From a Vital Sign to Vitality: Selling Exercise So Patients Want to Buy It

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ABSTRACT

Exercise is Medicine® (EIM) and physical activity as a vital sign are based on health-focused research and reflect ideal frames and messages for clinicians. However, they are nonoptimal for patients because they do not address what drives patients' decision-making and motivation. With the growing national emphasis on patient-centered and value-based care, it is the perfect time for EIM to evolve and advance a second-level consumer-oriented exercise prescription and communication strategy. Through research on decision-making, motivation, consumer behavior, and meaningful goal pursuit, this article features six evidence-based issues to help clinicians make physical activity more relevant and compelling for patients to sustain in ways that concurrently support patient-centered care. Physical activity prescriptions and counseling can evolve to reflect affective and behavioral science and sell exercise so patients want to buy it.

INTRODUCTION

Stemming from the strong evidence base regarding the wealth of physical and mental health benefits from being physically active (54), Exercise is Medicine® (EIM) began in the United States in 2007, now extending to over 40 countries (1). EIM leverages the medical benefits of physical activity as the core "hook" for being physically active. Framing exercise as "medicine" and "a vital sign" is, in fact, ideal to persuade health care professionals of the value of physical activity for their patients; these benefits speak about the evidence of the health benefits as well as clinicians' core professional goals to improve patient health (42). Yet, what is most persuasive to clinicians is not the same for patients (50).

We have presumed that we can best foster a physically active lifestyle by selling its benefits related to improved health, disease prevention, and management. Thus, physicians recommend exercise to their patients within the specific context of health, especially the need to diet and lose weight (33,40). However, prescribing physical activity specifically "as medicine," for its weight- and health-related benefits, although logical, is a communication strategy based on a medical convention instead of behavioral science.

There is a need to identify new messages that can make physical activity more relevant and compelling to patients and the general population (50). To date, EIM has focused on engaging and persuading clinicians about the value of physical activity. However, to ultimately be successful, EIM must now cultivate a desire *among patients* to become physically active.

We need to appreciate the catalytic importance of the medical origins of EIM because they have been essential to make the case for the high value of and need for physical activity in society. Without the epidemiological and medically focused research, there would be significantly less momentum, if any, to advocate for increased physical activity. However, with the growing emphasis on patient-centered and value-based care, promoted as part of the Affordable Care Act (e.g., "Patient-centered medical homes"), it is the perfect time for EIM and other physical activity initiatives to advance a new prescription and communication strategy by leveraging science related to sustainable behavior.

There is a need to expand provider education throughout all levels of training, including continuing medical education (23). Part of this training advanced by EIM, however, needs to have two levels of communication and training for clinicians: one focused on teaching clinicians the compelling reasons why they should consider physical activity as "a vital sign," and the other level focused on teaching clinicians how to persuasively communicate about physical activity in ways that make it relevant and compelling *to patients*.

Fortunately, there is scientific evidence that easily helps us translate the value of physical activity from "a vital sign" to "vitality" and align physical activity with what matters most to patients. Through research on decision-making, motivation, consumer behavior, and meaningful goal pursuit, this article features six evidence-based issues to help clinicians understand how to make physical activity more motivating for patients to sustain.

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This article originally appeared in *Curr. Sports Med. Rep.* 2016; 15(4):276-281.

2379-2868/0111/97–102
Translational Journal of the ACSM

CLINICIANS' GOALS ARE IRRELEVANT TO WHAT IS MOST MOTIVATING TO PATIENTS

The logic behind EIM is that the myriad benefits of exercise should become an extension of the medical continuum of care precisely to address the epidemics of noncommunicable diseases closely associated with physical inactivity (e.g., diabetes, heart disease, obesity, and stroke).

Regardless of how well intentioned or logic based EIM and clinicians' goals are for patients, they are often *irrelevant* to the experiences and benefits from physical activity that will sufficiently and consistently motivate patients (50).

This contention can be best understood through a business analogy. Businesses do not want one-time buyers; they want repeat customers. To achieve this, businesses conduct marketing research to understand how to align their products and services with their target customers' goals and priorities. Businesses purposefully do not mention or sell their goals to consumers (e.g., profit); instead, they brand and market their product or behavior of interest to persuade consumers that it will help consumers achieve their desired experiences (e.g., happiness) and aspirations (e.g., success) (8,13).

Yet, why do health professionals do the opposite? Instead of selling physical activity to patients by touting the specific ways in which it can help them achieve *their* core daily needs and goals, we have been selling it to them emphasizing *our* medically focused goals: weight control, better health outcomes, and disease management (1). Prescribing exercise as medicine might get patients to initially buy exercise, but it does not translate into repeat customer behavior.

CLINICIANS' FRAMES FOR PHYSICAL ACTIVITY INFLUENCE PATIENT MOTIVATION

Goals, such as physical activity goals, are influential because they not only energize and direct behavior, but also create the frame through which any behavior is perceived and experienced (5,28). Framing refers to the social construction of a phenomenon (e.g., physical activity, work, and marriage) — by sources as diverse as the mass media, health or social movements, leaders, health systems, and clinicians, among others. The framing of behavior influences people's perception and meaning of that behavior and influences things as diverse as experiences of fatigue, dietary consumption, and mood (15, 25,30,55). Thus, the way we frame and communicate about physical activity within health care is not inconsequential. Indeed, the primary frames, including the goals and outcomes for which clinicians prescribe physical activity, strongly influence what physical activity means to patients (46) and have significant downstream influences on motivation, self-regulation, and ongoing participation (5).

In one study, overweight women were randomized to one of two groups (55); they were told to either walk for "exercise" or walk to "have fun." All study participants were given maps of the same 1-mile outdoor course and were told that they would get lunch after their 30-min walk. Although both groups reported the same mileage, they experienced the walk in very different ways. The participants who had their walk framed as exercise reported feeling more fatigued and in a worse mood after the walk and ate significantly more calories from high-sugar drinks and desserts compared with the participants whose frame for walking had been to have fun. The researchers replicated these effects in a follow-up experiment with both women and men. Many other studies across behavioral contexts further show the potency of frames in influencing outcomes.

Self-determination theory (SDT) can help explain why our frames for promoting and prescribing physical activity are so influential (9). SDT distinguishes between low-quality motivation (e.g., feeling externally or internally "controlled" toward a behavior, similar to feeling like an obligation or a "should") compared with high-quality motivation (e.g., feeling "autonomous" toward a behavior, similar to feeling ownership or doing it for the inherent pleasure it delivers) (9). The manner in which clinicians prescribe and communicate about physical activity with their patients, including the specific benefits they emphasize, influences whether patients feel controlled or autonomous toward that behavior and whether they sustain it (50). Furthermore, a systematic review investigating SDT and physical activity and exercise (53) found a positive relationship between more autonomous forms of motivation and physical activity participation. A meta-analysis on SDT applied across health contexts supports these links (32).

Intervention research shows promise in fostering autonomous motivation for physical activity and subsequent increased participation (14). Interestingly, research has also shown that increasing individuals' autonomous motivation for physical activity, especially for the pleasure experienced from doing it (i.e., "intrinsic motivation"), does not simply benefit their participation but can also influence other health-related outcomes. Increased intrinsic motivation for physical activity has been found in randomized trials to be a potent predictor of weight loss that is sustained over time (i.e., 3 years) (51).

RETHINKING THE VALUE OF HEALTH AS AN OPTIMAL MOTIVATOR FOR PHYSICAL ACTIVITY

The main goal in the medical care system is to improve patient health. Thus, it is not surprising that in this context, clinicians primarily present physical activity as a health enhancement strategy. Yet, it is unclear whether a health-focused purpose for physical activity is an optimal motivator. Although some research shows that health motives for physical activity are associated with autonomous motivation and participation (43), other studies show that they are experienced as controlling and associated with less participation over time (47,48).

Health is valuable because it provides *the energetic resources people need* to live well. Without health, people lack the requisite energy to pursue their most meaningful goals and roles. In this perspective on health, health is not the end goal; instead, its function is to be the intermediary of the *real driver* of what matters most: vitality and energy. We propose that by emphasizing health outcomes as the featured and explicit purpose of physical activity, we are acting from a clinician-centered perspective and may be misguiding patients by deemphasizing or even omitting the very benefits of physical activity — and living, more generally — that are more likely to make it relevant and motivating to patients (24).

For example, when better health is prescribed to patients as the goal of physical activity, such as improvement in a health indicator such as weight or blood pressure, patients have to wait to receive feedback that their physical activity is effective (if they receive feedback at all). Research on behavioral self-regulation (how people manage and negotiate a behavior in their lives) suggests that people continue to strive toward their goals only when they get feedback that they are approaching

them (5). Without evidence that they are making progress toward their behavioral goals (e.g., weight loss and improved cholesterol), people quit. Furthermore, insights from behavioral economics show that people are more motivated by rewards that they will immediately experience (i.e., *feeling* good) rather than wait for, such as most health outcomes (19). Indeed, improved health does not motivate participation as well as benefits that are related to positive affect, such as well-being and feeling good (16,52).

Certainly, health promotion and improvements of critical health indices are valuable outcomes of physical activity. However, while it is logical to sell physical activity for its health benefits, a growing body of research suggests that logic does not motivate as well as emotions (26). Although physical activity results in a multitude of physical and physiological benefits (54), fortunately for physical activity advocates, it also results in elixir-of-life experiences that feel good, foster joy and revitalization, and promote functioning in life (36).

AFFECT DRIVES DAILY DECISIONS ABOUT EVERYTHING, INCLUDING PHYSICAL ACTIVITY

Affect, also considered as feelings or emotions, drives people's daily choices (6). Positive affect refers to experiencing pleasant feelings, whereas negative affect refers to unpleasant feelings. Anticipated affect (e.g., a person's expectation about what he or she will *feel* from being physically active) has strong motivational properties (2,27) and shapes behavioral choice (3). A review of 35 years of research on the role of emotions in decision-making found that emotions powerfully, predictably, and persuasively influence decision-making (27). People use their feelings as information for what choices to make (6); they approach what feels good and avoid what feels bad (34).

Thus, the literature on affect offers key insights into how clinicians can better sell physical activity to patients. Studies across the lifespan suggest that positive affective benefits from exercise (e.g., "feeling good" and "lifted mood") are more influential than logical benefits such as better health. For instance, a randomized text messaging intervention study found that among sedentary teens, the messages targeting positive affect (e.g., enjoyment) predicted participation more than the logic-based health messages (52). Research among women working full time showed that being active to enhance quality of life predicted between 20% and 32% more participation over a 1-year period than health- and weight-related motives (44). Another study among older adults (65 to 90 years) reported that the affective, feel-good expectations from being active, but not health-related expectations, predicted exercise participation 6 and 12 months later (16). Across the lifespan, positive affective experiences, such as enjoyment, well-being, vitality, happiness, and enhanced quality of life, are among the most motivating reasons to sustain a physically active life. This is precisely the insight that health professionals must communicate to their patients.

Furthermore, because inactive individuals tend to anticipate even less positive affect from physical activity than active individuals (29), it might be especially important to prescribe physical activity as a concrete way to cultivate positive experiences such as energy and vitality *among sedentary or less active patients*. In fact, intervention research suggests that helping individuals learn to become physically active in ways that *generate pleasure and enjoyment* results in significant increases in participation that are sustained over time (49,51), including health care interventions (18). Importantly, research suggests that we can foster positive postexercise affect and intentions to exercise through simple interventions, even just informing individuals to expect that they will have positive affective experiences from being physically active (20).

INTENSITY INFLUENCES AFFECTIVE RESPONSE

In general, there is an inverse relationship between exercise intensity and affective responses while exercising (11). For example, the harder an individual exercises, the more their pleasure decreases. This is especially true when people exercise at intensities that make it hard to hold a conversation (i.e., the ventilatory threshold). The exception to this typical effect is that when individuals autonomously determine to be physically active at high intensities, their positive affective response is not compromised (11). This effect is important to consider when discussing physical activity with patients. Physical activity recommendations are often one-size-fits-all prescription recommendations promoting optimal doses of physical activity required to improve health biomarkers and to prevent illness. Unfortunately, this strategy is plagued by being data or clinician focused rather than patient centered. Besides, when we create standards based on hitting a physical activity bullseye, anything other than achieving that criterion feels like a failure.

Given the historical, ubiquitous low adherence rates to physical activity, especially among obese individuals (12), we must critically evaluate whether prescribing activity to achieve an "ideal" dose (e.g., intensity level and duration) will actually lead most patients to achieve the positive experiences and autonomy needed to motivate *sustainable* physical activity. Even making recommendations based on the current more "moderate" intensity recommendation (54) remains prescriptive in nature and is likely to lead to feeling controlled (41).

The scientifically supported alternative is to prescribe physical activity for pleasure, meaning, well-being, and vitality (50). Although clinicians might be concerned that by advocating patients move in ways that feel good to them, they will not achieve the recommended dose of physical activity needed to achieve health benefits, as research suggests otherwise (7, 38). Furthermore, in addition to boosting adherence (56), prescribing physical activity for subsequent positivity may actually be health promoting because hedonic experiences are associated with decreased stress and depression and enhanced well-being (21).

PHYSICAL ACTIVITY PRESCRIPTION SHOULD BE BASED ON AFFECTIVE REPONSE, MOTIVATION, AND BEHAVIORAL SCIENCE

Affective neuroscience offers additional insight into why promoting activities like walking for pleasure and other types of positivity should boost adherence among patients. The neuroscience of reward is rooted in two different systems: "wanting" and "liking" (4). Liking reflects pleasurable feelings. Wanting reflects desiring a salient reward or action, something that motivates approach behavior. Neuroscience suggests that learning a positive association between a specific behavior (e.g., walking) and a reward such as pleasure or vitality (i.e., "liking") triggers a "wanting" to walk, similar to a Pavlovian response, and consistently motivates walking behavior.

The need to shift our perspective from the clinician's goals regarding patient health improvements to those of patients themselves also aligns with innovations occurring more

generally in health care, such as "minimally disruptive medicine" (31). Indeed, clinical efforts to improve well-being, and quality of life, more generally, show promise in reducing health care use and spending, which is supported by research showing that higher self-reported well-being has been associated with less medication use and fewer hospitalizations and emergency room visits (24).

Furthermore, our contention is supported by the widespread consumer-focused marketing approach used within the pharmaceutical industry. The marketing and communication strategy of prescribing and promoting a target behavior for "pleasure," "happiness," or "quality time with family" has been used extensively by the pharmaceutical industry to drive interest among consumers and boost company profits (37,39). Furthermore, research commissioned by the American College of Sports Medicine (57) found that "energy" and "happiness" were among the top benefits consumers desired from being physically active.

We are at a perfect time in health care to evolve the physical activity prescription delivered within the clinical encounter and to be based on the type of science that undergirds sustainable motivation and participation. Next-generation prescriptions for physical activity, including the prescription pads used, can embody this very science through an intentional use of terms and ideas.

The prescription in Figure 1 is just one of many ways in which physical activity prescription pads and counseling can evolve to reflect the science of decision-making and motivation, converting exercise from a chore into a gift (46), and selling exercise so patients want to buy it.

Figure 1: *"Choose to M.O.V.E."* physical activity prescription.

This featured prescription pad is derived out of a systematic counseling protocol designed to cultivate sustainable physical activity motivation and participation that the first author developed and has been using with individuals for over 20 years (46). Past research on the full protocol showed that physical activity increased from baseline to postprogram by 44% ($P < 0.5$), and by 65% ($P < 0.01$) at the study follow-up, 10 months postprogram for 75% of participants and 14 months postprogram for 50% of participants (49).

"Choose to move" as the entry into and feature in the prescription immediately frames physical activity as a decision *by the patient*. This framing (i.e., positioning) is supported by a growing body of evidence showing that feeling ownership over one's own behavioral choice motivates physical activity (53) and also fosters patient activation and empowerment (17). In addition, in contrast to typical prescriptions featuring a "dose" of physical activity, the acronym "M.O.V.E.'s" slogan, *Move to Optimize your Vitality and Enjoyment!*, asks patients to focus on and expect immediate affective benefits from being active, reflecting the neuroscience of reward (4), decision-making science (6), as well as tactics used to promote consumer behavior in industry (13,35). This positive affective anticipatory "nudge" should also increase the positivity that patients actually experience from physical activity (20). Furthermore, by guiding the patient to identify what type(s) of physical activity can deliver their desired affective benefits encourages the self-selection of activity choice and intensity and should enhance adherence (11,38,56). The last two components of this prescription reflect accepted principles of learning (e.g., setting realistic goals), including framing this behavior change as a *process of learning* rather than aiming to *achieve* a perfect bullseye (10).

This new type of physical activity prescription strategically gets patients to anticipate, and then later to notice/reinforce, the types of benefits and activities, both of which are self-selected, that will motivate them to be more physically active (16,56). Of course, with the ubiquitous use of electronic medical records (EMRs) prescription pads are rarely used. However, electronic versions of the *Choose to M.O.V.E.* prescription can be adapted and given to patients through the EMR, also permitting the full health care team to access and reinforce it in consistent ways.

It is important to note that this suggested strategy does not prevent clinicians from also assessing health improvements via changes in biomarkers or mentioning these improvements to patients as evidence of their successful physical activity. However, we do not yet know whether trying to motivate patients with *both* affective and health-focused benefits will support or undermine participation. Although some research suggests that health motives for physical activity are experienced as controlling (47), other research finds that when individuals experience *gains* toward their health goals through participation, it is experienced as autonomous (22). Furthermore, although it is logical to think that prescribing physical activity concurrently for positive affect *and* better health gives patients more reasons to be active and will increase motivation, research suggests that combining a logical motive (e.g., better health) with an affective one (e.g., lifted mood) undermines

(e.g., crowds out) the potency of the affective motive (52,58). This effect is referred to as "goal dilution" (59). This is a research question worthy of investigation.

CONCLUSION

Moving from Research to Real Life

EIM and physical activity as "a vital sign" are based on health-focused research and reflect ideal frames and messages for clinicians (1). However, they are nonoptimal for patients because they do not address what drives patients' decision-making and motivation in their daily lives. As previously suggested, "*A prescription to exercise to optimize health, regardless of how it makes people feel, might seem like good medicine. However, if the vast majority is not motivated to comply, then both individual and public health benefits will be small*" (Segar and Richardson., p. 840).

For clinicians, and EIM, more generally, to become more successful in fostering a consistent desire and motivation to move among patients, it is important develop a second-level consumer-oriented exercise prescription and communications strategy (45). Prescribing physical activity in medically based "doses" to optimize health outcomes undermines patient adherence through inadvertently thwarting autonomy and positive affect and increasing negative affect, the very opposite of what research suggests that will drive ongoing participation (6,34). The context in which individuals learn about or are directed to a behavior, such as a clinician prescribing physical activity to their patients, influences the cultivation of either controlled or autonomous motivation (9). Given the domino effect from these distinct motivational forces on behavioral regulation and ultimately on participation, more generally, a value-based perspective on physical activity prescriptions requires clinicians learn about these effects and use them when discussing physical activity with patients.

The science reviewed here suggests that patients will be more motivated to consistently choose to move when clinicians prescribe and promote physical activity through cultivating choice, featuring emotions/affect instead of logic, and prescribing physical activity for vitality, enjoyment, and well-being.

This article is based on a part of an invited symposium at the American College of Sport Medicine's annual conference in San Diego (Segar and Wilson, May 28, 2015): "Selling Exercise So People Buy It: What We Need to Learn from Brand Strategy, Marketing, and Science Related to Motivation and Adherence."

M. L. Segar would like to disclose that she owns a firm that consults with and trains organizations in designing systems to support sustainable health-related behaviors and well-being among employees, clinicians, and patients, and coaches individuals how to sustain self-care behaviors.

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