DOI: 10.23937/2469-5793/1510125

Volume 6 | Issue 3

Open Access



Family Medicine and Disease Prevention

RESEARCH ARTICLE

Exercise is Medicine! Why are People not Buying into the Prescription?

M Felicia Cavallini¹ and David J Dyck²

¹Professor of Physical Education, Limestone University, USA

*Corresponding author: Dr. M. Felicia Cavallini, Professor of Physical Education (Exercise Science), Limestone University, 1115 College Dr. Gaffney, South Carolina 29340, USA, Tel: (0)-864-488-8357



Purpose and methods: Despite decades of research documenting the numerous health benefits of exercise, most people are not buying into the "Exercise is Medicine" prescription and making the commitment to exercise regularly. The purpose of this study was to examine: 1) Participants' perceptual association with descriptive statements and certain activities relating to exercise and physical activity (PA); 2) Participant's attitudes towards the gym environment; and 3) The overall relationship between participants' associations with PA and exercise, and their preferences for how they want to be physically active. Adults ages 18 years and older representing diverse groups from rural and urban communities in Guelph and Wellington County in Southwestern Ontario, Canada and groups from Cherokee County, South Carolina were participated in this mixed methodology study. Focus group facilitated discussions were conducted with 234 people from Southwestern Ontario and 175 people from South Carolina. Using the themes that emerged from the focus group interviews, a research-generated survey was created to validate the findings of the initial focus group interviews.

Results: Overall, regardless of geographical region, most people felt that there was a difference between PA and exercise, and that national guidelines for activity could be met through lifestyle PA. Most respondents also felt that lifestyle PA was preferable to traditional exercise and easier to incorporate into their daily activity, particularly when goal oriented. Generally, participants associated exercise with being structured or planned. However, several inconsistencies were also evident. Adults from South Carolina indicated a greater association of exercise with being painful and boring, impractical, difficult to begin, and a chore. However, most South Carolinians, as well as Southern Ontarians, also indicated exercise as being a stress reliever, and that they felt happy and a sense of accomplishment afterwards. Not surprisingly, such activities included walking, playing

with children, and other activities commonly done around the house (gardening, cleaning, carrying groceries, walking the dog) were associated with lifestyle PA. Generally, with only a few exceptions, about half the participants indicated that they had gym memberships. Interestingly, South Carolinians were more inclined to believe that going to gym was necessary to take care of themselves. Ironically, participants from South Carolina also were more likely to find getting started to be a problem, but also found typical gym exercises to be more enjoyable than those from South Ontario. Perhaps most surprising to us was that, regardless of geographic location, participants did not indicate strong feelings towards being embarrassed, intimidated, or feeling judged at the gym, or having any perception of a negative environment. However, most participants still indicated a preference towards activities which could be done outside of the gym environment.

Conclusion: Most participants, despite recognizing the health benefits of traditional exercise, prefer to incorporate physical activity into everyday activities. "Exercise is Medicine", but if the majority of adults will not partake in traditional activities, the medical community must consider what is most meaningful for their patients and the public at large instead of preaching a "one size fits all" narrative.

Introduction

Exercise is Medicine (EIM), an American-based global health initiative, has substantiated the importance of exercise as a means of treating and preventing chronic diseases, and improving quality of life. EIM primarily targets the medical and health care community, who seek to inform patients and the public at large about the importance of engaging in exercise [1]. Most Americans and Canadians do not meet national Physical Activity (PA) guidelines of 150 minutes of Moderate to Vigorous



Citation: Cavallini MF, Dyck DJ (2020) Exercise is Medicine! Why are People not Buying into the Prescription?. J Fam Med Dis Prev 6:125. doi.org/10.23937/2469-5793/1510125

Accepted: July 25, 2020; Published: July 27, 2020

Copyright: © 2020 Cavallini MF, et al. This is an open-access article distributed under the terms of the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.

²Professor of Human Health and Nutritional Sciences, University of Guelph, Canada

Physical Activity (MVPA) plus 2 or more strengthening activities per week [2-5]. Despite years of emphasizing the multiple benefits of exercise through research, images of the gym and muscular, lean fit individuals, most people still are not making the commitment to exercise regularly and taking their "Exercise is Medicine" prescription. With the rise of obesity, sedentary living, and the most recent COVID-19 virus pandemic which has prompted a health reality check, it has become more vital than ever to evaluate the needs of the public to promote PA in a more compelling way.

More recent studies have indicated a preference for lifestyle PA rather than traditional exercise, including activities such as walking, mowing the grass, riding a bike, active transporting to and from work, and fulfilling everyday tasks and chores around the home [6-8]. Many people have expressed that lifestyle PA is a more natural, doable and enjoyable way to achieve the national PA guidelines [9].

Educating the public on the importance of a more customized, person-centered approach to PA can give people confidence to want to move more, and in a way that makes substantial sense to them. Motivating people to embrace PA should not be a "one size fits all" approach. The prospective PA participant needs to understand their personal inclinations to what they like or do not like and act on these.

Objectives

Adults from Southern Ontario and South Carolina were included in this study. The purpose of this study was: 1) To examine participants' perceptual association with descriptive statements and certain activities relating to exercise and PA; 2) To examine participant's attitudes towards the gym environment; and 3) To examine the overall relationship between participants' associations with PA and exercise, and their preferences for how they want to be physically active.

Methods

Participants

Studies in Guelph Wellington County in Ontario, Canada and Gaffney and Cherokee County in South Carolina received Research Ethics Board (University of Guelph) and Institutional Review Board (Limestone College) clearance respectively. Males and females ages 18 years and older representing 13 diverse groups from rural and urban communities in Guelph and Wellington County in Southwestern Ontario, Canada and 13 groups from Cherokee County, South Carolina participated in this study. Informed consent was obtained from all participants. Some examples from Guelph Wellington County included members of the following groups: A rural Parks and Recreation Department, Lion's Club from a rural community, a rural Mennonite church, a women's advocacy group called Zonta International of Guelph,

the staff from the Guelph YMCA/YWCA, and the Italian Canadian Club of Guelph. Focus groups from Cherokee County in South Carolina included members from a United Methodist and Baptist church, the Board of Public Works, the City of Gaffney staff, Rotary Clubs, City of Gaffney firefighters and schoolteachers from a rural elementary school. The exclusion criteria were any health conditions that precluded a participant from exercising.

Procedures

Phase I: Phase I of the research study concentrated on the phenomenological, qualitative approach to gathering data through facilitated focus group discussions and took place in Guelph Wellington County (234 people) from December of 2014 to May of 2015, and in Cherokee County (175 people) from December of 2016 to May of 2018. Focus groups included 6-15 participants and were held in a preferred meeting place to facilitate a relaxed discussion. Conversations were not recorded, and each participant was reassured that the discussions would be kept confidential. Participants were urged to share their associations and perceptions of exercise versus PA, as well as their perceptions of the gym environment.

Participants complete a short demographic questionnaire regarding their gender, age, and residence. The focus group discussions lasted 45 to 60 minutes. Participants were free to leave at any time. The same, trained investigator facilitated each group discussion. Guiding questions included: What do you think of when you hear the word exercise? What comes to your mind when you hear the words physical activity? How do you compare your perception of exercise to PA? Is PA more realistic, enjoyable and doable to accomplish as a part of your day? What is your perception of the gym environment? Do you feel judged while working out in the gym? Do you think the recommended PA guidelines of 150 minutes of MVPA can be met in lifestyle PA? Are you intimidated when using the equipment in the gym? Further probing questions followed and were dependent upon the participants' initial responses. Focus group discussions were observed by 1 or 2 university students who made notes of the conversation as well as an interpretation of what they heard. The group facilitator thoroughly examined all of the focus group notes gathered from the student note takers as well as their own notes to identify recurring themes, which could ultimately be incorporated into the survey questionnaire (Phase II). From the feedback given in phase I, it became clear that many participants were cognizant of the benefits of exercise, but from a practical standpoint, lifestyle PA was preferred.

Phase II: A survey was created to validate the findings of the initial focus group interviews. Common themes and trends that emerged regarding PA, exercise and the gym environment from the interviews were identified by three experts with backgrounds in physical education

Table 1: Attitudes and opinions towards physical activity and exercise.

For each of the following statements, please choose either yes or no for your response.

	Yes	No
Is there a difference between physical activity and exercise?		
Do you think the Canadian/USA's guidelines of 150 minutes of moderate to vigorous physical activity each week can be achieved by physical activity alone, or is it necessary to "exercise?"		
Would you prefer to engage in more vigorous physical activity such as energetic yard work, brisk walking or forcefully raking leaves than exercise?		
Do you think exercise has greater health benefits than physical activity?		
Is physical activity or exercise easier for you to do when it's goal-oriented (i.e. gardening) or when there's a destination/purpose (i.e. walking to work)?		
When you are physically active or exercise, is it important to have one or more friends or colleagues to be physically active or exercise with?		
Would you be interested in learning HOW to be more vigorously active in your everyday activities such as when walking the dog, cleaning around the house, running errands or playing with your kids?		
Is engaging in physical activity a more natural, realistic and enjoyable part of your day than exercise?		
Is moderate to vigorous physical activity easier to incorporate into your day than exercise?		

Table 2: Descriptors of physical exercise vs. exercise. Identify whether you associate each descriptor with Physical Activity (PA) or Exercise (E).

 Enjoyable, fun, rewarding
 Gardening, raking leaves, washing the car and other yard work
 Weightlifting
 Painful, tiring, boring
 Walking
 Achieving 150 minutes of moderate to vigorous activity per week
 Jogging, cycling, swimming laps
 Planned, structured, regimented, routine, repetitive
 Taking the stairs
 Not rewarding, an obligation, a chore
 Stress reliever
 Cleaning the house or carrying groceries
Group fitness classes (step bench, spinning, yoga, etc.)
 I'm happy and feel like I've accomplished something afterwards
 Treadmill, stepper, elliptical, bike
 Difficult to overcome inertia to achieve (or hard to get motivated to do)
 Playing with children
 Impractical, it takes too long (drive to the gym, exercise, shower, etc.)
Walking the dog
Sweating, hard work, requires maximal intensity

Table 3: Gym membership and perceptions.

	Yes	No
Are you a gym member?		
If yes, is going to the gym a necessary part of life in order to take care of yourself?		
If yes, do you enjoy the exercise you do (treadmill, weights, group fitness class, etc.)?		

and exercise. These themes were used to construct a series of descriptive statements related to peoples' preferences for PA, and views of exercise, PA and the gym environment. Survey administration was scheduled at a convenient time and location suitable for each group with the objective of obtaining as many participants as

possible. Participation in the focus group discussions was not required for completion of the survey. Survey questions are indicated in Table 1, Table 2 and Table 3.

Results

The responses to various attitudes and opinions to-

Table 4: Ranking of statements describing gym culture. Please circle the number that represents how you feel about the gym environment and gym members.

	Strongly	Disagree	Neutral	Agree	Strongly
	Disagree				Agree
I think there is a negative culture in the gym with too much concern over physical appearance	1	2	3	4	5
I prefer physical activities (walking, hiking, raking leaves, playing with children, etc.) outside the gym environment	1	2	3	4	5
Using the equipment in the gym can be intimidating	1	2	3	4	5
I feel judged in a gym environment	1	2	3	4	5
The gym environment is intimidating	1	2	3	4	5
The gym makes me feel vulnerable and exposed	1	2	3	4	5
I am too embarrassed to go to the gym	1	2	3	4	5
I don't want to join a gym because I associate it with exercise	1	2	3	4	5
Women are more likely than men to exercise to look good	1	2	3	4	5

Table 5: Attitudes and opinions towards physical activity and exercise. The percentage of respondents who answered "Yes".

Attitude/Opinion	Southern Ontario	Southern Ontario	South Carolina	South Carolina
	Ages 18-34	Ages 35-64	Ages 18-34	Ages 35-64
Is there a difference between physical	Male 89%	Male 82%	Male 83%	Male 80%
activity and exercise?	Female 82%	Female 76%	Female 71%	Female 76%
Do you think Canada/USA's guidelines for	Male 80%	Male 71%	Male 67%	Male 68%
physical activity can be achieved by physical activity alone?	Female 59%	Female 53%	Female 71%	Female 60%
Would you prefer to engage in more	Male 45%	Male 74%	Male 68%	Male 65%
vigorous physical activity such as energetic yard work, brisk walking or forcefully raking leaves than exercise?	Female 46%	Female 74%	Female 56%	Female 70%
Do you think exercise is better for you than	Male 50%	Male 31%	Male 63%	Male 65%
ohysical activity?	Female 25%	Female 46%	Female 51%	Female 63%
s physical activity or exercise easier for you	Male 81%	Male 84%	Male 81%	Male 84%
to do when it's goal-oriented (i.e. gardening) or when there's a destination/purpose (i.e. walking to work)?	Female 88%	Female 92%	Female 95%	Female 86%
When you are physically active, is it	Male 71%	Male 34%	Male 74%	Male 55%
mportant to have one or more friends or colleagues to be physically active with?	Female 48%	Female 33%	Female 60%	Female 65%
Would you be interested in learning HOW to	Male 62%	Male 44%	Male 52%	Male 49%
oe more vigorously active in your everyday activities such as when walking the dog, shoveling snow or playing with your kids?	Female 74%	Female 50%	Female 54%	Female 71%
s engaging in physical activity a more	Male 81%	Male 84%	Male 78%	Male 83%
natural, realistic and enjoyable part of your day than exercise?	Female 77%	Female 79%	Female 85%	Female 88%
s moderate to vigorous physical activity	Male 62%	Male 84%	Male 73%	Male 80%
easier to incorporate into your day than exercise?	Female 79%	Female 69%	Female 66%	Female 78%

Number of respondents:

South Carolina males: 18-34 years, n = 61-64; 35-64 years, n = 79-80 South Carolina females: 18-34 years, n = 41-42; 35-64 years, n = 48-52 Southern Ontario males: 18-34 years, n = 19-21; 35-64 years, n = 42-45 Southern Ontario females: 18-34 years, n = 61-64; 35-64 years, n = 36-39

wards PA and exercise are shown in Table 4 and Table 5. Overall, most people felt that there was a difference between PA and exercise, and that national guidelines

for activity could be met through lifestyle PA. Most respondents also felt that lifestyle PA was preferable to traditional exercise and easier to incorporate into their

Table 6: Male and female responses to survey questions related to the association of descriptive statements with exercise rather than physical activity. Numbers represent the percentage of total respondents a descriptor with exercise.

Descriptive Statement	Southern Ontario	Southern Ontario	South Carolina	South Carolina
	Ages 18-34	Ages 35-64	Ages 18-34	Ages 35-64
Enjoyable, fun, rewarding	Male 43%	Male 49%	Male 48%	Male 47%
	Female 46%	Female 53%	Female 31%	Female 36%
Painful, tiring, boring	Male 43%	Male 44%	Male 68%	Male 77%
	Female 38%	Female 42%	Female 82%	Female 91%
Can achieve 150 minutes of	Male 38%	Male 16%	Male 64%	Male 58%
moderate to vigorous activity per week	Female 11%	Female 24%	Female 66%	Female 54%
Planned, structured,	Male 76%	Male 53%	Male 86%	Male 84%
regimented, routine, repetitive	Female 70%	Female 71%	Female 92%	Female 87%
Not rewarding, an obligation,	Male 14%	Male 33%	Male 41%	Male 53%
a chore	Female 7%	Female 13%	Female 40%	Female 75%
Stress reliever	Male 67%	Male 53%	Male 69%	Male 59%
	Female 62%	Female 47%	Female 66%	Female 65%
I'm happy and feel like I've	Male 62%	Male 42%	Male 67%	Male 56%
accomplished something afterwards	Female 74%	Female 61%	Female 71%	Female 69%
Difficult to overcome inertia to	Male 38%	Male 42%	Male 76%	Male 88%
achieve	Female 53%	Female 39%	Female 83%	Female 85%
Impractical, takes too long	Male 24%	Male 33%	Male 76%	Male 79%
	Female 27%	Female 16%	Female 88%	Female 89%
Sweating, hard work, requires	Male 52%	Male 31%	Male 79%	Male 63%
maximal intensity	Female 57%	Female 42%	Female 95%	Female 86%

Number of respondents:

South Carolina males: 18-34 years, n = 54-58; 35-64 years, n = 63-73 South Carolina females: 18-34 years, n = 33-42; 35-64 years, n = 40-48 Southern Ontario males: 18-34 years, n = 21; 35-64 years, n = 45 Southern Ontario females: 18-34 years, n = 63-64; 35-64 years, n = 38

daily routine, particularly when goal oriented.

Common associations with exercise, rather than lifestyle PA, are indicated in Table 6. Generally, participants associated exercise with being structured or planned. However, several inconsistencies were evident. Adults from South Carolina indicated a greater association of exercise with being painful and boring, impractical, difficult to begin, and a chore. However, most South Carolinians, as well as Southern Ontarians, also indicated exercise as being a stress reliever, and that they felt happy and a sense of accomplishment afterwards.

Activities commonly associated as being part of lifestyle PA, rather than traditional exercise, are shown in Table 7.

Table 8 and Table 9 show participants' associations with the traditional gym culture. About half the participants indicated that they had gym memberships. Interestingly, South Carolinians were more inclined to believe that going to gym was necessary to take care of themselves; ironically, South Carolinians were more likely to find getting started to be a problem, but also

found typical gym exercises to be more enjoyable than those from South Ontario. Regardless of geographic location, participants did not indicate strong feelings towards being embarrassed, intimidated or feeling judged at the gym, or having any perception of a negative environment. However, most participants still indicated a preference towards activities which could be done outside of the gym environment.

Discussion

Overall, participants viewed exercise as "planned, structured, regimented and repetitive", which likely accounts for the fact that most participants preferred lifestyle PA over traditional exercise. Yet, one of the more interesting results reflected that the majority of Southern Ontarians who did belong to a gym, did not think going to the gym was a necessary part of life to take care of themselves. The majority of South Carolinians indicated the contrary. This could be due to the influence of a highly organized sport culture that exists in the US which can form a mindset that an exercise workout is ultimately the way to engage in PA. The general public

Table 7: Male and female responses to survey questions related to the association of certain activities with physical activity rather than exercise. Numbers represent the percentage of total respondents associating a word or phrase with physical activity.

Activity	Southern Ontario	Southern Ontario	South Carolina	South Carolina
	Ages 18-34	Ages 35-64	Ages 18-34	Ages 35-64
Treadmill, stepper, elliptical,	Male 43%	Male 22%	Male 2%	Male 10%
bike	Female 26%	Female 37%	Female 2%	Female 4%
Group fitness classes (step	Male 33%	Male 4%	Male 17%	Male 10%
bench, spinning, yoga, etc.)	Female 28%	Female 32%	Female 11%	Female 0%
Walking	Male 71%	Male 76%	Male 64%	Male 60%
	Female 95%	Female 87%	Female 66%	Female 57%
Playing with children	Male 38%	Male 53%	Male 88%	Male 95%
	Female 64%	Female 66%	Female 95%	Female 95%
Taking the stairs	Male 67%	Male 56%	Male 80%	Male 82%
	Female 80%	Female 79%	Female 86%	Female 89%
Jogging, cycling, swimming	Male 57%	Male 22%	Male 28%	Male 15%
laps	Female 38%	Female 58%	Female 19%	Female 15%
Gardening, raking leaves,	Male 52%	Male 76%	Male 86%	Male 96%
shoveling snow and other yardwork	Female 87%	Female 82%	Female 98%	Female 94%
Weightlifting	Male 52%	Male 11%	Male 11%	Male 11%
	Female 25%	Female 34%	Female 5%	Female 2%
Walking the dog	Male 52%	Male 47%	Male 78%	Male 82%
	Female 82%	Female 66%	Female 88%	Female 89%
Cleaning the house or	Male 57%	Male 62%	Male 88%	Male 94%
carrying groceries	Female 70%	Female 82%	Female 97%	Female 98%

Number of respondents:

South Carolina males: 18-34 years, n = 54-58; 35-64 years, n = 63-73 South Carolina females: 18-34 years, n = 33-42; 35-64 years, n = 40-48 Southern Ontario males: 18-34 years, n = 21; 35-64 years, n = 45 Southern Ontario females: 18-34 years, n = 64; 35-64 years, n = 38

Table 8: Male and female responses to survey questions related to gym participation. Numbers represent the percentage of respondents answering "Yes" to the question.

	Southern Ontario	Southern Ontario	South Carolina	South Carolina
	Ages 18-34	Ages 35-64	Ages 18-34	Ages 35-64
Are you a gym member?	Male 57%	Male 16%	Male 44%	Male 53%
	Female 57%	Female 43%	Female 58%	Female 57%
If yes, is going to the gym a	Male 43%	Male 11%	Male 67%	Male 49%
necessary part of life in order to take care of yourself?	Female 31%	Female 37%	Female 75%	Female 66%
If yes, do you enjoy the	Male 67%	Male 9%	Male 93%	Male 85%
activities you do (treadmill, weights, group fitness classes, etc.)?	Female 47%	Female 36%	Female 91%	Female 76%
If yes, is getting started	Male 33%	Male 0%	Male 44%	Male 44%
(inertia) a problem?	Female 35%	Female 26%	Female 38%	Female 88%

Number of respondents:

South Carolina males: 18-34 years, n = 62; 35-64 years, n = 79South Carolina females: 18-34 years, n = 43; 35-64 years, n = 51Southern Ontario males: 18-34 years, n = 21; 35-64 years, n = 42-45Southern Ontario females: 18-34 years, n = 59-64; 35-64 years, n = 36-38

Note: The number of respondents indicated are those that answered yes or no to having a gym membership. The number of respondents for the remaining questions would be this number multiplied by the % indicating yes.

Table 9: Ranking of statements associated with gym culture (1, strongly disagree; 5, strongly agree).

	Southern Ontario	Southern Ontario	South Carolina	South Carolina
	Ages 18-34	Ages 35-64	Ages 18-34	Ages 35-64
I think there is a negative culture in the	Male 2.9	Male 3.7	Male 3.1	Male 2.9
gym with too much concern over physical appearance	Female 3.3	Female 3.0	Female 3.1	Female 3.0
I prefer physical activities (walking, hiking,	Male 3.2	Male 4.5	Male 3.8	Male 3.7
raking leaves, playing with children, etc.) outside the gym environment	Female 3.8	Female 3.8	Female 3.9	Female 3.9
Using the equipment in the gym can be	Male 3.3	Male 3.3	Male 2.8	Male 2.6
intimidating	Female 3.5	Female 3.3	Female 2.9	Female 3.6
I feel judged in a gym environment	Male 2.6	Male 2.9	Male 2.6	Male 2.8
	Female 3.1	Female 2.8	Female 2.9	Female 3.2
The gym environment is intimidating	Male 3.0	Male 3.2	Male 2.6	Male 2.7
	Female 3.0	Female 3.3	Female 2.7	Female 3.1
I feel a disconnect with "fit" gym members	Male 2.8	Male 3.0	Male 2.7	Male 2.8
because they are so far ahead of me	Female 2.8	Female 3.1	Female 2.6	Female 3.3
The gym makes me feel vulnerable and	Male 2.3	Male 2.8	Male 2.5	Male 3.2
exposed	Female 2.6	Female 3.0	Female 2.5	Female 3.2
I am too embarrassed to go to the gym	Male 1.9	Male 2.5	Male 2.2	Male 2.6
	Female 1.9	Female 2.1	Female 1.9	Female 2.5
I don't want to join a gym because I associate	Male 1.6	Male 2.8	Male 2.2	Male 2.3
it with exercise	Female 1.6	Female 2.0	Female 1.6	Female 2.2
Women are more likely than men to exercise	Male 2.3	Male 3.1	Male 2.6	Male 2.8
to look good	Female 2.4	Female 2.7	Female 2.3	Female 3.1

Number of respondents:

South Carolina males: 18-34 years, n = 62-64; 35-64 years, n = 77-79 South Carolina females: 18-34 years, n = 41-42; 35-64 years, n = 50-51 Southern Ontario males: 18-34 years, n = 21; 35-64 years, n = 42-45 Southern Ontario females: 18-34 years, n = 59-64; 35-64 years, n = 36-38

needs to be convinced that lifestyle PA truly is a viable way to keep physically active, and that people should not feel compelled to move in a formal, structured environment if not attracted to this type of PA.

Previous research has shown that those who do favor exercise tend to have a higher level of self-efficacy, outcome expectation, and place an important priority on exercise [10,11]. However, since lifestyle PA can be incorporated throughout the day, it is possible that anxiety and stress levels are lowered. It could also be that the perception of traditional exercise hinders people from feeling like they can accomplish PA without having to go to the gym. By the time many people return home after a long day of work, they are too tired to think about a formal workout and change into gym clothes and then dash off to the gym. In addition, women found that other matters are more important and require their time and energy [12].

There were some distinct differences between the descriptive associations of exercise from the South Carolina participants and those from Southern Ontario. The

responses from adults across all ages from South Carolina revealed that they associated exercise with "painful, tiring and boring" as well as "impractical, takes too long to drive to the gym, exercise and shower" while these descriptors were not as significant with Southern Ontarians. In addition, other than the females in the 18 to 34-year-old group (53%), South Carolinians also indicated it was hard to get motivated to participate in exercise while the majority of the respondents from Southern Ontario did not find it difficult to overcome inertia to achieve PA. Overall, both Southern Ontario and South Carolinians associated exercise as being a stress reliever. Notably among the females in both regions, a feeling of happiness and a sense of accomplishment after engaging in exercise was expressed. Some of the results indicate most adults do understand physiological and affective benefits to exercise but for all practical purposes, still prefer lifestyle PA.

There is definitely a consensus across both groups and among all ages with what they associate with physical activity: Walking, playing with children, taking the

stairs, gardening, raking leaves, shoveling snow (and other yard work), walking the dog, and cleaning the house or washing the car. The health benefits of these physical activities are well documented [13-15]. Knowing that most adults prefer lifestyle PA and largely associate, identify, and agree on various lifestyle physical activities, the medical community and health professionals have an obligation to educate themselves and the public on the importance of promoting lifestyle PA. Furthermore, practitioners should help their patients and the public at large to feel comfortable and confident fulfilling their PA in and around the home and work, and not necessarily at the gym. "Exercise is Medicine", but if the majority of adults will not partake in traditional activities, even though they appreciate exercise, nor have any desire to want to participate in exercise, the medical community must consider what is most meaningful for their patients instead of preaching a "one size fits all" narrative. Furthermore, medical and health practitioners must welcome lifestyle PA into their own lives before teaching and supporting others to include lifestyle PA in their own day to day life. This study points to the direction that many people want to be supported to embrace their own PA world, unique to each person, and not necessarily include organized exercise.

The descriptions that adults associate with exercise are important because, overall, this outlook can affect one's attitude towards exercise and the frequency it is engaged in [16]. In the larger picture, one's exercise frequency has a direct impact on overall exercise adherence and therefore, general health outcome. Some of the responses, indicated in Table 6 to descriptors associated with exercise, underscore the variability in terms of how well people "buy in" to the exercise prescription. Generally, fewer than half of the participants found exercise to be fun or enjoyable. However, there was a wide range of responses in terms of associating exercise with being "painful...", "not rewarding...", and "impractical...". Therefore, it is paramount for individuals to realize that it is natural to not enjoy more formal exercise, and more importantly, to understand that incorporating PA into their lifestyle in a more natural way can be impactful on their health. Because some of the exercise descriptive associations potentially pose as obstacles towards participation in exercise and PA, the fewer the obstacles, the higher the intrinsic motivation to customize PA to each individual realizing individuality and uniqueness [17].

Physicians and health professionals must also understand that many patients prefer a home-based PA program (especially if they are recovering) primarily reflecting lifestyle PA, and a patient-centered approach, emphasizing what is best for that person. In addition, most patients understand the value of PA and how it relates to their well-being and lifelong health [18]. As a result, the time is ripe for the medical community as educators to support peoples' preferences towards ex-

ercise and PA with a persuasive tone and convincing enthusiasm. Considering our current Covid-19 pandemic environment, and knowing the role PA plays in overall health, one's life may literally depend on adhering to a meaningful PA relationship in order to combat chronic diseases and improve quality of life.

Limitations and Conclusion

Limitations of the current study include a lack representation of certain ethnic groups, as the vast majority of participants identified as White/Caucasian. There were also very few smokers. While we attempted to include many diverse community groups, we cannot exclude the possibility that responses from other regions of either country could be different. The current study also does not include responses from the elderly population i.e. 65 years and older. Since the majority of adults prefer lifestyle PA, perhaps health and medical professionals should consider a paradigm addition of "Lifestyle Physical Activity is Medicine" in order to support peoples' preferences for movement that is more meaningful to them. More importantly, the medical community must become more educated about the benefits of lifestyle PA and exemplify accordingly in their own day to day activities while supporting and encouraging their communities to be lifestyle physically active. The scores of years spent overwhelmingly advocating mainly a more traditional way of moving has done our populations a disservice due to lack of adherence. Exercise is respected by many but only partaken by few. Therefore, let's broaden the approach to helping people help themselves be more successful in meeting our PA guidelines.

Acknowledgements

Dr. Cavallini was the recipient of a US Fulbright Scholarship in 2014-2015 during which time this study was conducted.

Statement of Competing Interests

The authors have no competing interests.

References

- Pate RR, Pratt M, Blair SN, Haskell WL, Macera CA, et al. (1995) Physical activity and public health. A recommendation from the Centers for Disease Control and Prevention and the American College of Sports Medicine. JAMA 273: 402-407.
- Canadian Society for Exercise Physiology (2012) [Canadian Physical Activity Guidelines].
- Colley RC, Garriguet D, Janssen I, Craig CL, Clarke J, et al. (2011) Physical activity of Canadian adults: Accelerometer results from the 2007 to 2009 Canadian Health Measures Survey. Health Rep 22: 7-14.
- Shields M, Tremblay MS, Laviolette M, Craig CL, Janssen I, et al. (2010) Fitness of Canadian adults: Results from the 2007-2009 Canadian Health Measures Survey. Health Rep 21.
- 5. United States Department of Health and Human Services (2018) Center for Disease Control and Prevention, Division of Nutrition, Physical Activity and Obesity.

- Burton NW, Khan A, Brown WJ (2012) How, where and with whom? Physical activity context preferences of three adult groups at risk of inactivity. Br J Sports Med 46: 1125-1131
- Cavallini MF, Kolen AM, Sui X, Spriet LL, Kang B, et al. (2017) Introducing My House Activity and MyWork Activity: A Paradigm Shift towards Lifestyle Physical Activity Supported by Evidence from a Focus Group Study. Journal of Physical Activity Research 2: 61-67.
- Salmon J, Owen N, Crawford D, Bauman A, Sallis JF (2003) Physical activity and sedentary behavior: A population-based study of barriers, enjoyment, and preference. Health Psychol 22: 178-188.
- Cavallini MF, Dyck DJ (2019) Fostering a culture of lifestyle physical activity that is relatable for all individuals and communities to embrace. American Journal of Public Health Research 7: 182-188.
- Cervone D, Wood R (1995) Goals, feedback, and the differential influence of self-regulatory processes on cognitively complex performance. Perceptual & Motor Skills 97: 689-696
- 11. Garcia AW, King AC (1991) Predicting long-term adherence to aerobic exercise: A comparison of two models. Journal of Sport & Exercise Psychology 13: 394-410.
- 12. Cavallini MF, Dyck DJ, Sui X, Kang B, Kraft E, et al. (In press) Perceived barriers to physical activity in Canadian

- adult males and females. Journal of Behavioral and Social Science.
- 13. Ainsworth BE, Haskell WL, Herrmann SD, Meckes N, Bassett DR, et al. (2011) 2011 compendium of physical activities: A second update of codes and MET values. Med Sci Sports Exerc 43: 1575-1581.
- 14. Huerta JM, Chirlaque MD, Tormo MJ, Buckland G, Ardanaz E, et al. (2016) Work, household, and leisure-time physical activity and risk of mortality in the EPIC-Spain cohort. Preventive Medicine 85: 106-112.
- Samitz G, Egger, M, Zwahlen M (2011) Domains of physical activity and all-cause mortality: Systematic review and dose-response meta-analysis of cohort studies. Int J Epidemiol 40: 1382-1400.
- Theodorakis Y (1994) Planned behavior, attitude strength, self-identify, and the perception of exercise behavior. The Sport Psychologist 8: 149-165.
- Papacharisis V, Goudas M (2003) Perceptions about exercise and intrinsic motivation of students attending a health-related physical education program. Percept Mot Skills 97: 689-696.
- 18. Smaradottir A, Smith AL, Borgert AJ, Oettel KR (2017) Are We on the Same Page? Patient and Provider Perceptions About Exercise in Cancer Care: A Focus Group Study. J Natl Compr Canc Netw 15: 588-594.

