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## THE EXERCISE ADDICTION INVENTORY: A NEW BRIEF SCREENING TOOL

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Many attempts have been made to define and measure problem exercising but there has not been any successful attempt to produce a psychometrically sound assessment instrument. The aim of the present study was to develop a psychometric instrument (the Exercise Addiction Inventory, EAI) capable of identifying people at risk from exercise addiction. The intention was to develop a short form inventory that would be quick and simple to administer. The EAI was operationalised using the components of behavioural addiction proposed by Griffiths (Griffiths, M.D. (1996). Behavioural addiction: an issue for everybody? *Journal of Workplace Learning*, 8(3), 19–25). The study presents the psychometric properties of the EAI, which are manifested in very good internal reliability, content validity, concurrent validity, and construct validity. It is concluded that the EAI could be a valid and reliable instrument capable of quickly and easily identifying individuals at risk from exercise addiction.

*Keywords:* EAI; Psychometric properties; Exercise addiction

Defining addictive behaviours, in general, is complex. In the past, definitions of addiction were restricted to drug and alcohol ingestion. More recently a number of behaviours have been viewed as potentially addictive such as exercise, sex, gambling, video games, and Internet use (Griffiths, 1997, 2002). Indeed, otherwise rewarding behaviours when practiced obsessively could trigger severe negative consequences.

Exercise is considered to be both physically and psychologically beneficial to health (Bouchard *et al.*, 1994). However, a few people may exercise without limits and to damaging degrees, propelling researchers to agree that exercise could, in some cases, be harmful (Yates, 1991; Szabo, 1995, 1998, 2000) and become addictive (Griffiths, 1997). The prevalence of exercise addiction is very rare in reality (Veale, 1987; Szabo, 2000), but when it is present, its negative consequences can be devastating.

Albeit its rarity, anecdotal surmises of exercise addiction are abundant because Glasser (1976) used the term *positive addiction* to label the beneficial aspects of habitual exercise in contrast to drinking, drug abuse, or other self-destructive behaviours. The “positive” perception and subsequent adoption of the terminology by runners led

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to careless labelling of *strong commitment* as addiction. In discussing compulsive exercise, Morgan (1979) acknowledged the problem and introduced the term *negative addiction* as an antonym to Glasser's (1976) positive stance. This term is in line with the conceptual definition that any addiction in the long term is negative (Rozin and Stoess, 1993).

Therefore, the extant literature is contaminated with studies on addiction that in fact measured commitment (Szabo *et al.*, 1997). However, long ago Sachs (1981) viewed commitment to exercise as a result of intellectual analysis of the rewards, including social relationships, health benefits, status, prestige, and/or monetary advantages, gained from exercise. In light of Sach's (1981) description, committed exercisers (1) engage in exercise for extrinsic rewards, (2) view their exercise as an important, but not central part of their lives, and (3) may not suffer severe withdrawal symptoms when they cannot exercise for some reason. In contrast, addicted exercisers (1) are more likely to exercise for intrinsic rewards, (2) view exercise as the central part of their lives, and (3) experience disturbing deprivation sensations when they are unable to exercise (Sachs, 1981).

Szabo (1995) suggested that addicted exercisers experience more powerful withdrawal or deprivation symptoms than committed exercisers do. A more thorough way to distinguish between the two may be via the actions and motives for exercise of the individuals, such as the classification by Sachs (1981). It is important to pinpoint the separating line between healthy committed and unhealthy "at risk" exercisers, because persons addicted to exercise engage in exercise that detrimentally alters their lifestyle causing physical, medical, financial, and social problems. Szabo *et al.* (1997) found no correlation between addiction and commitment to running, and concluded that these are independent concepts. For this reason, it is important to be able to distinguish between the two and identify those at risk from exercise addiction in order to provide intervention for these individuals.

Since the work of Baekeland (1970) on excessive exercise behaviour, there has been an increasing amount of research into this area. In a systematic review, Hausenblas and Symons Downs (2002a) reported that the most frequently used term to describe this phenomenon was exercise addiction. Excessive exercise has also been termed "dependent" (Cockerill and Riddington, 1996), "obligatory" (Pasman and Thompson, 1988), "compulsive" (Lyons and Cromey, 1989), "abusive" (Davis, 2000), and "morbid" (Chalmers *et al.*, 1985). It is not always clear that these terms represent the same phenomenon because effective definitions are often not present in research papers (Le Grange and Eisler, 1993).

Based on Brown's (1993) general components of addictions, Griffiths (1996, 1997, 2002) has redefined it in light of theory and applied them to behaviours such as exercise, sex, gambling, video games, and the Internet. These components are:

- **Salience** – This occurs when the particular activity becomes the most important activity in the person's life and dominates their thinking (preoccupations and cognitive distortions), feelings (cravings), and behaviour (deterioration of socialised behaviour). For instance, even if the person is not actually engaged in the behaviour they will be thinking about the next time they will be.
- **Mood modification** – This refers to the subjective experiences that people report as a consequence of engaging in the particular activity and can be seen as a coping strategy (i.e., they experience an arousing "buzz" or a "high", or paradoxically tranquilising feel of "escape" or "numbing").

- **Tolerance** – This is the process whereby increasing amounts of the particular activity are required to achieve the former effects. For instance, a gambler may have to gradually increase the size of the bet to experience a euphoric effect that was initially obtained by a much smaller bet.
- **Withdrawal symptoms** – These are the unpleasant feeling states and/or physical effects which occur when the particular activity is discontinued or suddenly reduced, e.g., the shakes, moodiness, irritability etc.
- **Conflict** – This refers to the conflicts between the addict and those around them (interpersonal conflict), conflicts with other activities (job, social life, hobbies and interests) or from within the individual themselves (intrapsychic conflict) which are concerned with the particular activity.
- **Relapse** – This is the tendency for repeated reversions to earlier patterns of the particular activity to recur and for even the most extreme patterns typical of the height of the addiction to be quickly restored after many years of abstinence or control.

Griffiths (1997) identified all of these addictive components in his case study of “Joanna”, an exercise addict. He also identified negative consequences of her addictive exercise behaviour such as financial debt to fund her exercising habit and missing her lectures to exercise.

A plethora of inventories have been developed over the last few decades. The Obligatory Exercise Questionnaire (OEQ) (Pasman and Thompson, 1988) modified from the Obligatory Running Questionnaire (Blumenthal *et al.*, 1984) is a frequently used standardised questionnaire (Hausenblas and Symons Downs, 2001) and the psychometric properties of the questionnaire have been well established (Coen and Ogles, 1993). It covers a wide range of exercise behaviour such as running and weight lifting and can distinguish between exercisers and control groups. The OEQ also looks at secondary dependence (Veale, 1995); the relationship between exercise behaviour, eating disturbance, and body image in obligatory exercisers. Obligatory runners are described as having a high need for perfection and the desire to exert control over their bodies and lives (Coen and Ogles, 1993; Yates *et al.*, 1994). Using the Obligatory Exercise Questionnaire, Pasman and Thompson (1988) found that runners had greater eating disturbances than controls and that females showed greater eating psychopathology than males.

The OEQ has been modified to a version that is a more general measure of exercise activity (Thompson and Pasman, 1991). The new version consists of 20 items and can be used to identify individuals at risk for eating disorders, for whom exercise is a precursor to an eating disorder (Thompson, 1990). Ackard *et al.* (2002) found that the OEQ (1991) has three subscales. These are exercise fixation (items associated with missed exercise and exercise to compensate for perceived overeating), exercise frequency (addressing frequency and type of exercise) and exercise commitment (indicating a sense of routine which cannot be missed). Ackard *et al.* believed that these subscales highlight the multifaceted nature of excessive exercise.

Ogden *et al.* (1997) developed the Exercise Dependence Questionnaire consisting of 29 items and 8 subscales that investigated the social affects and the motivational factors of exercise. Their scale was found to have good internal reliability and discriminant validity but certain items assess attitudes and social practices rather than dependency. More recently, Hausenblas and Symons Downs (2001, 2002b) have developed the

Exercise Dependence Scale (EDS). Exercise is described as a craving for exercise that results in uncontrollable excessive physical activity and manifests in physiological symptoms, psychological symptoms, or both (Hausenblas and Symons Downs, 2002a, 2002c). The Exercise Dependence Scale is based on the Diagnostic and Statistical Manual of Mental Disorder-IV criteria for substance dependence (American Psychiatric Association, 1994). The Exercise Dependence Scale is able to differentiate between at-risk, non-dependent-symptomatic, and non-dependent-asymptomatic individuals. It can also specify whether individuals may have a physiological dependence (evidence of withdrawal) or no physiological dependence (no evidence of withdrawal).

Hausenblas and Symons Downs (2002) carried out five studies examining the validation of the EDS, all showing support for the psychometric properties of the scale. In one of the studies they examined the concurrent validity of the EDS and the OEQ (Thompson and Pasman, 1991). They found the OEQ to have acceptable internal consistency, and found a strong positive correlation between the EDS and the OEQ. They also found that at-risk groups scored significantly higher on the EDS and the OEQ compared to the non-dependent groups.

To the authors' knowledge, none of the current screening instruments are theory driven. Furthermore, they all take a while to administer and are therefore impractical for sports medicine, physiotherapists, and occupational therapists to use. The purpose of the current study was to develop and examine the psychometric properties of a practical *very short* Exercise Addiction Inventory (EAI) which is also a theoretically based screening tool of exercise addiction that can distinguish between individuals who are at-risk, have some symptoms, or have no symptoms of exercise addiction. Exercise addiction symptoms were operationalised using Griffiths' (1996) six components of addiction. The psychometric properties of the measure were examined through statistical tests and cross-validation against two existing measurement tools: the Obligatory Exercise Scale (Thompson and Pasman, 1991) and the 21-item Exercise Dependence Scale (Hausenblas and Symons Downs, 2001) which are conceptually similar but are impractical (taking a long time to administer), more complicated to score, and difficult to use as a screening tool in physiotherapy and occupational settings.

## METHOD

### Participants

An opportunistic sample of 200 participants was used comprising of 111 males (55.5%), and 89 females (44.5%). The first half of the sample consisted of about 50% sport science students ( $n=102$ ) who were involved in team sports (although some also practiced individual or combined sporting activities). The other half of the sample were psychology students ( $n=98$ ) who reported regular participation in aerobic, gym, or both forms of exercises. Since the scope of the study was the development of a *general exercise* (rather than specific sport or exercise) tool, this mixed-exerciser sample served well the purpose of the study. The age range was 18–40 years (mean age = 21.24,  $SD = 3.77$ ). The mean age of the males was 20.82 years ( $SD = 3.19$ ) and for females the mean age was 21.75 years ( $SD = 4.36$ ).

## Design and Analysis

The present study involved the creation of the short-form Exercise Addiction Inventory. The new brief inventory was administered to a sample of participants (all of whom were exercisers), along with the Obligatory Exercise Questionnaire and the Exercise Dependence Scale, to establish its psychometric properties, by calculating its internal consistency, concurrent validity and construct validity.

## Materials

The questionnaire was divided into four sections. The first section established demographic information (i.e., gender, age, and exercise frequency). The next three sections were made up of three tools that measure exercise beliefs and behaviours.

*Obligatory Exercise Questionnaire (Thompson and Pasman, 1991)* This was chosen because it is a non-specific measure of exercise activity and has been psychometrically validated. The internal consistency ratio was 0.96 (Cronbach's Alpha) and the test-retest reliability was also 0.96. Each of the 20 items has a four point Likert response option where 1 = "never" and 4 = "always". All the statements (except numbers 8 and 10) were coded so that high scores reflected attributes of obligatory exercise behaviour. Example statements from the questionnaire are: "*When I don't exercise I feel guilty*", "*If I miss a planned workout, I attempt to make up for it the next day*", "*I have had day-dreams about exercising*", and "*I will engage in other forms of exercise if I am unable to engage in my usual form of exercise*". No cut-off score for obligatory exercise was provided with the questionnaire.

*The Exercise Addiction Inventory (Short Form)* The third section consisted of just six statements based on a modified version of the components of behavioural addiction (Griffiths, 1996). These statements were self-constructed and were designed to be indicative of addictive behaviour components. Each statement had a five point Likert response option. The statements were coded so that high scores reflected attributes of addictive exercise behaviour: 1 = "Strongly disagree", 2 = "Disagree", 3 = "Neither agree nor Disagree", 4 = "Agree", 5 = "Strongly Agree". The six statements that make up the inventory are: "*Exercise is the most important thing in my life*", "*Conflicts have arisen between me and my family and/or my partner about the amount of exercise I do*", "*I use exercise as a way of changing my mood*", "*Over time I have increased the amount of exercise I do in a day*", "*If I have to miss an exercise session I feel moody and irritable*", and "*If I cut down the amount of exercise I do, and then start again, I always end up exercising as often as I did before*".

The EAI cut-off score for individuals considered at-risk of exercise addiction was 24. This cut off represents those individuals with scores in the top 15% of the total scale score. High scores were considered to be the most problematic for the individual. A score of 13–23 was chosen to be indicative of a symptomatic individual and a score of 0–12 was deemed to indicate an asymptomatic individual. A principal components analysis showed that the six questions represented a single component explaining 55.9% of the variation. All the factor loadings were high and very significant (see Table I).

*The Exercise Dependence Scale-21 (Hausenblas and Symons Down, 2001)* This scale was chosen because it has satisfactory psychometric properties (i.e., subscale

TABLE I Factor loadings of individual EAI items

(1) Exercise is the most important thing in my life	0.754
(2) Conflicts have arisen between me and my family and/or my partner about the amount of exercise I do	0.610
(3) I use exercise as a way of changing my mood	0.800
(4) Over time I have increased the amount of exercise I do in a day	0.742
(5) If I have to miss an exercise session I feel moody and irritable	0.801
(6) If I cut down the amount of exercise I do, and then start again, I always end up exercising as often as I did before	0.762

reliabilities ranging from 0.71 to 0.92). The 21 statements in this section were aimed at establishing exercise dependency and are based on the Diagnostic and Statistical Manual IV (DSM-IV, 1994) criteria for substance dependency. The responses were measured on a six point Likert scale where, 1 = "always" and 6 = "never". The statements were coded so that a low score reflects attributes of exercise dependency. Example items from this scale are: "*I exercise despite recurring physical problems*", "*I am unable to reduce how long I exercise*", "*I exercise longer than I intend*", "*I exercise to avoid feeling anxious*", and "*I continually increase my exercise duration to achieve the desired effects/benefits*". Individuals scoring 1 or 2 on three or more of the seven criteria are classified as exercise dependent. Those scoring in the 3–4 range are classified as symptomatic and those scoring in the range of 5–6 are classified as asymptomatic.

### Procedure

Approximately half the questionnaires were administered in a health and fitness club. Participants completed the questionnaires individually to reduce confounding external influence, with no time constraints on completion. The remaining questionnaires were completed by university sports science students at Nottingham Trent University. The questionnaire containing an introductory statement informing the individual that they would remain anonymous and that they could withdraw from the study at any point. These participants marked their responses to the statements in close proximity to each other but the questionnaire were completed individually.

### RESULTS

*Participant Characteristics* The means for the participants' exercise frequency can be seen in Table II. Exercise was defined as the weekly number of purposeful physical activity lasting at least 30 min and was based on self-report data.

*Test Scores* The mean scale score for participants on each measure was calculated. The mean item score on the Obligatory Exercise Questionnaire was 2.2 ( $SD=0.44$ ), lying between "sometimes" and "usually" on the four point Likert scale. The mean item score on the Exercise Addiction Inventory was 2.7 ( $SD=0.49$ ), lying between "disagree" and "neither agree or disagree" on the five point Likert scale. The mean item score on the Exercise Dependency Scale was 4.19 ( $SD=0.48$ ), lying closer to "never" on the six point Likert scale. The mean item score is higher on the Exercise Dependence Scale because the scale is reversed compared to the previous two tools.

Six of the participants (3%) were found to score above 24 on the Exercise Addiction Inventory. This would mean that these participants responded with "agree" or

TABLE II Means and standard deviations of participant characteristics

<i>Characteristic</i>	<i>All Participants (N = 200)</i>	<i>Men (N = 111)</i>	<i>Women (N = 89)</i>
Exercise Frequency (times per week)	<i>M</i> = 3.77 <i>SD</i> = 2.66	<i>M</i> = 3.95 <i>SD</i> = 2.29	<i>M</i> = 3.54 <i>SD</i> = 3.05

“strongly agree” answers to most of the items, and for the purpose of the present study these were classified as at-risk from exercise addiction. Five of these (2.5%) were also classified as exercise dependent according to the Exercise Dependence Scale criteria. No cut-off score was provided for the Obligatory Exercise Questionnaire.

*Internal Reliability* A principal component factor analyses extracted a single component (see method section). To evaluate the internal reliability of the questionnaires, Cronbach’s Alpha levels were computed. This is because the items were answered along a Likert response scale. The internal consistencies of the Exercise Addiction Inventory, the Obligatory Exercise Questionnaire, and the Exercised Dependence Scale were 0.84, 0.9, and 0.95 respectively.

*Concurrent Validity* Correlational analysis was used to assess the concurrent validity of the Exercise Addiction Inventory using the Obligatory Exercise Questionnaire and the Exercise Dependence Scale.

*The Exercise Addiction Inventory and the Obligatory Exercise Questionnaire* Analysis revealed a strong positive correlation for the relationship between the Exercise Addiction Inventory and the Obligatory Exercise Questionnaire. The correlation coefficient was  $r = 0.80$  ( $p < 0.001$ ).

*The Exercise Addiction Inventory and the Exercise Dependence Scale* Analysis revealed a strong negative correlation for the relationship between the Exercise Addiction Inventory and the Exercise Dependence Scale. The correlation coefficient was  $r = -0.81$  ( $p < 0.001$ ). This correlation was negative because the scoring on the Exercise Dependence Scale is reversed compared to the other two tools.

*Content Validity* This was established by having two experts (a professor of addictive behaviours and a sport and exercise psychology expert) review the inventory for appropriateness, readability, and comprehension. The questions were checked to correspond to Brown and Griffiths’ components of behavioural addiction.

*Construct Validity* This was assessed using a cross-sectional one-way analysis of variance for unequal sample sizes. This was calculated to determine if the scale could successfully distinguish between higher and lower frequencies of exercise. Analysis revealed that subjects that exercised five times or more per week ( $N = 51$ ) scored significantly higher on the Exercise Addiction Inventory than those who exercised two times or less per week ( $N = 66$ ) [ $F(1, 115) = 77.11$ ,  $p < 0.001$ ]. The Obligatory Exercise Questionnaire [ $F(1, 115) = 147.17$ ,  $p < 0.001$ ] and the Exercise Dependence Scale [ $F(1, 115) = 112.77$ ,  $p < 0.001$ ] were also able to distinguish between higher and lower frequencies of exercise. A second analysis of variance revealed no significant differences between gender scores for the Exercise Addiction Inventory [ $F(1, 1980) = 1.02$ ,  $p < 0.32$ ]. In addition, there were high correlations between the



frequency of weekly exercise reported and the scores on the three scales (Hasenblas:  $r = -0.59$ ,  $p < 0.001$ ; Pasman:  $r = -0.71$ ,  $p < 0.001$ ; and EAI:  $r = -0.54$ ,  $p < 0.001$ ).

## DISCUSSION

The aim of the present study was to produce a theory-based short form exercise addiction inventory. The Exercise Addiction Inventory (EAI) is a self-report measure that consists of six items and is quick and simple to administer. It reflects attitudes and beliefs about exercise behaviour, based on the perceived importance of exercise, the subjective experience reported as a consequence of exercise, and the frequency of exercise needed to achieve the desired benefits. It also reflects the motivation to continue exercising due to the fear of experiencing withdrawal symptoms, the perceived conflicts between the sufferer and family or friends arising from the exercising, and the ease of relapse and reinstatement back to the problem exercise behaviour pattern. Furthermore, findings from the present study provide initial support for the psychometric properties of the EAI. Specifically, the internal consistency was very good, showing the inventory to have strong internal reliability. The inventory also shows excellent concurrent validity when compared with the Obligatory Exercise Questionnaire (Thompson and Pasman, 1991) and the Exercise Dependence Scale (Hausenblas and Symons Downs, 2002), two psychometrically sound tools.

These excellent psychometric properties indicate that the six components of behavioural addiction (Griffiths, 1996) can successfully be applied to the measurement and identification of exercise addiction. The EAI can distinguish between exercise addiction and exercise commitment. Most of the participants in the present study would be considered casual exercisers or committed exercisers but the present study did identify 3% ( $n=6$ ) of the sample as being at risk from exercise addiction. The Exercise Dependence Scale (Hausenblas and Symons Downs, 2001) identified 2.5% of the sample as being exercise dependent. These are low figures, supporting the argument that exercise addiction is rare (Veale, 1995; Szabo, 2000) and suggesting that other studies presenting higher prevalence rates (Slay *et al.*, 1998) may be measuring exercise commitment rather than exercise addiction, as discussed by Szabo *et al.* (1997). The EAI can distinguish between different frequencies of exercise (i.e., those exercising five times or more a week and those exercising twice or less).

Concurrent validity of the EAI was established using the Obligatory Exercise Questionnaire (OEQ) and the Exercise Dependence Scale (EDS). This indicates that the EAI is indeed measuring problem exercise. The OEQ claims to be a measure of Obligatory exercise, although Thompson and Pasman (1991) did not adequately define these exercisers. Obligatory exercisers have been described as having a high need for perfection and the desire to control their bodies (Yates *et al.*, 1994). The EDS claims to measure exercise dependence, which is described as a craving for exercise that results in uncontrollable excessive physical activity and manifests in physiological symptoms, psychological symptoms, or both (Hausenblas and Symons Downs, 2001). The EAI is used to identify symptoms of exercise addiction. The present study found strong similarities in the results of the three instruments. It would appear that the three instruments are all identifying the same concept but using different definitions of problem exercise. If the EAI is similar to other instruments, it has the advantage over other inventories due to the ease of administration,

and that it is based on components of behavioural addiction rather than components of substance dependence which may be an inadequate comparison.

Researchers need to be cognisant of the fact that problem exercisers are not a homogenous population and that the pathological processes leading to the development of the condition differ between individuals. Previous research has distinguished between primary exercise dependence and dependence that is secondary to an eating disorder (Veale, 1995; Adams and Kirkby, 2003). The EAI is a tool for identifying those at-risk from a primary exercise disorder only. The present study did not intend to screen for any participants suffering from eating disorders in the sample. Future research should use the EAI after identifying eating disordered participants. Alternatively, an eating disorder tool could be used after the EAI has established individuals at-risk from exercise addiction in order to distinguish between those with a primary and those with a secondary disorder. This may provide some understanding of pathological processes leading to the development of the disorder for some of the individuals.

Hausenblas and Symons Downs (2002a) identified a number of limitations of previous inventories in the field of exercise addiction. The EAI has specific cut-off criteria for the identification of those who are at risk from addiction, and can distinguish between those who may be symptomatic or asymptomatic of exercise addiction. Items were operationalised using components of behavioural addiction, were derived from a conceptual basis and were theory driven rather than data driven. Also neither exercise frequencies nor exercise histories were used as diagnostic markers for addiction. Thus, the present study produced an inventory that largely overcame the limitations proposed by Hausenblas and Symons Downs (2002a).

While the results from the present study revealed preliminary psychometric support for the EAI and good evidence for its utility in exercise addiction assessment, it is important to recognize the limitations of the study and to consider future research. Firstly, the sample was an opportunity sample that makes it difficult to know how far the results are true of the whole population. Secondly, the present study asked for exercise frequency information in the form of the number of exercise sessions engaged in per week. It would have been more useful to have requested information on how long these sessions were so that those who were, for example, exercising six times a week were not in fact exercising less than those who were exercising twice a week but for a longer duration. Thirdly, the type of exercising engaged in was also not requested. Future research could examine whether addiction scores on the EAI differ for different physical activities (e.g., swimming, running, and gym use). Finally, using a self-report assessment measure raises questions about the truthfulness of responses that must be taken into consideration. Answers may not have been accurate because the study is an investigation into a socially undesirable activity. It is also likely that, for reasons of social desirability, the extent of participants' self-reported involvement in exercise might have been exaggerated in an effort to appear fitter (Williams and Krane, 1992) or more committed to their chosen activity.

Despite these shortcomings, the EAI has the following three advantages. The first is that the EAI is a tool based on behavioural addiction theory rather than being based on researcher perceived criteria or criteria for substance dependence as is the EDS. The second advantage is that it is a short form inventory that is quickly, easily, and anonymously administered, finding the same results as the more long-winded tools discussed previously. Occupational therapists and sport medicine clinics

are often the first to encounter the exercise dependent person due to injury (Wichmann and Martin, 1992). Furthermore, these individuals are not trained experts in psychometric assessment. However, the EAI with its convenient cut off point value, ease of administration and rating, could be valuable in deciding – by these medical specialists – whether the patients needs to be referred for consultation to prevent further damage. The third is that, in the long run, the EAI may be used more frequently because of the aforementioned advantages.

In conclusion, the main purpose of the present study was to develop and examine the psychometric of the EAI. The study has produced a valid and reliable inventory capable of identifying individuals that are asymptomatic, symptomatic, and at-risk from exercise addiction. The EAI is a powerful evaluation tool that is efficient and advantageous, making an important contribution for practical use in applied settings as well as to the exercise addiction literature.

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## APPENDIX 1: THE EXERCISE ADDICTION INVENTORY – SHORT FORM

	<i>Strongly disagree</i>		<i>Neither agree nor disagree</i>		<i>Strongly agree</i>
Exercise is the most important think in my life	1	2	3	4	5
Conflicts have arisen between me and my family and/or my partner about the amount of exercise I do	1	2	3	4	5
I use exercise as a way of changing my mood (e.g. to get a buzz, to escape etc.)	1	2	3	4	5
Over time I have increased the amount of exercise I do in a day	1	2	3	4	5
If I have to miss an exercise session I feel moody and irritable	1	2	3	4	5
If I cut down the amount of exercise I do, and then start again, I always end up exercising as often as I did before	1	2	3	4	5