term health
- to demonstrate the current knowledge and beliefs about physical activity (used as a benchmark)
- to demonstrate program content, evaluation and results.
- to summarize and conclude findings.

Demographic

103 children aged 9-13 years completed the full 25-hour A.H.W.P conducted by Ontario Active Research (current document published on <http://www.preventdisease.com/fitness/ahwp/results.pdf>) between March and April 1997, at Metropolitan Andrei Elementary School in Mississauga, ON., Canada..

- The candidates were representative of the grades 6-8 population.
- 54% were male and 46% were female.
- 100% were english speaking
- 91% had lived in the local area for at least 3 years
- 87% had both parents working at a full-time position.

Weighted data, by age and gender to the Dufferin Catholic Peel School population of approx. 100K aged 9-13 were used for all analyses.

Physical Activity Skills Required to Maintain Long-Term Health

Facts:

1) Increases in lean muscle mass results in higher metabolism (▲BMR) and calorie expenditure. A higher calorie expenditure allows a greater amount of calories to be ingested without conversion to fat. High body fat composition is associated with obesity, cardiovascular disease and diabetes which dramatically decrease long-term health.

2) Increases in cardiovascular respiratory endurance results in increased heart/lung capacity and a more efficient cardiovascular system through increased blood flow and fat metabolism. This ultimately allows the human body to evade a plethora of diseases associated with inactivity and obesity which decrease long-term health.

Physical Activity Requirements:

- a) To achieve results in 1) students must improve motor related competence in areas such as speed, strength and power. Examples include weight-bearing exercises, resistance training and plyometrics.
- b) To achieve results in 2) students must enhance cardiovascular respiratory endurance. Examples include walking, running, various calisthenics or sports that sufficiently sustain a pulse rate of between 150-180 beats per minute for a duration of at least 10 minutes.

Current Physical Education Curriculum in Relation to Long-Term Health

The physical education curriculum designed for Dufferin Peel Catholic Schools was found to consistently lack in physical activity programs which allow students to develop motor related competence in relation to long-term health. Individual weight-bearing and resistance training exercises are relatively absent from the curriculum and students are rarely instructed on the health benefits of such activities and how they relate to the prevention of disease and long-term health.

The curriculum does heavily emphasize locomotor, non-locomotor and manipulative skills for all levels/grades. These skills are easily integrated into entertaining games for children (i.e. dodge ball) and are very important in the developmental stages of movement. However, they are very poor indicators and skills needed in maintaining long-term health. A stronger emphasis on developing motor skills, specifically speed, strength and power is required if children are to obtain the knowledge and practical skill required to reduce the health risks associated with inactivity as adults.

Knowledge and Beliefs about Physical Activity

Six (6) statements about physical activity to improve health were asked which respondents could rate on a Likert scale from strongly agree to strongly disagree. Bold statements reflect activities which have a definite impact on long-term health.

- * A walk once per week is enough to improve my health
- * Vigorous sport played once per week is enough to improve my health
- * **Moderate weights or resistance training is necessary to improve my health** (defined if unsure)
- * **Half an hour of quick walking on most days is enough to improve my health**
- * Exercise that is good for my health must be enough to make me puff and pant
- * Exercise absolutely must be a sport or game that's fun

Knowledge and Beliefs about Physical Activity*

Statement	Overall % Agree	Grade 6	Grade 7	Grade 8
Walk once per week...	43	48	38	43
Vigorous sport played...	56	66	54	49
Moderate weights...	24	16	26	29
Half an hour walk...	25	19	23	34
Exercise...puff and pant	63	59	66	65
Exercise...must be sport	65	72	63	61

- Overall 24% and 25% agreed with the statements which impact long-term health
- Being generally more active was agreed with by older children.
- The highest conformity came from children who equated exercise with sport
- Older children were more likely to disagree that vigorous sports played would improve health.
- Younger children disagreed the most with the puff and pant that must accompany exercise for health.

* All statements were discussed in an open forum and statements which arouse questions or comments were quickly clarified for students.

A.H.W.P Divisions & Components

Divisions

THEORETICAL (25 hours)

Scientific, Psychological & Social

PRACTICAL (10 hours)

Muscular/Strength & Cardiovascular Conditioning

Components

THEORETICAL

- **Scientific** [12 hours]

Anatomy, Physiology, Fitness/Conditioning, Nutrition

- **Psychological** [4 hours]

Biological, Behavioral and Trait Approaches

- **Social** [4.5 hours]

Cognition, Attitude & Influence

- **Disease** [4.5 hours]

Types, Prevention, Statistics

PRACTICAL

- **Muscular/Strength** [7 hours]

Anaerobic Conditioning (Muscular Resistance Exercise)

- **Cardiovascular** [3 hours]

Aerobic Conditioning (Cardiovascular Endurance)

A.H.W.P Aims & Objectives

The aims and objectives of the A.H.W.P are closely aligned with those of the Physical Education Curriculums already implemented at Dufferin Peel Elementary Schools.

Aims

- * help students to assimilate the body of knowledge appropriate to health education.
- * expose students to a variety of activities and experiences related to health education;
- * help individuals develop a sound understanding of their total development and enable them to attain positive self-images;
- * provide opportunities for students make personal decisions related to their intellectual, physical and emotional development;
- * allow students to experience social relations that will encourage desirable behaviour, leadership and cooperation with others.

Objectives

- * a positive attitude towards physical fitness and good health;
- * a personal value system and satisfactory relationships with peers;
- * increased self-awareness and a positive self concept;
- * independence, interdependence, and a sense of responsibility;
- * an understanding of human sexuality;
- * an understanding of appropriate factual information and concepts

Evaluation and Results

A final exam was given in both divisions of the program to assess both the theoretical(T) and practical(P) working knowledge. All components were closely integrated into one final exam (30 multiple choice questions) based on material instructed from both divisions.

A.H.W.P. Results - Theoretical/Practical Components

Component	Overall %	Grade 6	Grade 7	Grade 8
Scientific(T)	62	62	60	64
Psychological(T)	65	60	69	67
Social(T)	72	67	73	76
Disease(T)	72	71	72	74
Muscular/Strength(P)	61	58	62	64
Cardiovascular(P)	59	57	60	61

- The practical components of the program were the most challenging for all grades with the lowest scores.
- All grades scored highest in both the Social and Disease components of the theoretical division.
- Results of the theoretical component indicated a substantial increase in awareness of physical activity skills required to maintain long-term health and prevent disease.
- Results of the practical component demonstrated the need for continuing education and training to increase motor related competence and cardiovascular respiratory endurance.
- The youngest children had the lowest scores due to non-discriminatory instruction, program content, instruction and exam material in relation to grade/level.

Conclusions

- Results of the A.H.W.P clearly demonstrate the effectiveness of such a program on this demographic.
- Pre-instruction results demonstrate clear and common misconceptions regarding weight and cardiovascular training were common through all grades.
- Post-instruction results demonstrate that knowledge regarding physical activity skills required to maintain long-term health increased dramatically.
- The design of the program allowed for an excellent understanding of psychological, social and disease aspects of health and wellness which is clearly evident in the overall exam results.

Children are particularly susceptible to misconceptions of health, wellness and physical activity. As educators, we have the tools and knowledge to establish appropriate physical activity guidelines to promote healthy, active lifestyles that may prevent disease. By informing children and equipping them with these essential physical capabilities, we may eventually reduce the ongoing health risks associated with the surplus of inactive teens and adults.

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