

# Exercise Dependence Scale-21 Manual

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### Introduction

The *Exercise Dependence Scale-21* operationalizes exercise dependence based on the Diagnostic and Statistical Manual of Mental Disorder-IV (DSM-IV) criteria for substance dependence (APA, 1994) and provides the following information:

- (1) Mean overall score of exercise dependence symptoms.
- (2) Differentiates between:
  - (a) at-risk for exercise dependence
  - (b) nondependent-symptomatic, and
  - (c) nondependent-asymptomatic.
- (3) Specifies whether individuals have evidence of:
  - (a) physiological dependence (i.e., evidence of tolerance or withdrawal) or
  - (b) no physiological dependence (i.e., no evidence of tolerance or withdrawal).

### Exercise Dependence Criteria

Consistent with the DSM-IV criteria for substance dependence, exercise dependence was operationalized and measured as a multidimensional maladaptive pattern of exercise, leading to clinically significant impairment or distress, as manifested by three or more of the following:

(1) Tolerance: either a need for increased amounts of exercise to achieve the desired effect or a diminished effect occurs with continued use of the same amount of exercise

(2) Withdrawal: manifested by either the characteristic withdrawal symptoms for exercise (e.g., anxiety, fatigue) or the same (or closely related) amount of exercise is taken to relieve or avoid withdrawal symptoms

(3) Intention Effect: exercise is often taken in larger amounts or over a longer period than was intended

(4) Lack of Control: a persistent desire or unsuccessful effort to cut down or control exercise

(5) Time: a great deal of time is spent in activities necessary to obtain exercise (e.g., physical activity vacations)

(6) Reductions in Other Activities: social, occupational, or recreational activities are given up or reduced because of exercise

(7) Continuance: exercise is continued despite knowledge of having a persistent or recurrent physical or psychological problem that is likely to have been caused or exacerbated by the exercise (e.g., continued running despite injury).

The *Exercise Dependence Scale-21* items were based on the aforementioned 7 criteria (Hausenblas & Symons Downs, 2002a, 2002b)

## Administration of the Exercise Dependence Scale

The *Exercise Dependence Scale* can be administered in individual and group settings and has been used with respondents 18 years and older. Participants indicate their responses to each of the 21-items in the blank space provided after each item. They indicate their responses on a Likert scale anchored at the extremes with never (1) and always (6). The *Exercise Dependence Scale* requires approximately 5 minutes to complete.

### Scale Scoring

The proposed scoring procedure for the *Exercise Dependence Scale* is computer based which allows for immediate and accurate scoring. The computer scoring of the *Exercise Dependence Scale* is based on the SPSS (Statistic Package for the Social Sciences). A syntax file has been developed (see below) by the authors that enables immediate feedback to the *Exercise Dependence Scale* responses once the items are entered into SPSS. The syntax enables:

1. Computing a total and subscale mean scores for *Exercise Dependence Scale-21*. A higher score indicates more exercise dependent symptoms.
2. Categorizing participants into either at-risk for exercise dependent, nondependent-symptomatic, or nondependent-asymptomatic groups. The categorization into one of the three groups is generated by a scoring manual that consists of flowchart decision rules, in which items or combinations of items determine if an individual would be classified in the dependent, symptomatic, or asymptomatic range on each of the 7 DSM criteria. Individuals who are classified into the dependent range on 3 or more of the DSM criteria are classified as exercise dependence. The dependent range is operationalized as indicating a score of 5 or 6 for that item. Individuals who scored in the 3 to 4 range are classified as symptomatic. These individuals may theoretically be considered at-risk for exercise dependence. Finally, individuals who score in the 1-2 range are classified as asymptomatic.

## SPSS Syntax for the EDS-21

COMMENT TO COMPUTE EDS TOTAL AND SUBSCALE SCORES.

```
compute edstot = eds1+eds2+eds3+eds4+eds5+eds6+eds7+eds8+eds9+eds10+eds11+eds12+eds13+eds14
+eds15+eds16+eds17+eds18+eds19+ eds20+eds21.
compute withdr = eds1+eds8+eds15.
compute cont = eds2+eds9+eds16.
compute tol = eds3+eds10+eds17.
compute lack = eds4+eds11+eds18.
compute reduc = eds5+eds12+eds19.
compute time = eds6+eds13+eds20.
compute int = eds7+eds14+eds21.
```

COMMENT TO COMPUTE CLASSIFICATION INTO: AT-RISK, NONDEPENDENT-SYMPTOMATIC, AND NONDEPENDENT-ASYMPTOMATIC.

```
compute withde = withdr ge 15.
compute withs = withdr ge 7 and withdr le 14.
compute withas = withdr le 6.
```

```
compute contde = cont ge 15.
compute conts = cont ge 7 and cont le 14.
compute contas = cont le 6.
```

```
compute tolde = tol ge 15.
compute tols = tol ge 7 and tol le 14.
compute tolas = tol le 6.
```

```
compute lackde = lack ge 15.
compute lacks = lack ge 7 and lack le 14.
compute lackas = lack le 6.
```

```
compute reducde = reduc ge 15.
compute reduc s = reduc ge 7 and reduc le 14.
compute reduc as = reduc le 6.
```

```
compute timede = time ge 15.
compute times = time ge 7 and time le 14.
compute timeas = time le 6.
```

```
compute intde = int ge 15.
compute ints = int ge 7 and int le 14.
compute intas = int le 6.
```

```
compute dep = withde + contde + tolde + lackde + reducde + timede + intde.
compute depend = dep ge 3.
```

```
compute sym = withs + conts + tols + lacks + reduc s + times + ints.
compute sympt1 = sym ge 3 and dep lt 3.
compute sympt = sympt1 = 1 or ((sym+dep) ge 3).
```

```
compute asy = withas + contas + tolas + lackas + reduc as + timeas + intas.
compute asympt = asy ge 4.
```

```
if (sympt = 1 and depend = 1) sympt = 0.
if (sympt = 1 and asympt = 1) asympt = 0.
```

COMMENT ED 1 = AT-RISK FOR EXERCISE DEPENDENCE. ED 2 = NONDEPENDENT-SYMPTOMATIC. ED 3 = NONDEPENDENT-ASYMPTOMATIC.

```
if (depend = 1) ed = 1.
if (sympt = 1) ed = 2.
if (asympt = 1) ed = 3.
```

**Exercise Dependence Scale (EDS-21) Component Scoring**

<b>Component</b>	<b>Item Numbers</b>
Withdrawal Effects	1,8,15
Continuance	2,9,16
Tolerance	3,10,17
Lack of Control	4,11,18
Reduction in Other Activities	5,12,19
Time	6,13,20
Intention Effects	7,14,21

**Exercise Dependence Scale-21**  
 Hausenblas & Symons Downs (2002)

**Instructions.** Using the scale provided below, please complete the following questions as honestly as possible. The questions refer to current exercise beliefs and behaviors that have occurred in the past 3 months. Please place your answer in the blank space provided after each statement.

<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>
<b>Never</b>					<b>Always</b>

1. I exercise to avoid feeling irritable. \_\_\_\_\_
2. I exercise despite recurring physical problems. \_\_\_\_\_
3. I continually increase my exercise intensity to achieve the desired effects/benefits. \_\_\_\_\_
4. I am unable to reduce how long I exercise. \_\_\_\_\_
5. I would rather exercise than spend time with family/friends. \_\_\_\_\_
6. I spend a lot of time exercising. \_\_\_\_\_
7. I exercise longer than I intend. \_\_\_\_\_
8. I exercise to avoid feeling anxious. \_\_\_\_\_
9. I exercise when injured. \_\_\_\_\_
10. I continually increase my exercise frequency to achieve the desired effects/benefits. \_\_\_\_\_
11. I am unable to reduce how often I exercise. \_\_\_\_\_
12. I think about exercise when I should be concentrating on school/work. \_\_\_\_\_
13. I spend most of my free time exercising. \_\_\_\_\_
14. I exercise longer than I expect. \_\_\_\_\_
15. I exercise to avoid feeling tense. \_\_\_\_\_
16. I exercise despite persistent physical problems. \_\_\_\_\_
17. I continually increase my exercise duration to achieve the desired effects/benefits. \_\_\_\_\_
18. I am unable to reduce how intense I exercise. \_\_\_\_\_
19. I choose to exercise so that I can get out of spending time with family/friends. \_\_\_\_\_
20. A great deal of my time is spent exercising. \_\_\_\_\_
21. I exercise longer than I plan. \_\_\_\_\_

### References

American Psychiatric Association (1994). *Diagnostic and statistical manual of mental disorders* (4<sup>th</sup> edition). Washington, DC: Author.

Hausenblas, H. A., & Symons Downs, D. (2000a). A review of exercise dependence. *Psychology of Sport and Exercise*, 3, 89-123.

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