ORIGINAL RESEARCH

THE TRANSTHEORETICAL MODEL AND STRATEGIES OF EUROPEAN FITNESS PROFESSIONALS TO SUPPORT CLIENTS IN CHANGING HEALTH-RELATED BEHAVIOUR: A SURVEY STUDY

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ABSTRACT

Introduction: The transtheoretical model of behaviour change (TTM) is often used to understand and predict changes in health related behaviour, for example exercise behaviour and eating behaviour. Fitness professionals like personal trainers typically service and support clients in improving multiple types of health-related behaviour. Research on the population of European fitness professionals in general is lacking. And studies on strategies used by fitness professionals to support clients in changing health-related behaviour is even more scarce. The purpose of this paper is to present the first explorative European study on this subject.

Methods: An online survey was performed using the European Register for Exercise Professionals (EREPS), counting 6,681 professionals (January 2015). Most professionals are personal trainers, with a total of 5,222. Additionally there are 1,620 level 3 fitness instructors and 39 at level 5 (exercise for health specialist). Professionals of five countries were surveyed in the first quarter of 2015. The survey was send out by email to 3,497 fitness professionals.

Results: In total 178 fitness professionals participated. European fitness professionals use a mix of strategies to support behaviour change of health related behaviours. The most addressed type of behaviour was exercise, followed by nutrition. The support mainly focused on clients in the preparation and action stage of the TTM. “Reaching the desired goal” and “too expensive” were the main reasons for relapse with respectively 51.7% and 38.3%.

Conclusion: European fitness professionals use a wide range of strategies to support clients in changing health-related behaviour. This study draws a first picture of the used strategies within the TTM framework. Future research should focus on other frameworks for behaviour change and other populations, for example fitness professionals on other parts of the world. Ultimaltely, research should test the effectiveness of strategies to increase the adoption and maintenance of health-related behaviour of clients, and client retention of professionals.

Key words: Health behaviour, stages of change, motivation, retention
INTRODUCTION

According to the European association for fitness and health, EuropeActive (formerly European Health and Fitness Association, EHFA), the European sector consists of approximately 44,000 fitness centre facilities, 44 million members and 390,000 employees. Detailed information on the population of employees within the fitness and health sector is limited. According to a Dutch study, one third of the fitness centres has over 5 FTE’s (Fulltime equivalent) in employees. The largest group are fitness professionals, but it is known that fitness professionals operate both inside and outside fitness centres. In Europe, fitness professionals are educated and “organised” within the European Qualification Framework (EQF). Within this framework, a professional matches different levels based on set minimum qualifications in terms of knowledge, skills and competencies. The framework starts with level 2, the fitness assistant; level 3 the (group) fitness instructor; level 4 the personal trainer; level 5 the exercise for health specialist and level 6 the advanced health and exercise specialist. To develop the EQF standards, constructive discussions took place towards topics on knowledge, skills and competencies needed for fitness professionals to meet a certain level.

There are just a few studies available that investigate which skill-set fitness professionals require to support the needs of their customers and match certain industry quality criteria. Overall, the standards focus mostly on topics like physiology, anatomy, injury prevention, energy systems, and different kinds of training. Less focus is on motivation and the promotion of behaviour change. In a German study on personal trainers, a set of success factors for trainers is summarised by the trainers themselves. The researchers discuss social competences, sympathetic look, capability, communicative skills, appearance and being a role model. Two USA-based studies summarised similar success factors, including motivational skills, individuality (the ability of the trainer to give the customer a special feeling), emphatic ability and social skills. The focus on this kind of so called “soft-skills” is becoming more apparent within fitness professionals and training providers. For fitness professionals like personal trainers, skills to motivate and support clients on behaviour change have a double impact. First, it helps the clients to adapt and maintain health-related behaviours which results in higher levels of health and fitness. Second, in supporting clients on motivation and behaviour change, personal trainers can improve the levels of client (member) retention, which affects their business as a professional. According to a study performed in Austria, the average membership duration of members that train with a personal trainer is 3.77 years, compared to members that train without a personal trainer, 2.96 years. It is however unknown which factors deliver the positive correlation for personal training and retention.

To maximise the long term health and fitness effects for clients, the topics of motivation and behaviour change have experienced an increased degree of attention. This is not only towards exercise or training, but for health-related behaviours in general, like sleeping behaviour, smoking behaviour, sitting behaviour and nutrition (eating) behaviours. It is a matter of debate which behaviours should be addressed by fitness professionals, but most professionals address multiple types of behaviour including exercise, nutrition and physical activity in general. Still, many aspects of health-related behaviour issues are not yet well understood. Therefore, researchers continue to attempt to understand the nature and causes of many different health behaviours. Health behaviour encompasses a large field of study that cuts across various areas, including psychology, education, sociology, public health, epidemiology, and anthropology. According to Mosby’s Medical Dictionary, 8th edition, 2009, Elsevier, health behaviour is: “An action taken by a person to maintain, attain, or regain good health and to prevent illness”. Thus, when considering that health behaviour is any activity undertaken by an individual, regardless of actual or perceived health status, for the purpose of promoting, protecting or maintaining health (whether or not such behaviour is objectively effective towards that end), it can be argued that almost every behaviour or activity by an
individual has an impact on health status. In the context of this paper, it is useful to differentiate between behaviours which are purposefully adopted to promote or protect health (as regular physical activity and/or exercise), and those which may be adopted regardless of the consequences to health. Health behaviours are sometimes distinguished from risk behaviours which are defined separately as behaviours associated with increased susceptibility to a specific cause of ill-health (i.e. smoking or alcohol consumption). Health behaviours and risk behaviours are often related in clusters in a more complex pattern of behaviours referred to as lifestyle. There are three categories of health behaviour: Preventive health behaviour involves any activity undertaken by individuals who believe themselves to be healthy for the purpose of preventing or detecting illness in an asymptomatic state; Illness behaviour is any activity undertaken by individuals who perceive themselves to be ill for the purpose of defining their state of health, and discovering a suitable remedy; Sick-role behaviour involves any activity undertaken by those who consider themselves to be ill for the purpose of getting well. It includes receiving treatment from medical providers, generally involves a whole range of dependent behaviours, and leads to some degree of exemption from one’s usual responsibilities.

The transtheoretical model (TTM) is frequently used to study different kinds of health-related behaviours, including smoking, physical activity and exercise. In different populations and settings, the existence of significant relationships between the TTM and exercise behaviour have been demonstrated. To increase health-related behaviour, an in-depth understanding of the development of the specific behaviour, its change over time, and the factors leading to this change is needed, which makes the TTM useful as a theoretical model. Furthermore, the TTM is an integrative model, combining multiple theories or constructs increasing the understanding of complex behaviours. The model was originally developed observing smokers that wanted to change their behaviour without professional intervention, the so-called self-changers. It describes four key variables: 1. stages of change; 2. decisional balance; 3. self-efficacy and 4. processes of change.

The stages of change contain five main stages to cease an unhealthy or adopt a healthy behaviour (exercise is used here as an example but the stages can be applied to many other types of health-related behaviour), or six stages if the termination/relapse stage is also included. The stages are: Pre-contemplation: people who aren’t currently active and do not intent to exercise in the nearby future (approximately 6 months). Contemplation: people who aren’t currently active, but do intent to exercise sometime in the next 6 months. Preparation: this group contains people who are not or irregularly active, but are preparing to exercise (within the next 30 days). Action: people who made a change in their Behaviour and are currently exercising, but have only started recently (6 months). Maintenance: people who have been exercising for some time, for at least six months, and for who exercise has become a reasonably stable characteristic.

The decisional balance is the second construct of the TTM, and contains two main scales of Pros and Cons for changing Behaviour. There are four dimensions for Pros: useful benefits for the self; useful benefits for others; self-approval; approval of others. There are also four dimensions for Cons: useful losses for the self; useful losses for others; self-disapproval; disapproval of others. The Pros and Cons are important for influencing persons in an early stage (pre-contemplation – preparation) to the action stage.

The third construct is self-efficacy, which involves the degree of confidence a person has that he or she will not engage in a problem behaviour in tempting situations. In short, self-efficacy is a person’s belief and confidence in capabilities to overcome personal, social and environmental barriers to exercise. There are two aspects that will influence the level of confidence. One is efficacy expectations which in short means ones belief about their own competence. The second is outcome expectations where there is belief in ones perceived result or outcomes of a type of health behaviour. With respect to exercise behaviour, a
A person with high self-efficacy in relation to exercise feels that he or she has the skills to be successful in exercise-related activities. Self-efficacy can affect performance in different manners, usually by choice of activities/actions, such as how much effort a person will extend and persistence when encountering difficulties. There are four sources for an individual’s self-efficacy. These are (in order of effectiveness): Past experiences in performing specific behaviours; Vicarious experiences (watching others successfully perform behaviours); Verbal persuasion (being told that one is capable); Experiences of physiological arousal.

The fourth construct measures ten processes of change, which can be divided in five experimental or cognitive processes and five Behavioural processes. The five cognitive processes are: consciousness raising (e.g. looking for information); dramatic relief (e.g. emotional aspects of change); environmental re-evaluation (e.g. assessment of how inactivity affects society); self-re-evaluation (e.g. assessment of personal values) and social liberation (e.g. evaluation of active lifestyles in society). The five Behavioural processes are: counter conditioning (e.g. substituting physical activity for sedentary leisure choices); helping relationship (e.g. using social support during change); reinforcement management (e.g. self-reward for change); self-liberation (e.g. commitment and self-efficacy beliefs about change); stimulus control (e.g. managing situations that prompt inactivity or activity).

To study behaviour change strategies of European fitness professionals, the framework of the TTM was used to develop an online survey. The main research question for this survey was: What strategies within the TTM do European fitness professionals currently use to support clients in changing health-related behaviour?

**METHODS**

**Participants**

EuropeActive is using a register for exercise professionals (EREPS), counting 6,681 professionals, in January 2015 (excluding REPS UK). By far the most are personal trainers are level 4, with a total 5,222. Additionally there are 1,620 level 3 fitness instructors and 39 at level 5 (exercise for health specialist). For the study, this EREPS database was used, with four of the top ten countries in terms of registrations being selected. Their selection was influenced by the option to translate the survey from English towards local languages. The large variety in languages is a typical characteristic of Europe. Because the original survey was written in English, the UK and Ireland were selected (EREPS members working in the UK and Ireland). Translations into Dutch, German and Finnish were possible because of close relationships to EuropeActive training providers Trainer4You in Finland and LAPT in the Netherlands and Germany. Their databases of trainers were also included in the survey.

**Procedure**

In total, the survey was send out via email to a total of 3,497 fitness professionals. The fitness professionals of the selected countries received an email on behalf of EuropeActive explaining the reasons for the survey and addressing topics like confidentiality and time needed to answer all questions (approx. 15 minutes). The survey was first send out to professionals in Ireland and later the UK. In the meantime the surveys were translated into German, Dutch and Finnish. The survey was constructed in a way that a respondent had to answer all questions on page one, before he or she could move to the next page. Two weeks after the first email, all fitness professionals received a second or reminder email. On top of that, the training providers and local associations stimulated professionals to fill in the survey.

**Measures**

The survey was set up in an online system named NETQ and contained 20 questions, mostly multiple choice. The first range of questions gathered information on age, gender, country, type of fitness professional and questions on organisation topics for example the work place of the professional, types of sessions and income. The main questions...
of the survey addressed the TTM framework. Per stage of change, professionals scored on a 5-point Likert scale to what extent they used TTM related strategies to support their clients or in health-related behaviours. It was also questioned which health-related behaviours they address, including exercise, nutrition, physical activity, relaxation/stress, sitting, smoking and sleeping. Respondents could always fill in “other” if they would like to add topics.

RESULTS

In total 178 fitness professionals participated in the survey. This yields a response rate of 5%. Two hundred and seventy-six professionals opened the survey link, and 60 fitness professionals answered all twenty questions. The largest group of fitness professionals that participated in the survey were in the age group of 31 – 40 (46%), with an average age of 38 (SD 10). More females (56.7%) than males participated. The highest percentage of fitness professionals are within their first year of their profession (26.7%) although the average amount of working months shows a different picture of 72 months (6 years). Of the participants, 11.7% is working for more than 15 years as a professional, 21.7% are categorised as fitness instructors, 45% as group fitness instructors, 93% as personal trainers and only 12% exercise for health professionals (level 5). Although most professionals scored only one option, multiple answers were possible, because professionals sometimes have multiple categories of registration. The largest group of fitness professionals (75%) charge money for one-to-one sessions of 60 minutes, followed by small group training (41.7%) and group fitness classes (38.3%).

About one third (38.5%) of the fitness professionals reported an average monthly revenue of less than 1,000 euro (AUD 1500). On the other side of the spectrum, 13.5% reported a turnover of over 5,000 euro’s (AUD 7500) per month (excluding VAT), and 21% earns between 2,000 euro (AUD 3000) and 3,000 euro (AUD 4500) a month. The surveyed fitness professionals reported that the main goals clients mention at the start of a programme include: losing weight (86.7%), getting fit (78.3%) and general improvement of health (75.0%).

With respect to health-behaviours addressed by fitness professionals, exercise is the most common form of health behaviour, with 86.7% of the participants in the survey offering this kind of service. Second, nutritional services are offered by 56.7%. The majority (91.7%) of the fitness professionals claim that they are addressing all-day physical activity in their programmes “often” or “all the time”. As far as relaxation and stress release are concerned, 36.7% of the fitness professionals register that they are addressing these health behaviours “all the time” in their programmes. Almost twelve percent of fitness professionals said that they are “always” addressing all seven different health behaviours in their programmes. A total of 35.1% of these fitness professionals are “always” addressing at least 4 different health behaviours in their programmes. And 25.0% of the fitness professionals are “often” or “always” addressing all seven different health behaviour determinants in their programmes. A large number (78.4%) of the fitness professionals are “often” or “always”

| Table 1. Summary of data on participants in survey. |
|-----------------|-----------------|
| **Variable**    | **Results**     |
| n               | 178             |
| Age             | 38 (SD 10)      |
| Females         | 56.7%           |
| Professionals active in their first year | 26.7% |
| Professionals active > 15 years | 11.7% |
| Fitness instructor* | 21.7% |
| Group fitness instructor* | 45.0% |
| Personal trainer* | 93.0% |

* Multiple answers possible
addressing at least four different health behaviours in their programmes.

The most frequently used TTM strategy to increase the interest of potential clients (clients in the pre-contemplation, contemplation or preparation stage) focuses on the ‘useful benefits for the client’, with 91.7% of the fitness professionals using this strategy. Next to this strategy, the only other strategy that is used by 50% of the fitness professionals is ‘useful losses for the client’. When confidence and beliefs of potential clients are concerned, ‘the client’s belief in regards to the perceived result of the outcomes of behaviour’ is mostly used by the professionals. This strategy is used by 76.7% of the professionals, whereas 68.3% of the professionals use ‘the confidence of the client to be engaged in positive behaviours’. On the other hand, 28.3% of the professionals use ‘the confidence of the client not to be engaged in negative behaviours’. Fitness professionals use strategies combined with practical tools, such as flyers or a personal website. The most frequently used tool to increase the interest of potential clients to participate is a website, focusing on the ‘useful benefits for the client’. A total of 68.3% of the fitness professionals are using this tool. Referral cards, press releases and seminars are used by 10%.

The most frequently used strategy to support clients throughout the preparation, action, maintenance and relapse stages are ‘perceived result belief’ (on average by 40.0% of the professionals), ‘counter conditioning’ (39.2%) and ‘useful benefits’ (38.4%). The less frequently used strategies to support clients throughout the preparation, action, maintenance and relapse phases are ‘environmental re-evaluation’ (on average by 23.8% of the professionals), ‘(self-) disapproval’ (24.2%) and ‘reinforcement management’ (24.2%). The relapse stage is the stage where the lowest number of strategies are used. During the preparation stage, professionals are most likely to use the listed tools or methods. The further clients move through the stages, the less tools are used by the professionals.

![Figure 1: Number of health behaviours that are “always” addressed by fitness professionals.](image1)

![Figure 2: Strategies used by fitness professionals to increase interest of potential clients.](image2)
Strategies like goal setting are used by 58.3% of the professionals in the preparation stage compared to 8.3% in the relapse stage. Motivational text messages or emails are used the most (55%), followed by confirmation calls for the first appointment (46%), and these tools are most often applied in the preparation stages. 46.1% are not using any tools to register drop-out reasons (relapse), or are not registering them. The most used tool to register drop-out reasons is ‘on paper’ (33.8% of the professionals are using this tool). As far as the drop-out reasons are concerned, the main reason (51.7%) is that clients have ‘reached the desired goal’. None of the professionals (0.0%) indicate that clients are dropping-out because they are dissatisfied with the service of professional. Another important drop-out reason is that the service is ‘too expensive’ (mentioned by 38.3% of the professionals). In regards to specific strategies of professionals to retain clients, ‘offering frequent new exercises and programs to fight boredom’ (80.0%) and ‘contacting clients when they don’t show up at an appointment’ (71.7%) are most popular. 6.7% of the professionals are using a loyalty programme for their clients.

DISCUSSION

This European survey is the first to collect information on which strategies within the TTM European fitness professionals use to support clients in changing health-related behaviours. The results demonstrate that professionals use a wide range of strategies related to the TTM and also focus on multiple health-related behaviours. It seems that the largest group is relatively new to this profession, even if a substantial group have been “in business” for a much longer period of time. 93% are personal trainers, so this survey is mostly about this group of fitness professionals. Exercise is by far the most addressed type of behaviour by fitness professionals, followed by offering nutritional services. With 86.7% of the clients reporting that losing weight is a main motive to work with a fitness professional, it is logical that professionals include this kind of programming. Weight loss is highly influenced by nutrition. Research supports that the combination of exercise and nutrition is significantly more effective than a controlling diet alone\textsuperscript{18}. It is not clear what the level of knowledge, skills and competences of the European fitness professionals is in this field of expertise, and this could be addressed in future research. Health-related behaviour such as sitting and smoking do not have a huge focus for fitness professionals. This could bring opportunities for the future, if the positive effects of these factors on health are taken into consideration and 75% of the clients reporting “improvement of health” as a motive to participate in fitness programmes. Studies\textsuperscript{19, 20} demonstrate the effect of sedentary time and sitting behaviour on multiple diseases and premature death. If fitness professionals increasingly address these types of health-related behaviour, then next to smoking they will positively increase the health and fitness of their clients. Only a small percentage of the fitness professionals are “always” addressing all seven (as summarised in this survey) health behaviours in their programmes. One third of the fitness professionals are “always” addressing at least four health behaviours in their programmes, although it should be reported that the survey did not take into account how much time was spent and which results were generated.

Regarding the different components of TTM, all components (decisional balance, self-efficacy and the processes of change) are equally used. Focusing on the different elements within the components however, some interesting findings deserve mentioning. Within the construct of decisional balance, professionals seem to be more likely to focus on the pros (the benefits for the client for changing their behaviour) than to the cons (the losses for the client for changing their behaviour). In the decisional balance every (new) client experiences the disadvantages of changing their unhealthy behaviour, so it is suggested that this should also be addressed by fitness professionals. For example by applying motivational interviewing and implementing monthly counselling to address these topics. In regard to self-efficacy, a client’s belief of the perceived results of the outcomes of
behaviour is mostly addressed by the fitness professional. Also popular is the focus on the confidence that a person will engage in positive behaviour in challenging situations. Significantly less attention is paid to a client's confidence that he or she will not engage in negative behaviour when in tempting situations. Again, this raises the danger for fitness professionals to underestimate client's discomfort of having to change their unhealthy behaviour. Within the component of processes of change no significant differences were found between the five cognitive, and the five behavioural processes. When reviewing the strategies and tools used, professionals need to pay more attention to clients in the relapse stage and use the listed strategies and tools. Fitness professionals use effective behaviour change strategies such as goal setting twenty-one times more often in the preparation stage as in the stage of relapse. Eventually, new strategies and tools specific for clients in this stage might need to be created, and some professionals mentioned tools such as wearable devices. Nearly half of all professionals are not using any tools to register the reasons for drop-out or are not registering what happens at all. Given the fact that relapse is a problem in the fitness sector, it seems sensible that all professionals should at least register and understand the reason for a drop-out. This will help to develop a better understanding of the ‘retention-dilemma’ in the fitness industry and provide directions for future research, interventions and tailor-made strategies. As far as the main reason why clients end their training, the survey indicates it is because clients have reached the desired goal. Interestingly, none of the professionals indicated that their clients were dropping-out because they were are dissatisfied with the work of the professional. To track these kind of reasons, a further study towards client's experiences would be helpful. Another important reason for a client to drop out is because the programme is “too expensive”. This was mentioned by almost forty percent of the surveyed professionals. It is unclear whether this is a result of the current economic climate, or due to the fact that many professionals are delivering 1-to-1 sessions which is the most expensive form of personal training.

At this point it is important to mention a limitation of the study. The survey had a low response rate of only 5%. In a similar type of web survey and target group in Germany, Horn (2011) reported a response of 244 out of the 2805, so a response rate of approximately 13%. This is higher than the 5% of the current study, but still low, and thereby limiting the generalisation of the findings. One possible explanation for the slightly higher response rate could be that the Horn study focused on one country and the current study on five countries, which makes it more complex to motivate and communicate with potential participants. Further, to the response in the current survey: after the first email that was sent out, the response was analysed. The delivery rate was checked and all countries had a score of 100%. The open rate (clicking and open the survey link) differed per country: Finland, 41%; Germany, 23%; Netherlands, 30%; UK, 50%; Ireland, 36%. An open rate of 20% is already labelled as “good”, so the scores in this survey were high. The main issue was that professionals did not started the survey. For the second reminder email it was considered to reward (give a present for participating) the professionals to increase the response, but finally it was decided to not do this because it could influence the quality of the results and also biased the findings. Professionals could fill in the survey to just get the reward and would perhaps care less about the answers.

CONCLUSION

The current study on strategies for fitness professionals is the first study within this area. This means that many questions remain unanswered, and to describe, understand and predict effective strategies to increase behaviour change much more research is needed. It would be valuable to repeat the current survey to increase the number of respondents and reliability of results. Similarly to research on physiological effects of exercise or nutrition, the health and fitness sector needs a better understanding and needs to test strategies to
improve the adoption and maintenance of health-related behaviours. This survey made a first and important step.

**PRACTICAL APPLICATION**

The practical applications of this study are diverse, but in this section only the implications for future research will be shortly addressed. The health and fitness sector is in its infancy when it comes to research on key processes like recruiting and retaining clients and members. Motivating stakeholders to participate in research and helping researchers to understand the nature of important industry topics is crucial. An important factor for researchers is to understand how to involve stakeholders like fitness professionals (personal trainers). The current study made it clear that web surveys score a low response rate. It should be considered to use other methods, for example face-to-face interviews, phone calls or live observations. It is perceived that fitness professionals would give more and better information if they are approached during events, conferences, workshops, or other opportunities having personal contact, which also reduces the amount of reading for the professional. This could create the opportunity to explain more about the reasons for research and the advantages of participating for the fitness industry and fitness professionals themselves.

**REFERENCES**