



## Use of the Exercise Motives and Gains Inventory in Dance Fitness

### Authors' Contribution:

A - Study Design  
B - Data Collection  
C - Statistical Analysis  
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Sandy Kimbrough<sup>1ABD</sup>, Anthony C Rosselli<sup>1CD</sup>, Tanner Crutcher<sup>1ABD</sup>

<sup>1</sup>Texas A&M University-Commerce

### Abstract

The Exercise Motives and Gains Inventory (EMGI) was developed by Strommer, Ingledew, & Markland (2015) to explore the influence that participatory motives may elicit on perceived gains. The EMGI was completed by REFIT® dance fitness class participants (N = 359) in order to investigate the application of the tool to dance fitness, examine the perceived motivations and gains of REFIT® participants, and test the usefulness of the EMGI in a faith-based exercise program setting. The data was analyzed for internal reliability, correlations were computed between corresponding motives and gains, and differences between means were calculated. The results of the study found that there was no statistically significant correlation between any corresponding motives or gains for a given construct. Discussion concerning the EMGI as a poor fit for this specific exercise population and recommendations for future research are also provided.

**Keywords:** EMGI, exercise motivation, gains, dance fitness

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### Address for correspondence:

Sandy K. Kimbrough, Ph.D. – Texas A&M University-Commerce, P.O. Box 3011, Commerce, TX 75429, email: Sandy.Kimbrough@tamuc.edu

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## INTRODUCTION

### *Motives and Gains*

Motivation, as defined by Roberts [1], refers to “those personality factors, social variables, and/or cognitions that come into play when a person undertakes a task at which he or she is evaluated, enters into competition with others, or attempt to attain some standard of excellence” (p. 5). As it relates to participation in a particular domain, motives are typically derived from the content of individual goals; in other words, what people want out of participating in a particular behavior [2, 3]. Ingledew et al. [4] developed a three-level model of motivation as it relates to exercise, in which he theorized that dispositional motives, or life goals, influence participatory motives which influence behavioral regulations, which influence exercise participation. In exercise, it is important for researchers to understand participant motives for adhering to a particular program. Furthermore, Ingledew’s [4] study identified specific motives based upon behavioral goals of the participant. Intrinsic motives included affiliation to a group and competition (challenge); identified regulation included health or fitness motives and stress management; introjected motives regulation by appearance or weight management; external motives associated with social recognition and, again, appearance or weight management motives. Markland et al. [5] conducted a study comparing the motivational behaviors of aerobics class exercisers and participants of the Weight Watchers® program. The researchers hypothesized that the aerobic participants would be more intrinsically motivated to exercise, and would cite reasons such as affiliation, enjoyment, and fitness related motives. As a result of the study, it was determined that the Weight Watchers® participants were motivated to participate primarily to manage their weight and as a disease prevention strategy, rather than intrinsic behaviors. These participants were not necessarily exercising out of enjoyment, but in hopes to lose weight and better their appearance.

Exercise motives differ varying on participant personality traits, extent, type, and stage at which the exercise is conducted. As such, credible data has been analyzed that correlates similar motives to participants of certain demographic groups [2]. For example, women are generally more dissatisfied with their body shape than men. In turn, large samples of women cite appearance reasons as motives for exercising. Men, on the other hand, tend to exercise for health and fitness benefits or obesity management, rather than working towards a specific body image or body shape [6]. Ingledew and Sullivan [7] further investigated this claim with age differences. They found that adolescents were more likely to cite body shape or appearance motives as reason for exercising as opposed to the older population, who tended to cite weight management or ill-health avoidance motives.

In 1993, Markland and Hardy [8] developed the Exercise Motivation Inventory (EMI) to measure individuals’ reasoning for exercising. The two researchers sought to test predictors that they theorized would influence an individual’s motive to exercise and the goal they hoped to achieve as a result. The test instrumentation itself consisted of a 44-item open-ended questionnaire that gauged participants’ interest in exercising and what they hoped to get from their participation. The EMI was meant to measure how one’s motives might influence the choice of activities and the relationships between affective responses to exercise, involvement in physical activity, and exercise motives. The EMI consisted of 12 scales listed as follows: stress management, weight management, appearance, recreation, enjoyment, social recognition, personal development, affiliation, competition, ill-health avoidance, fitness, and health pressures [9]. Specifically, the researchers sought to determine the significance of motivations to exercise from the perspective of the Self Determination Theory [10]. Following development of the original EMI, a revised version, the EMI-2 emerged as a result of concerns regarding the original test’s ability to adequately measure fitness and health-related motives. The original test did not account for notable fitness-related reasons such as strength or endurance. Secondly, rather than focusing on the positive benefits from fitness, the health-related subscales focused

primarily on ill-health avoidance. Additionally, the original EMI was designed to only test populations that were currently exercising, rather than having the ability to assess non-exercisers and their motives for choosing not to participate. Researchers felt that data collected from non-exercisers would be just as valuable and needed to determine what motives may prompt non-exercisers to initially begin exercising. The revised version was composed of fourteen subscales, as follows: social recognition, enjoyment, challenge, competition, affiliation, revitalization, health pressures, ill-health avoidance, positive health, weight management, stress management, appearance, strength and endurance, and nimbleness. Differing from the original EMI scale was the addition of strength and endurance, positive health, and nimbleness categories; the testing instrument was also adjusted to reflect these categories. Additionally, the EMI-2 contained a reworded set of instructions and item stems that made the test applicable to the non-exercising population [9].

Ingledeu et al. [11] identified that until recently, research regarding exercise regulations and behavior focused solely on the motives that prompted individuals to begin exercising and then adhere to a program. Motives are considered reasons for participation and are broadly defined as the objectives in which individuals seek to attain through engagement. Likewise, gains refer to the outcomes that an individual has achieved or gained from participating in a particular domain; in other words, what they get as a result of exercising (Exercise Motivation Measurement) [3]. Conceptually, an individual's motive reasoning may correlate to their gains achieved and influence participant adherence or avoidance to a particular domain; if motivational aspirations are met, then engagement effects will benefit. Contrarily, initial motives may differ from the gains achieved, affecting engagement either negatively or positively; an individual's initial motives may not necessarily be the reason they adhere to the program. Strommer et al. [3] identified four reasons advocating the need for a gains inventory measurement. The first reason was to assess whether an individual's particular motives corresponded with a particular gain. Secondly, this measurement could perhaps provide information as to which gains are easier or more difficult to achieve. Third, the Exercise Motivations and Gains Inventory (EMGI) would allow researchers to understand how outcomes differ for individuals with a particular motive that receive a corresponding gain. And lastly, if the gains received do not moderate the desired motive, the gains could still have an impact in their own right. Markland et al. [5] theorized however, that motives, and the corresponding gains, would influence the participants' amount of engagement, enjoyment/satisfaction, and intentions.

In 2015, Strommer et al. [3] published a revised complementary version of the EMI-2 which addresses the absence of perceived gain measurements. The test was labeled as the Exercise Motives and Gains Inventory (EMGI). The EMGI provides a means of determining the benefits and gains achieved as a result of exercise, and subsequently the effects of those outcomes in terms of fulfillment. According to Strommer et al., the EMGI was developed to utilize the motive constructs previously identified in the EMI-2 questionnaire, and then to add a corresponding gain construct. Each identified subscale has 4 associated motive items corresponding to 4 gain items. For example, an affiliation motive item would be "To spend time with friends"; corresponding to the affiliation gain item "It has allowed me to spend time with friends." The EMGI invites participants to voice their personal reasoning for exercising and then their personal experiences and outcomes as a result of their participation in a particular exercise domain.

Research conducted by Strommer et al. [3] also focused on testing the validity of the EMI-2 version, by examining the correlation between the motive and gain constructs. To assess the higher-order structure of the factors comprising the EMI-2, the instrument was subjected to exploratory testing that assessed the degree to which the higher-order motives compared to the higher-order gains, necessitating a revised motives and gains scale. While the EMI-2 narrows individual motives and gains into 14 specific substrates, recent research has suggested that the

same motives/gains can be measured in a smaller model that more broadly identifies the scales into 5 different categories. The five-factor model includes the following categories: social engagement (encompassing enjoyment, revitalization, and stress management); negative health (including health pressures and ill-health avoidance); health/fitness factor (including positive health, strength/endurance and nimbleness, and to some extent ill-health avoidance); appearance/weight management (as a motive); and weight management (as a gain, primarily associated with the health and fitness).

The testing was conducted on data collected as a result of a cross-sectional study developed by Strommer et al. [3], which utilized a population consisting of adults, ranging in age from 18-35, all of which frequented a communal area of a British university. The participants were surveyed via questionnaire to identify their motives and perceived gains as a result of exercise participation. The sample size was broad in terms of amount of exercise participation, exercise participation intensity, and mode of exercise participation. In fact, 14% of the population could not provide information regarding their perceived gains because they had not engaged in exercise. While this information may be interesting in terms of understanding what might motivate non-exercisers into engaging in exercise, it is not necessarily an adequate sample to be polled using the EMGI methodology. As a result of the study, the findings revealed that many of the motive questions correlated with their intended gain constructs, with a positive correlation and 95% confidence intervals. In summary, the intent of the study, which was to develop a gains scale that correlated with the existing motives constructs, was accomplished.

#### *Dance Fitness*

Dance fitness classes have been appearing around the globe over the last 10 years in unprecedented numbers. According to Zumba® Fitness, over 15 million people in 180 countries are participating in Zumba®, arguably the most popular and one of the fastest growing group exercise trends of the 21<sup>st</sup> century. A limited number of research studies have shown that this form of dance fitness falls within the recommendations of the American College of Sports Medicine, in terms of kcals expended per exercise session, both for weight management and for the prevention of cardiovascular disease by regular exercise participation [12, 13]. Interestingly, dance fitness classes like Zumba® appeal to potential exercisers not only with promised gains related to weight loss and physical improvement, but also with promised gains related to enjoyment, affiliation, revitalization, and stress management. One of Zumba's mantras is "Ditch the Workout; Join the Party!" [14].

A relatively new dance fitness program, REFIT® was created in 2012 by a trio of former Zumba® instructors who wanted to provide a more community-based program with an emphasis not only on the physical well-being of the participants, but their emotional, social, and spiritual well-being as well. The mission and vision of REFIT® is to "EXPERIENCE FITNESS + BUILD COMMUNITY + MAKE IMPACT" [15]. With an impressive YouTube presence and "work out at home" base, REFIT® started offering instructor trainings in 2013 to provide live classes away from their home studio; they have trained over 1000 instructors in the US, Canada, and Europe, with an intentional focus on the whole person: body, mind, and soul. The founders of REFIT® define "experiencing fitness" as follows: "the goal of every fitness class is to authentically love each person who walks through the door" [16]. Building community means that "REFIT® inspires and builds community through shared experiences, intentionality, acceptance, and love" [16]. Making impact is reflected in REFIT®'s belief that "every person has an impact potential that can be cultivated through shared fitness and community" [16]. What is noticeably absent from REFIT®'s intentions is a primary focus on physical fitness. This approach is certainly unique, as most fitness programs focus either entirely or primarily on physical fitness benefits.

Because of the “whole person” approach of REFIT®, the authors of this article decided to examine the exercise motivations and gains of REFIT® participants, using the EMGI, for three purposes: 1) to investigate the application of the tool to dance fitness, 2) to examine the perceived motivations and gains of REFIT® participants, and 3) to test the usefulness of the EMGI in a faith-based exercise program setting.

## METHODS

### *Participants*

Participants were recruited via social media: the founders of REFIT® posted a recruitment video on their YouTube channel, their instructor Facebook page, and Twitter; they also sent out an email to their database of REFIT® participants. They asked current REFIT® participants and instructors to complete an online questionnaire and also share the link with other REFIT® participants and instructors. An incentive (entrance into drawing for \$50 merchandise credit) was provided for those who provided their email address; other than this information, no personal identifying information was collected. Participation in the study was voluntary, and the protocol was approved by the appropriate Institutional Review Board.

### *Procedures*

The online questionnaire was hosted on surveymonkey.com, and included both sections of the EMGI, separated by questions about REFIT® class attendance, personal exercise adherence, and current modes of exercise. In addition, several open-ended questions were included related to exercise motives and perceived gains. The questionnaire was available for 24 days.

## RESULTS

### *Participants*

Five hundred twenty-two participants completed the questionnaire, but for the purpose of this research, only those who indicated that they attend a live class (as opposed to on-demand or YouTube classes via technology) were included in the data analysis. Of the 522 who completed the questionnaire, 399 were live class participants. However, 40 of these participants only completed the motives portion of the survey, thus the effective samples size for the statistical analysis is 359. History of attendance duration ranged from less than 3 months to several years (see Table 1), and REFIT® founders cite the average age of participants as 32-42 years (A. Beeler, personal communication, January 25, 2016). Participants were asked to describe and reported their current adherence to exercise, with about 60% reporting that they were regular exercisers (see Table 2).

The internal consistencies, means, standard deviations, and correlations between the motives and corresponding gains are shown in Table 3. Cronbach’s alpha was above .70 for most of the gain items, with the exceptions being *Enjoyment* ( $\alpha = .59$ ), *Health pressures* ( $\alpha=.58$ ), and *Weight management* ( $\alpha=.61$ ). The Motive items were less consistent, with *Appearance* ( $\alpha=.68$ ), *Enjoyment* ( $\alpha=.69$ ), *Health Pressures* ( $\alpha=.59$ ), *Positive health* ( $\alpha=.66$ ), *Revitalization* ( $\alpha=.43$ ), *Strength and endurance* ( $\alpha=.68$ ), *Stress management* ( $\alpha=.69$ ), and *Weight management* ( $\alpha=.69$ ) being under .70. As such, caution should be used when interpreting these results.

### *Exercise Motives and Gains*

Analysis of the data revealed the top four motives were positive health (3.59), revitalization (3.31), strength and endurance (3.25), and weight management (3.11). Interestingly, the perceived gains did not reflect the perceived motives. According to

Table 1. Duration of class attendance

Duration of class attendance	Part [%]
Less than 3 months	20.00
3-6 months	19.50
6-12 months	20.75
12-24 months	23.00
More than 2 years	16.75

Table 2. Exercise adherence status

Exercise adherence status	Part [%]
Completely new ("never worked out before")	2.77
Returning to fitness ("it's been a while since I've worked out")	14.11
On-again, off-again ("I start programs and then quit")	24.18
Faithful to fitness ("I maintain a pretty consistent fitness routine")	54.41
Obsessed ("I work out every day and utilize multiple fitness formats to achieve my workout goals")	4.53

Table 3. EMGI - motives and gains descriptive statistics and correlations

	Motive			Gain			Gain Minus Motive		r
	M	SD	Cronbach's $\alpha$	M	SD	Cronbach's $\alpha$	M	SD	
Affiliation	2.79	1.02	0.85	3.13	1.09	0.90	0.34	1.45**	0.07
Appearance	2.49	0.83	0.68	2.35	0.89	0.77	-0.14	1.22*	-0.00
Challenge	2.14	0.95	0.73	2.76	0.92	0.74	0.62	1.33**	-0.00
Competition	0.71	0.8	0.78	0.95	0.98	0.84	0.24	1.31**	-0.07
Enjoyment	3.11	0.71	0.69	3.57	0.52	0.59	0.46	0.88**	-0.01
Health pressures	1.18	0.99	0.59	1.49	1.10	0.58	0.31	1.52**	-0.06
Ill-health avoidance	2.94	0.9	0.70	2.64	0.92	0.72	-0.30	1.31**	-0.03
Nimbleness	2.89	0.85	0.73	3.06	0.82	0.78	0.17	1.19**	-0.03
Positive health	3.59	0.47	0.66	3.27	0.72	0.82	-0.32	0.86**	0.01
Revitalization	3.31	0.61	0.43	3.59	0.56	0.70	0.28	0.84**	-0.04
Social recognition	0.74	0.8	0.77	1.38	1.05	0.77	0.64	1.36**	-0.07
Strength and endurance	3.25	0.62	0.68	3.17	0.72	0.83	-0.08	0.97	-0.03
Stress management	3.01	0.72	0.69	3.19	0.80	0.79	0.18	1.11**	-0.07
Weight management	3.11	0.74	0.69	2.76	0.72	0.61	-0.35	1.02**	0.03

Note: N 359, \*  $p < 0.05$ ; \*\*  $p < 0.01$ ; r - correlation between Motive and Gain

the surveyed participants, revitalization (3.59), enjoyment (3.57), positive health (3.27), and stress management (3.19) were the top four perceived gains. Table 3 (below) lists each item with their perceived mean score based upon a 0-4 scale. The primary themes identified by the results indicate that the surveyed population chooses to participate in REFIT® primarily because of the positive health and positive lifestyle factors that the program offers. Contrarily, few participants cited competitive environment or social pressures as a perceived motive or gain.

### *Comparison of Motives and Gains*

None of the correlations between the motives and corresponding gains were significant (see Table 3). This is in complete contrast to the results of Strommer et al. [3] and will be discussed in further detail in the following section. The differences between the motive and gains means were all significant, with the exception of *Strength and endurance*. This was likely due to the large sample size.

## DISCUSSION

The first item of importance concerns the lack of significant correlation between the Motives and corresponding Gain items. This was likely due to the sample population. As previously discussed, REFIT® focuses on the whole person and incorporates a faith-based component to its exercise program. As this faith component is something that is not typically seen in the traditional fitness environment (e.g., corporate gyms, boot camps, fitness classes, etc.), the participants of REFIT® may have very different motives and perceived gains for attending the program which were not adequately captured by the survey items. For example, the emphasis on faith may be a motivating reason for attendance of a REFIT® program rather than social recognition. Furthermore, as the focus of the program is very unique, REFIT® participants may have vastly different reasons for attending as well as perceived gains. One participant may be attending solely for the spiritual benefits associated with the program. Another may be attending because of the community aspect. Understanding the uniqueness of this program and the more general nature of the population utilized and the language used in the development of the EMGI can help to examine these differences.

In Strommer et al. [3], the participants were prompted by the following script: "Following are a number of statements concerning the reasons people often give when asked why they exercise. *Whether you currently exercise regularly or not*, please read each statement carefully and indicate..." (p. 67). It is unknown what type of fitness program/setting the participants in Strommer et al. [3] were thinking of when they answered this initial survey. Perhaps a faith-based program was not applicable or relevant to their answers. Furthermore, it is possible that the participants of REFIT® do not attend this fitness program for the same reasons the general exercising population does. More qualitative research that examines the motives for attending REFIT® is needed to assess this finding. As such, the EMGI may not be appropriate for faith-based fitness programs, but rather more general programs (e.g., weight training, dance classes, boot camps, etc.). Additionally, it is necessary to mention that obtaining of maximum effectiveness is associated with effort, and other factors. Passiveness does not facilitate persistence in realizing different aims (e. g., treatment) [17-18]. Furthermore, desirable sound of music has a wide range of psychological and physiological beneficial health effects among diverse populations in different settings [19].

### *Future Directions*

Future research should qualitatively examine the motivations and perceived gains for individuals of whole-person focused fitness programs. Furthermore, the added faith-based/spirituality component within a fitness program deserves further investigation, as little focus has been given in the literature. Finally, an additional area for investigation is the aspects of motivations and gains related to social and emotional well-being.

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