SELF-ESTEEM

Physical Self and Physical activity

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Self Esteem

Self-esteem

- Definitions
- Models of Self-esteem

Physical self-esteem

- Hierarchical model of physical self-esteem
- Conceptualization – Measurement
- Determinants of physical self-esteem

Exercise and self-esteem

- research findings

- Related theories
- Theory to practice

The Self-system

The distinction between the “Me” and the “I” – Self-concept / Self-esteem

I: the subject of self

Me: the object of self

The “I” is the element of the self that is capable of knowing and can make judgments about the “Me” of the self (James, 1892)

Self concept: the individual as known by the individual (Murphy, 1947)

“Me” as known by “I”– **descriptive**

abilities, activities, qualities, traits, values, roles adopted by the self

“I am a student” – “I am an athlete”

Self-esteem: awareness of good possessed by an individual (Campbell, 1984)

self-worth, being an OK person – **evaluative**

“I am good at maths” – “I am good at basketball”

Self-esteem: perceptions individuals have regarding their themselves, incorporating both descriptive and evaluative content (Harter, 1996)

Self-system & Self-esteem

Individuals are absorbed in a lifelong project to validate their sense of self

In order to produce a system that carries integrity and success two basic self-directing tasks are sought

self-enhancement
: making the best of its strengths and experience

self-consistency
: establishing the stability and coherence of the self under external and internal threat

Self-direction tasks

Self-enhancement

Directing the self toward domains that yield a possibility for success and positive affect

Discounting the importance of and withdrawing from domains that tend to produce failure and negative affect

Shaping self-serving attributions – expecting success and taking credit / being surprised at failure and facing it as a learning experience

Being self-affirmative when under threat

Maximizing social approval and support

Self-consistency

Development of feelings of unity, uniqueness, independence, and control that provide a framework on which the self can organise and make sense of its interactions

Low vs High Self-esteem

Low compared to high

Less likely to declare strong aspects of themselves
Less likely to disconfirm negative aspects of themselves

Less well-defined self-knowledge – unsure about their self-concept

Simpler and fewer independent elements of self-concept
Fewer opportunities to self-affirm when under threat

More areas producing deficits in their self-concept
Discrepancies between competences and importance attached to them

Perceptions of conditional social support

=> Deficit in self-enhancement strategies
Self-protective
Conservative in approaching achievement situations
Aiming in avoiding failure
Adopting self-serving bias

Self-esteem

Models of self-concept / esteem

Unidimensional approach (up to early 70s)
a diverse array of self-ratings of personal characteristics (physical, social)
global, general construct – limited

Basic Multidimensional approaches
perceived competence, moral approval, power (Epstein, 1973)
physical, moral-ethical, family, personal, social (Fitts, 1965)
academic, social, physical, occupational (Marsh & Shalveson, 1985)

Hierarchical Multidimensional models
organised at levels from general to specific

Higher levels being more stable and enduring
Lower levels being more situational and transient

=> Permit the study of single domains, while simultaneously maintaining the relevance of the domain to global self-esteem

Self-esteem

Hierarchical structure of self-concept/esteem (Shalveson, Hubner, & Stanton, 1976)

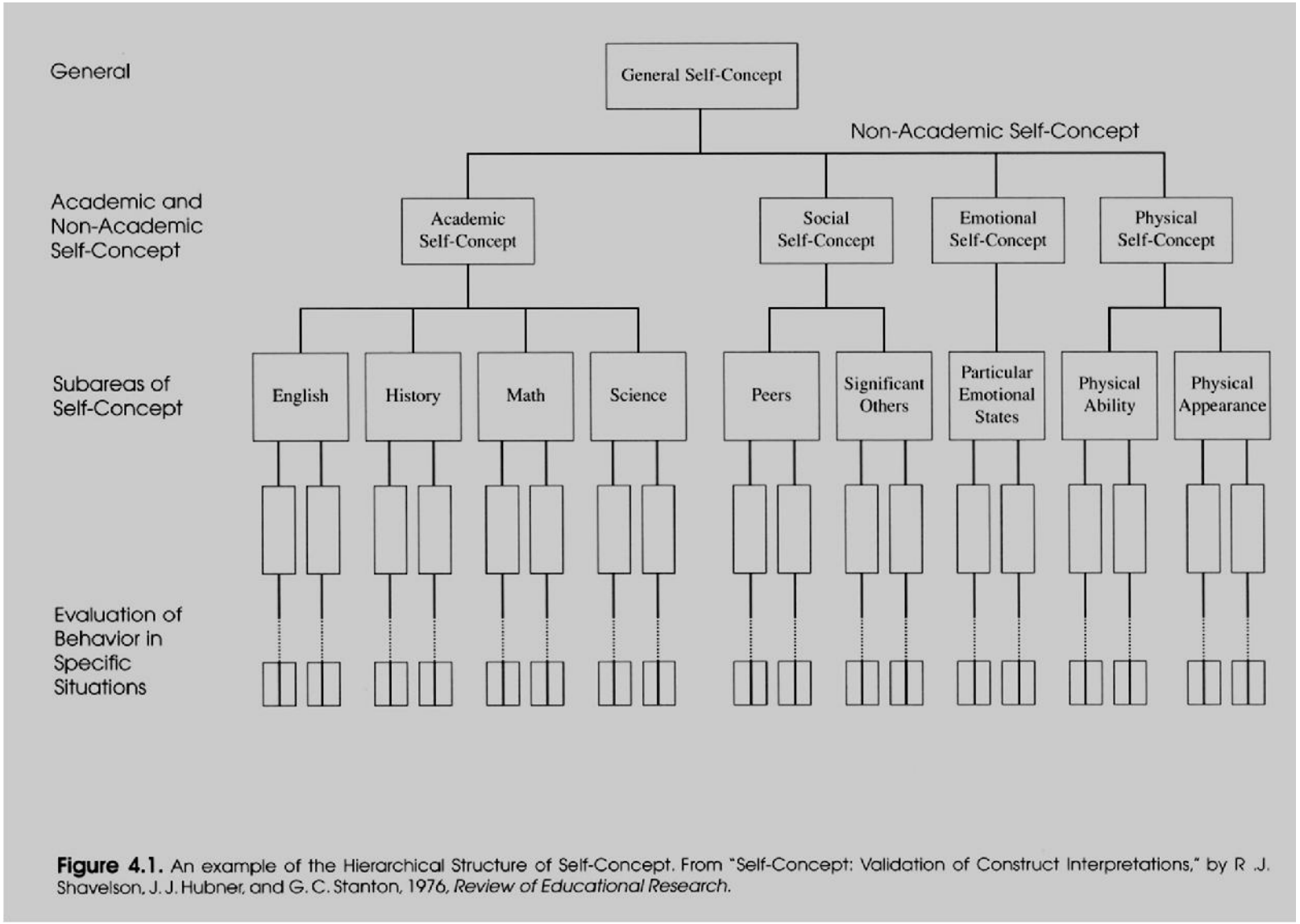


Figure 4.1. An example of the Hierarchical Structure of Self-Concept. From "Self-Concept: Validation of Construct Interpretations," by R .J. Shavelson, J. J. Hubner, and G. C. Stanton, 1976, *Review of Educational Research*.

Conceptualisation of Self-concept / esteem

Self-Description Questionnaire I (primary school students)
Self-Description Questionnaire II (high school students)
Self-Description Questionnaire III (young adults)

(Marsh and colleagues 1984 -)

Physical abilities	(I, II, III)
Physical appearances	(I, II, III)
Peer relationships	(I)
Opposite-sex relationships	(II, III)
Same-sex relationships	(II, III)
Parent relationships	(I, II, III)
Honesty/Trustworthiness	(II, III)
Spiritual values/religion	(III)
Emotional stability	(II, III)
Verbal/reading	(I, II, II)
Mathematic	(I, II, III)
Problem solving	(III)
General school	(I, II, III)
General self-esteem	(I, II, III)

Conceptualization of Self-concept / esteem

Self Perception Profile for Children (Harter, 1985)

Academic
Social
Behavioural conduct
Athletic ability
Appearance

- Adolescents (Harter, 1988)
- College students (Neeman & Harter, 1986)
- Adults (Messer & Harter, 1986)

Physical Self-concept / esteem

In Western societies the body, its appearance, and its capabilities has become central with regard to the private and public self

Multidimensional models have placed considerable significance on the physical aspects of oneself and their role in shaping global self-esteem

The physical self is becoming increasingly critical to human functioning

Physical Appearance

Physical Competences

Conceptualization of Physical Self-concept / esteem

Physical Self Perception Profile - PSPP (Fox & Corbin, 1989)

Model of Physical Self-Esteem/Worth, based on the proposed structure of Marsh et al. (1985) and the profile approach of Harter (1988)

General Physical Self-Worth
- Sport competence
- Physical conditioning
- Body attractiveness
- Physical Strength

Physical Self-concept / esteem

PSPP (Fox & Corbin, 1989)

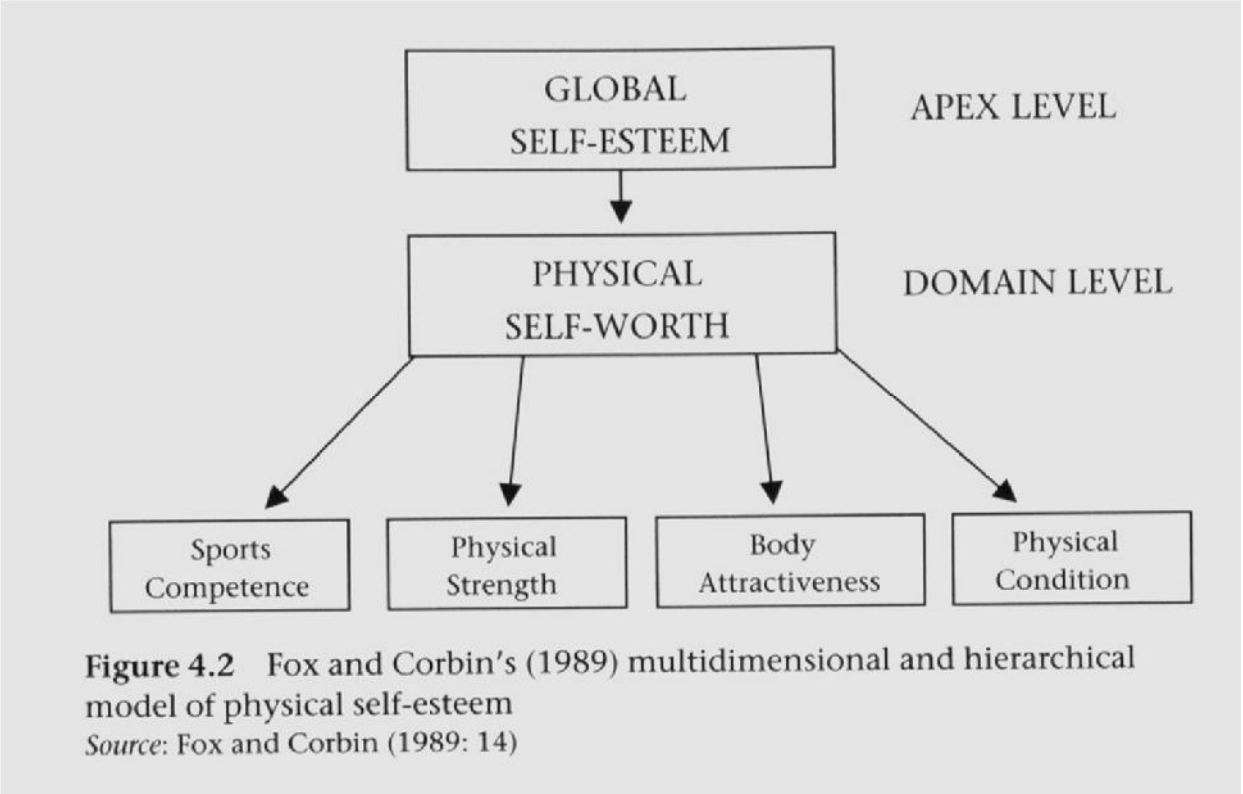


Figure 4.2 Fox and Corbin's (1989) multidimensional and hierarchical model of physical self-esteem
Source: Fox and Corbin (1989: 14)

Physical Self-concept / esteem

PSPP (Fox & Corbin, 1989)

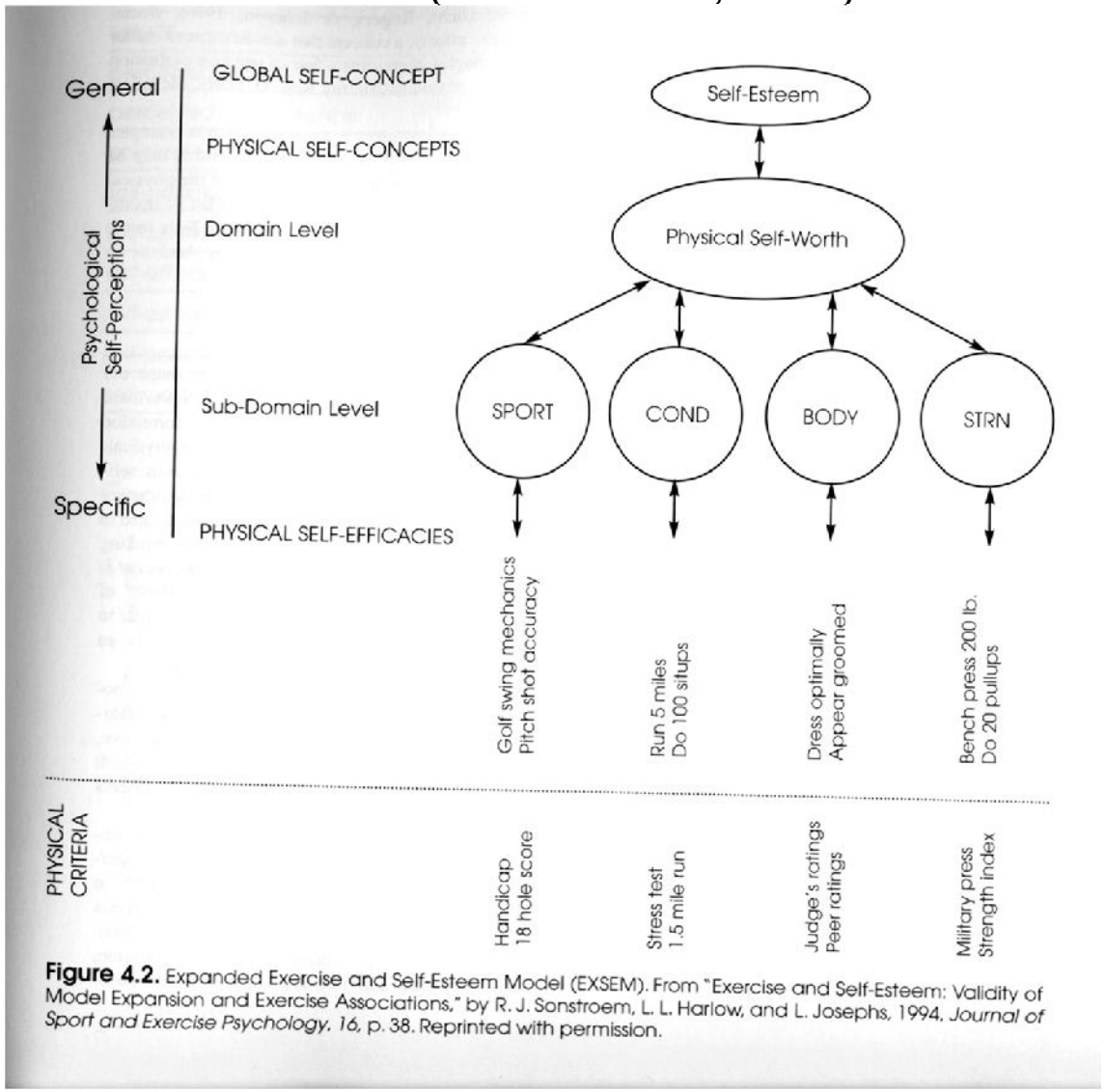


Figure 4.2. Expanded Exercise and Self-Esteem Model (EXSEM). From "Exercise and Self-Esteem: Validity of Model Expansion and Exercise Associations," by R. J. Sonstroem, L. L. Harlow, and L. Josephs, 1994, *Journal of Sport and Exercise Psychology, 16*, p. 38. Reprinted with permission.

Physical Self-concept / esteem

Fox, 1990

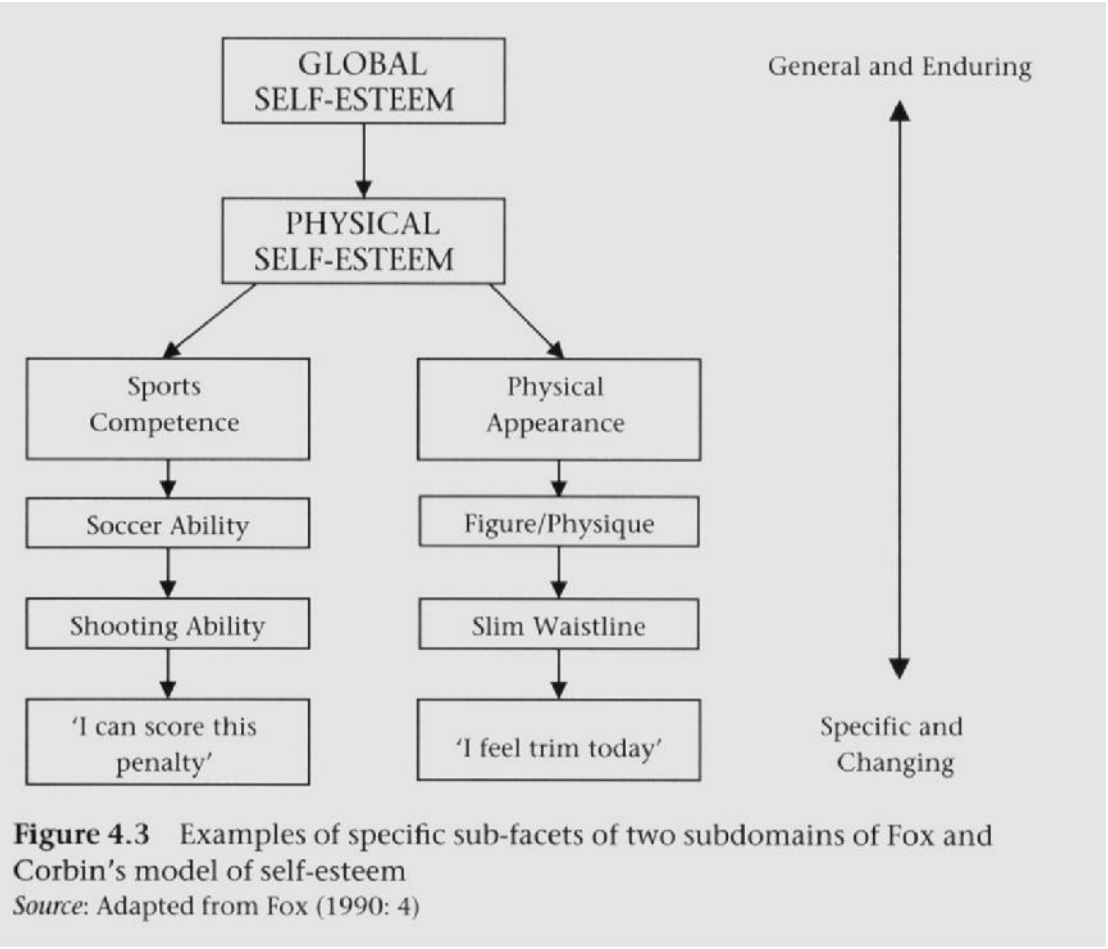


Figure 4.3 Examples of specific sub-facets of two subdomains of Fox and Corbin's model of self-esteem
Source: Adapted from Fox (1990: 4)

Physical Self-esteem
PSPP validation (Hagger et al., 2005)

Method

<u>Sample</u>

2,949 students

1,551 girls
1,398 boys

914 seventh-grade
1,013 eighth-grade
1,042 ninth-grade

Mean age = 12.93

<u>Instruments</u>

PSPP-children (Whitehead, 1995)

Global Self-esteem (Harter, 1988)

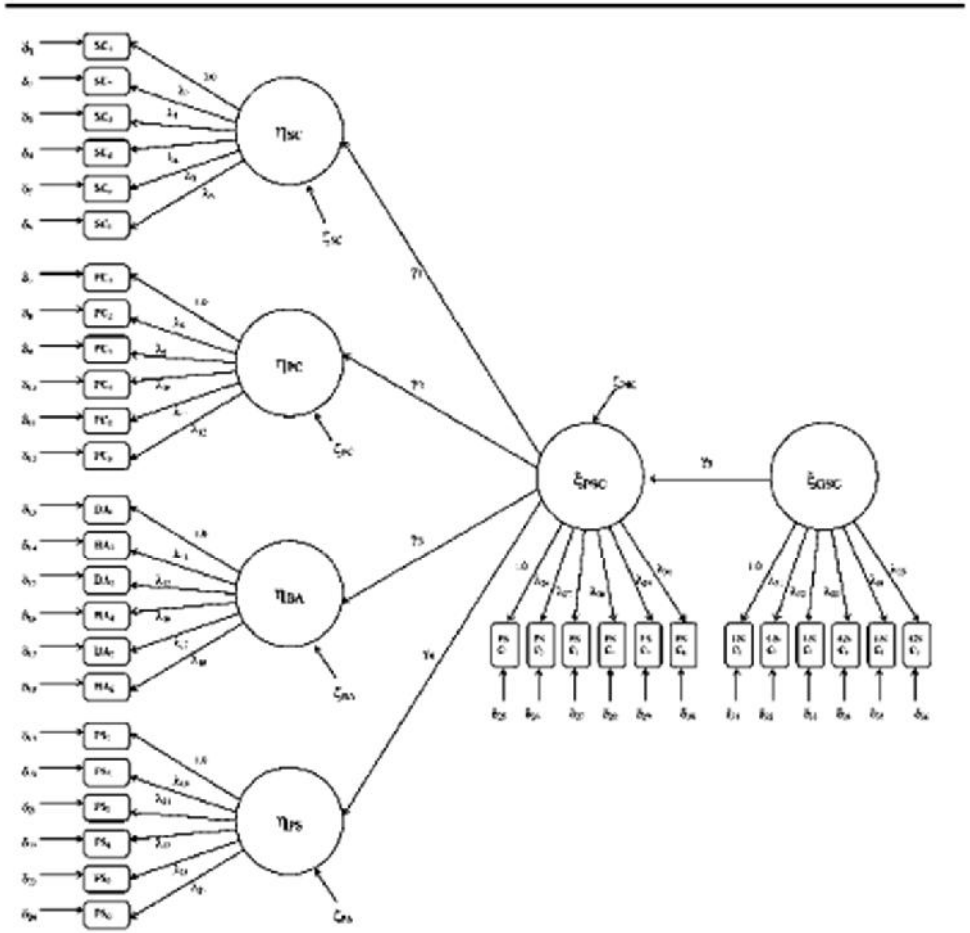


Figure 1. Structural equation model showing relations between the four physical self-perception subdomain factors of sports competence (SC), physical conditioning (PC), body attractiveness (BA), and physical strength (PS), the general physical self-concept (PSC) factor at the domain level, and the global self-concept (GSC) factor at the superordinate level.

Physical Self-esteem
PSPP validation (Hagger et al., 2005)

Parameter	Girls	Boys	Seventh Grade	Eighth Grade	Ninth Grade
Physical self-concept → sports competence	.863	.902	.914	.825	.874
Physical self-concept → physical condition	.822	.828	.858	.815	.856
Physical self-concept → body attractiveness	.826	.837	.901	.845	.821
Physical self-concept → strength	.597	.738	.808	.620	.674
Global self-concept → physical self-concept	.866	.861	.864	.899	.781

Note. C-PSPP = Physical Self-Perception Profile for Children.

Physical Self-esteem
PSPP sex and age differences (Hagger et al., 2005)

	Gender		Grade		
	Girls[a]	Boys	Seventh Grade[a]	Eighth Grade	Ninth Grade
ξ_{SC}	.000	.280[b]	.000	–.011	–.005
ξ_{PC}	.000	.181[b]	.000	–.041	–.017
ξ_{BA}	.000	.243[b]	.000	–.044	–.084[c]
ξ_{PS}	.000	.223[b]	.000	–.035	–.083[c]
ξ_{PSC}	.000	.238[b]	.000	–.070[c]	–.095[c]
ξ_{GSC}	.000	.195[b]	.000	–.063[c]	–.038

Note. C-PSPP = Physical Self-Perception Profile for Children; SC = sports competence; PC = physical conditioning; BA = body attractiveness; PS = physical strength; PSC = general physical self-concept; GSC = global self-concept.

a. Latent factor mean fixed to zero to act as reference group.

b. Statistically significant mean difference compared with girls sample ($p < .05$).

c. Statistically significant mean difference compared with seventh-grade sample ($p < .05$). There were no statistically significant mean differences in factor means across the eighth- and ninth-grade samples.

Conceptualization of Physical Self-concept / esteem

Physical Self Description Questionnaire (PSDQ, Marsh & Redmayne, 1994)

Esteem

- Global Physical Self Concept
  - Appearance
  - Strength
  - Condition / Endurance
  - Flexibility
  - Health
  - Coordination
  - Physical Activity
  - Body Fat
  - Sport

Conceptualization of Physical Self-concept / esteem
PSDQ validation (Marsh & Redmayne, 1994)

Method

<u>Sample</u>

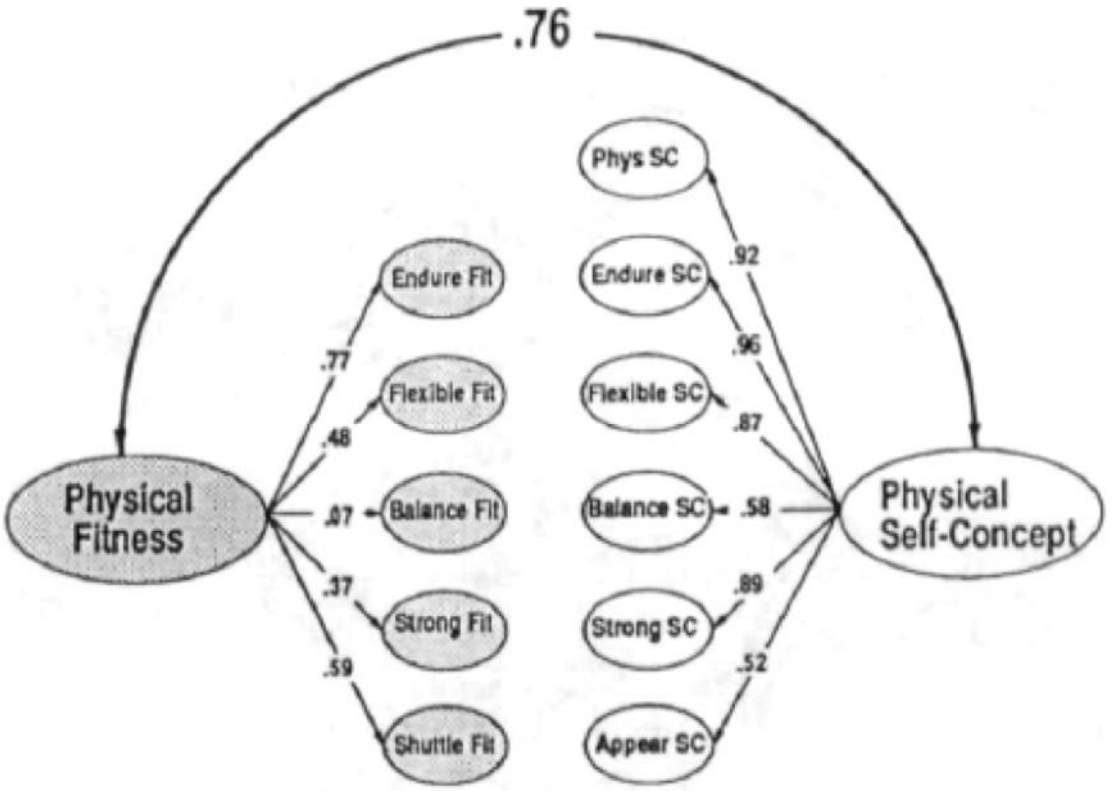
105 female students

13-14 years old

<u>Instruments</u>
Selected scales from the SDQ
(Marsh, 1990)

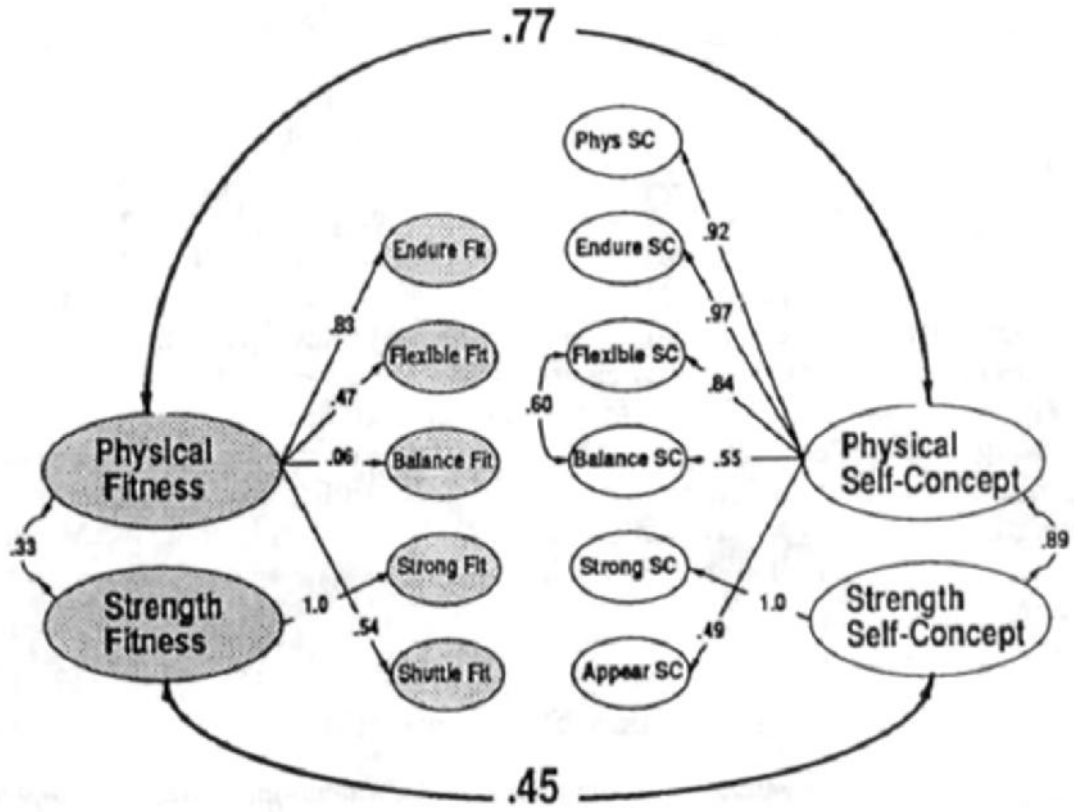
<u>Physical tests</u>
Basic Fitness Tests
(Fleishman 1964)

12-Minute Run Test
(Cooper, 1968)



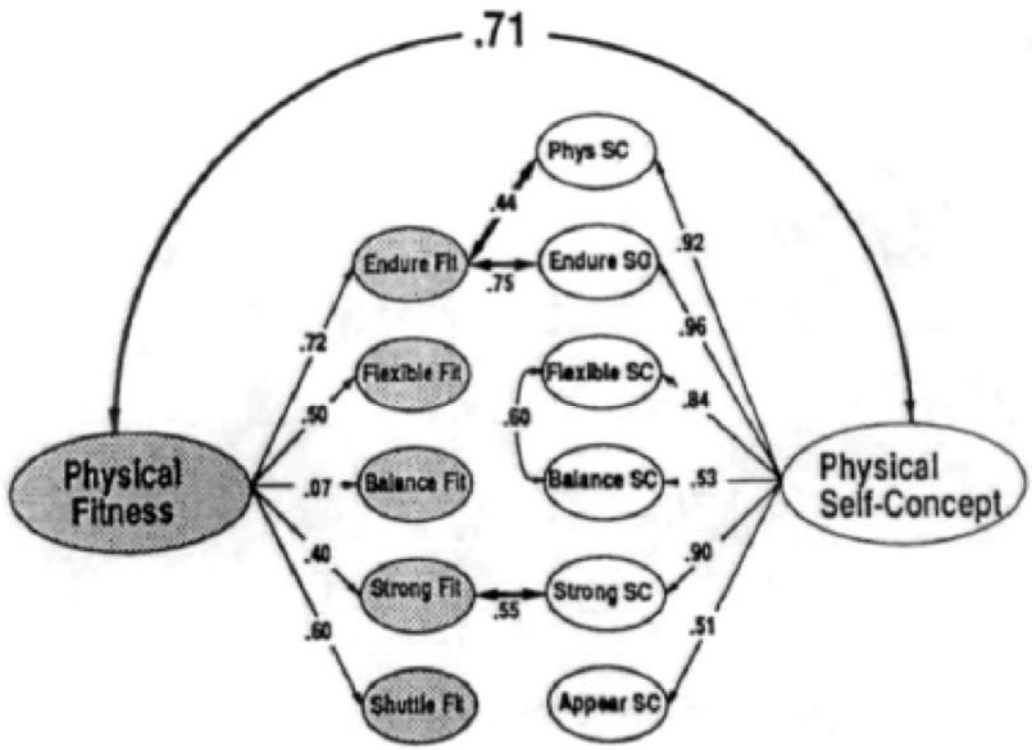
Model A: $\chi^2(396) = 649$, RNI = .883, TLI = .872

Conceptualization of Physical Self-concept / esteem
PSDQ validation (Marsh & Redmayne, 1994)



Model B: $\chi^2(392) = 605$, RNI = .902, TLI = .891

Conceptualization of Physical Self-concept / esteem
PSDQ validation (Marsh & Redmayne, 1994)



Model C: $\chi^2(392) = 601$, RNI = .904, TLI = .893.

Physical Self-concept / esteem

Some conclusions on the conceptualisation of the Physical Self

Physical self is multidimensional

There are several levels of specificity within the physical domain from state like (e.g. self-efficacy), to general physical competence, to global physical self-worth

The physical self is at least partly hierarchical (even though longitudinal studies have failed to support it so far)

The physical self may develop as a set of specific identities (e.g. athlete, exerciser) which are accompanied by psychological and behavioural profiles

Physical self-worth is a significant determinant of global self-esteem

Physical Self-concept / esteem

Physical Appearance

The availability and the display of the body makes it central in peoples' life from the early years

Height, weight, facial features, hair, clothing are increasingly important even in childhood

Attractiveness core feature of physical self-concept

The body significant determinant of social interaction, sexuality, functionality

Physical competences

Less influential in terms of global esteem

Physical Self-esteem

Perceived Importance (Harter, 1990; Fox, 1990)

Importance attached to self-esteem components determines the impact of each component to global self-esteem

=> Those attaching little importance to components of esteem they perceive as low, prevent deficits in global self-esteem

=> Those attaching high importance to components of self-esteem they perceive as low, are liable to *importance-competence discrepancies* and may suffer decreased in global self-esteem

Competence in components rated as important are highly related to global self-esteem - Competence in components rated as unimportant are lowly related to global self-esteem

High discrepancies between perceptions of competence and importance produce low self-esteem - Low discrepancies between perceptions of competence and importance produce high self-esteem

* Importance is influenced by several personal and cultural characteristics

Physical Self-esteem

Perceived Importance Profile for PSPP (Fox, 1990)

Low scores in perceived sport competence and perceived strength by females are accompanied by low perceived importance – discounting hypothesis

Low scores in perceived appearance by females are accompanied by high perceived importance – cultural dominance

Physical Self-esteem

Alternative determinants (Fox, 1997)

Unconditional self-worth

self-worth build around beauty, achievement and acquisitions is superficial, unstable and short lived – cannot last indefinitely

realization of worth is based on knowing that the love and regard of others is unconditional and on accepting personal uniqueness

True vs Contingent self-esteem

contingent self-esteem relies on social comparison and meeting external demands – constant drive to prove oneself (characteristic of modern western societies)

true self-esteem relies on autonomy, an inner sense of efficacy and relatedness rather than matching external demands

contingent self-esteem is fragile as there are always others that are better, physical competencies and appearances decline with age

true self-esteem is more secure and stable

Physical Self-esteem

Alternative determinants (Fox, 1997)

Self-determination (resembling true self-esteem)

extrinsic motives are not integrated in the self-system and do not contribute to autonomy, but create a self-esteem contingent on adequacy

intrinsic motives are integrated and compatible with one's identity, are self-enhancing and self-confirming leading in true self-esteem

Self-acceptance (resembling unconditional self-worth)

"respecting oneself, including one's admitted faults"
self-accepting individuals may rate themselves low on competences or attributes in self-perception profiles, but still rate themselves high on self-esteem

Exercise & Physical Self-esteem

Self-Esteem → Exercise (self-enhancement model)

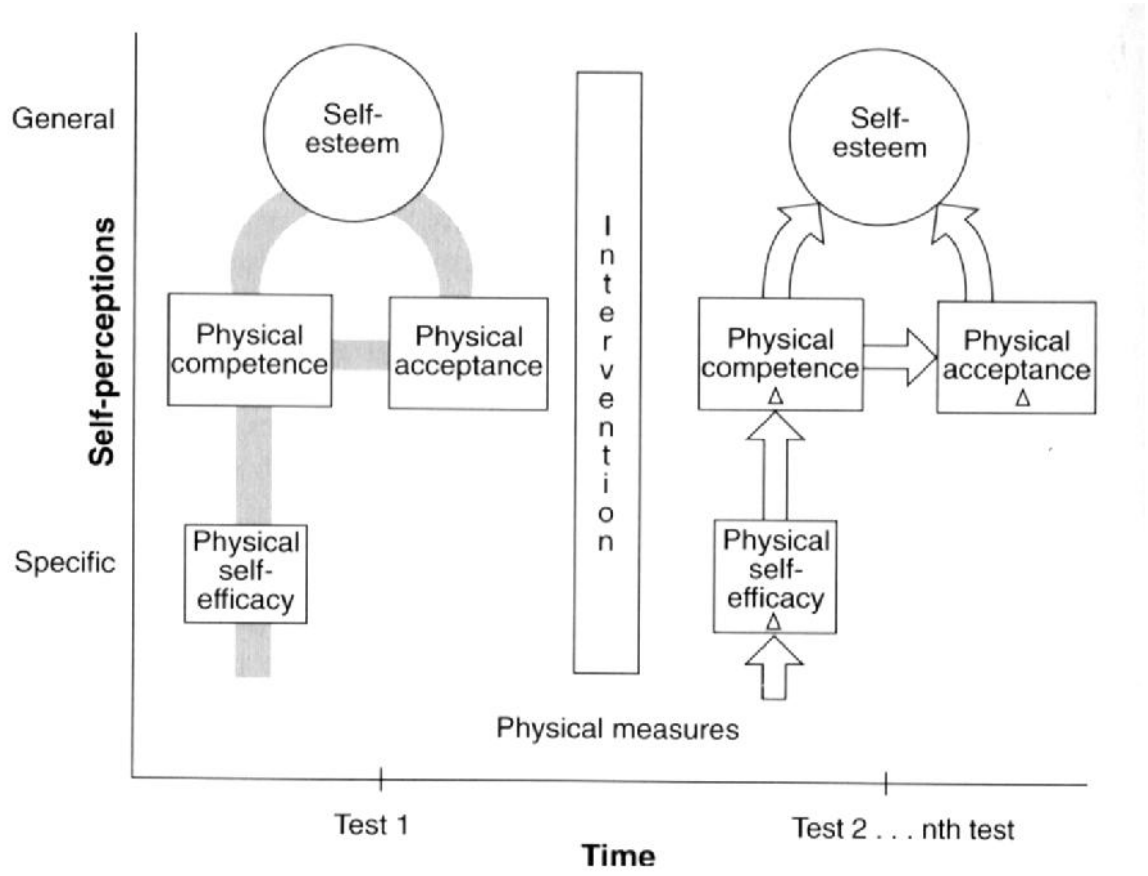
Physical self-esteem may act as an antecedent of exercise behaviour because perceptions of competence in a given domain, or how confident people are that that exercise will enhance their sense of self, will lead a person to seeking those sensations of achievement

Exercise → Self-esteem (skill development model)

Exercise experiences and perceptions of success in relevant fields may enhance individuals' perceptions of physical competence and subsequently physical and possibly global self-esteem

Exercise & Physical Self-esteem

The Exercise – Self-Esteem Model (Sonstroem & Morgan, 1989)



The Exercise – Self-Esteem Model (Sonstroem & Morgan, 1989)

Components

Physical performance
performance on tasks

Perceived physical self-efficacy
expectations that one can successfully perform a particular task

Perceived physical competence
self-evaluation of overall level of physical ability

Self-acceptance
personal regard and liking people hold for themselves and their attributes irrespective of their levels of perceived competence

Self-esteem

Left side: pre-intervention hypothesized relationships between the constructs
Right side: post-intervention (experiences of competence) causal relationships

The Exercise – Self-Esteem Model (Sonstroem & Morgan, 1989)

Early Findings

Sonstroem et al. (1991) – middle aged and older adults – physical activity task

Self-efficacy related to perceived competence
Perceived competence related to self-esteem
Self-efficacy not directly related to self-esteem

Fox & Corbin (1989) – college students

PSPP dimensions discriminated effectively between exercisers and non-exercisers

The Exercise – Self-Esteem Model (Sonstroem & Morgan, 1989)

Structural model (Sonstroem et al., 1994)

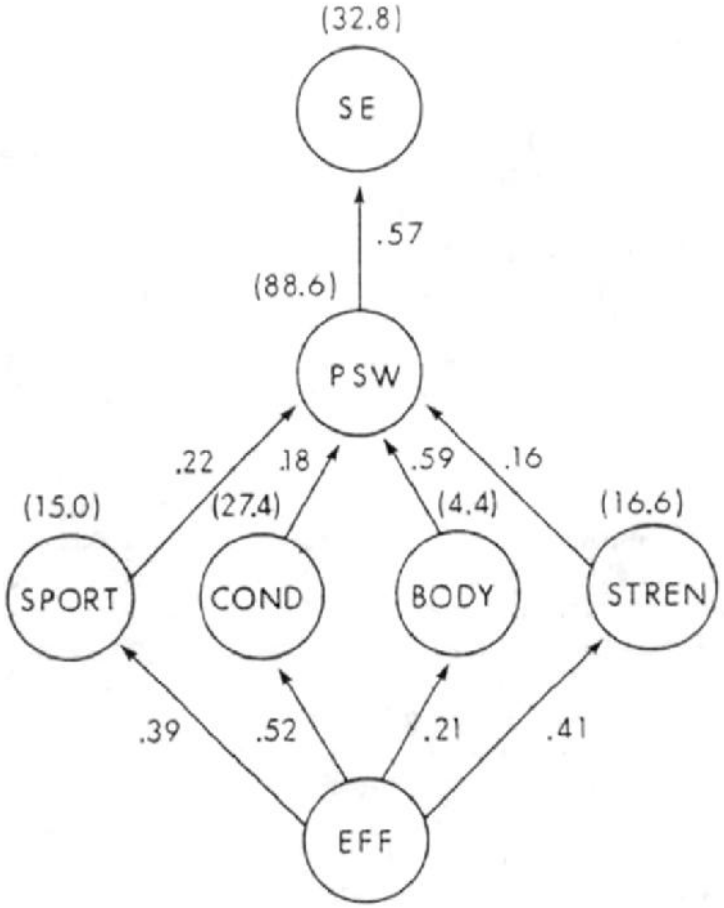
Method

Sample
216 adult females
aerobic dance classes
mean age 38.4 years

Instruments
General Self-Worth
(Messer & Harter, 1986)

PSPP
(Fox & Corbin, 1989)

Self-efficacy
jogging, sit-ups, vigorous dancing



The Exercise – Self-Esteem relationship

Meta-analysis

McDonald & Hodgdon (1991)

Adults – aerobic exercise – published studies

Positive moderate relationship between self-esteem and exercise

The Exercise – Self-Esteem relationship

Meta-analysis (Spence et al., 2005) - 113 studies (published and unpublished)

Hypothesized moderators

• Changes in physical fitness

exercise participants who experience changes in physical fitness should experience larger changes in GSE as opposed to those who do not experience such changes

• Initial fitness level

less physically fit individuals should experience more of a change in GSE as a result of exercising compared to more physically fit individuals

• Initial self-esteem level

Participants with initially lower GSE scores should experience the most change in self-esteem as a result of exercise and changes in fitness

• Dose of exercise (frequency, duration, intensity, and length of program)

Programs that take place over a longer period, with exercise bouts of higher frequency, intensity, and duration, should lead to larger changes in GSE vs. programs of shorter length with lower doses of exercise

The Exercise – Self-Esteem relationship

Meta-analyses (Spence et al., 2005)

Additional moderators tested

- Characteristics of the sample (age, sex, population, health status)
- Methodology (self-term, questionnaire, participant assignment, control condition)
- Treatment (type of intervention, mode of exercise, type of fitness measure).

The Exercise – Self-Esteem relationship

Meta-analyses (Spence et al., 2005)

Results

<u>Overall effect</u>
Exercise participation leads to small yet significant increases in GSE (effect size = .23)

<u>Hypothesized Moderators</u>

- Change in physical fitness

Table 1 Summary Statistics for Hypothesized Moderators of Exercise and Self-Esteem

Variable	Q_b	k	$d+$	SE	95% CI	Q_w
Initial fitness level	3.10					141.04
Low		53	.29	.05	.20/.38	60.71
Moderate		73	.20	.03	.14/.26	80.33
Initial self-esteem level	0.91					136.52
Low		28	.28	.06	.16/.41	25.83
Moderate		98	.22	.03	.17/.27	110.69
Exercise intensity	0.81					125.36
Low (< 45%)		21	.26	.07	.13/.40	29.85
Moderate		70	.21	.03	.15/.28	76.56
High (70%+)		25	.26	.05	.15/.37	18.95
Exercise frequency	3.27					125.41
< 3 times/wk		33	.22	.05	.13/.31	45.43
3 times/wk		63	.23	.04	.15/.30	67.91
> 3 times/wk		14	.36	.07	.22/.50	12.07
Exercise duration	2.18					128.71
0–30 min		20	.32	.08	.15/.48	13.25
31–45 min		24	.19	.06	.07/.31	42.72
46–60 min		47	.24	.04	.16/.32	49.68
> 60 min		7	.13	.13	−.13/.38	7.94
Length of program	0.52					113.59
< 9 wks		39	.24	.05	.14/.33	61.48*
9 to 14 wks		53	.26	.04	.18/.33	52.72
> 14 wks		20	.21	.05	.11/.31	14.51
Change in physical fitness	3.79*					63.20
Yes		59	.32	.04	.25/.40	52.68
No		16	.15	.08	.00/.31	10.53

Note: CI = confidence interval; Q_b = measure of between-group effect; k = number of effect sizes; $d+$ = average weighted effect size; SE = standard error of $d+$; 95% CI = 95% confidence intervals for $d+$; Q_w = measure of within-group homogeneity.

* $p < .05$

The Exercise – Self-Esteem relationship

Meta-analyses (Spence et al., 2005)

Results

<u>Additional Moderators</u>
No significant results

Table 2 Summary Statistics for Additional Moderators of Exercise and Self-Esteem

Variable	Q_b	k	$d+$	SE	95%CI	Q_w
Sample Variables						
Age	2.01					113.63
Young		58	.24	.03	.17/.30	64.41
Middle-age		32	.30	.06	.19/.41	33.64
Older adults		18	.18	.08	.03/.33	15.58
Sex	1.00					143.31
Women		57	.21	.04	.14/.29	76.18*
Men		21	.28	.05	.17/.38	15.57
Mixed sample		49	.22	.04	.15/.30	51.56
Population	8.02					136.29
Public		48	.32	.04	.24/.41	44.00
Students		55	.19	.03	.12/.25	64.43
Patients		15	.28	.09	.10/.46	20.54
Other		9	.12	.09	−.06/.30	7.31
Health status	0.64					143.67
Healthy		97	.22	.03	.17/.27	111.13
Physically unhealthy		15	.23	.08	.06/.40	8.33
Psychologically unhealthy		14	.29	.08	.13/.46	24.21*
Methodological Variables						
Self term	0.05					142.29
Self-esteem		44	.23	.04	.14/.31	49.48
Self-concept		83	.24	.04	.18/.30	92.81
Scale	3.52					140.87
R-SES		27	.18	.05	.08/.28	20.57
TSCS		67	.24	.03	.18/.31	65.97
SCS		8	.39	.10	.18/.59	13.22
Other		26	.20	.05	.10/.31	41.11*
Publication status	0.22					144.17
Published		48	.24	.04	.17/.32	40.59
Unpublished		80	.22	.03	.16/.28	103.58*
Control group	0.16					144.22
No treatment		110	.23	.03	.18/.28	121.33
Other treatment		13	.24	.08	.07.40	17.83
Some exercise		5	.18	.14	−.09/.44	5.06
Group assignment	6.60					137.82
Random		54	.26	.04	.18/.34	54.63
Matching		9	.48	.11	.26/.71	6.05
Nonequivalent		65	.20	.03	.14/.26	77.14

The Exercise – Self-Esteem relationship

Meta-analyses (Spence et al., 2005)

Results

<u>Additional Moderators</u>
No significant results

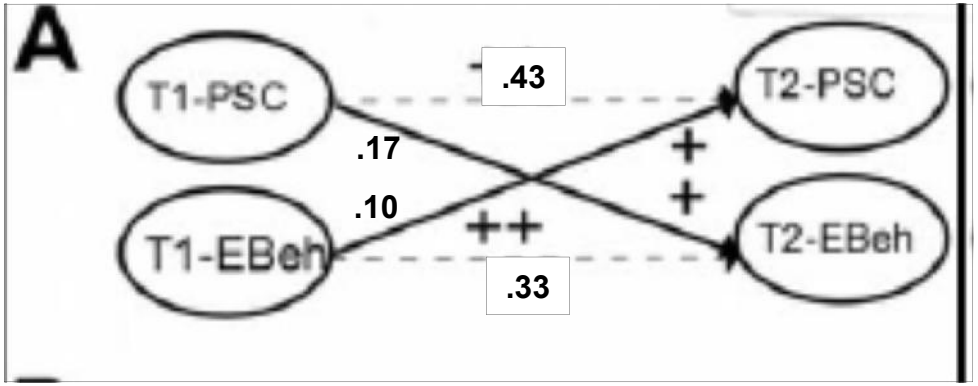
Variable	Q_b	k	$d+$	SE	95%CI	Q_w
Study quality	5.29					139.10
Poor		55	.17	.04	.10/.24	73.60*
Fair		52	.27	.04	.20/.35	52.11
Good		21	.31	.07	.18/.45	13.39
Treatment Variables						
Type of program	14.80**					129.58
Exercise [a]		109	.26	.03	.21/.31	111.26
Lifestyle [a]		8	.36	.11	.13/.58	7.54
Skills training [b]		11	−.03	.07	−.17/.11	10.79
Exercise mode	4.78					131.85
Aerobic		59	.25	.04	.18/.32	68.56
Aerobic & other		31	.22	.05	.12/.32	25.42
Martial arts		4	.00	.12	−.22/.23	2.85
Flexibility		9	.20	.10	.00/.40	12.46
Strength		15	.26	.06	.14/.37	20.83
Mix		5	.18	.10	−.02/.38	1.72
Type of fitness measure	4.23					48.44
Aerobic		27	.32	.06	.20/.44	33.68
Body composition		4	.38	.19	−.01/.76	6.13
Strength		8	.37	.08	.22/.53	2.11
Other		5	.19	.15	−.11/.48	2.15
Combined fitness		5	.18	.11	−.03/.38	2.16
Combined fitness & body comp.		10	.41	.09	.24/.58	2.22

Note: CI = confidence interval; Q_b = measure of between-group effect; k = number of effect sizes; $d+$ = average weighted effect size; SE = standard error of $d+$; 95% CI = 95% confidence intervals for $d+$; Q_w = measure of within-group homogeneity; R-SES = Rosenberg Self-Esteem Scale; TSCS = Tennessee Self-Concept Scale; SCS = Self-Cathexis Scale. [a, b] Variables with different superscripts differ significantly at $p < .01$.
*$p < .05$; **$p < .001$

The Exercise – Self Esteem relationship

Reciprocality (Marsh, Papaioannou & Theodorakis, 2006)

PSC: Self esteem / Ebeh: Exercise behavior
T1 (time 1): September – October / T2 (time 2): April - May



T1 physical self-concept predicted T2 exercise behaviour
T1 exercise behaviour predicted T2 physical self-concept

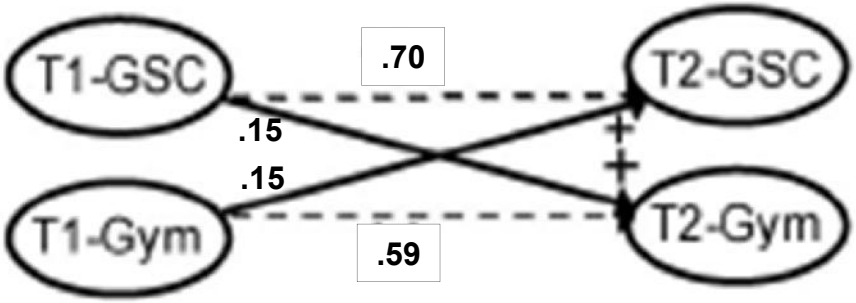
For exercise behaviour and Self esteem Girls had lower scores than boys at T1 and T2
Exercise behaviour and Self esteem declined with age

For exercise behaviour, the sex difference grew larger with age

The Exercise – Self Esteem relationship

Reciprocality (Marsh, Chanal & Sarazin, 2006)

GSC: Self esteem / Gym: Gymnastics performance
T1: before training (week 1) / T2: after training (week 10)



T1 physical self-concept predicted T2 gymnastics performance
T1 gymnastics performance predicted T2 physical self-concept

Age related to performance at T1 and T2
Boys higher self-esteem than girls in T1 and T2
Boys lower gymnastics performance than girls in T1 and T2

Cognitive Theories of Motivation & Self-esteem

Competence motivation theory (Harter, 1978)

individuals are motivated in achievement domains in which they can display competence, particularly if they also feel intrinsically motivated towards the behaviour

Goal perspectives theory (Duda, 1993)

differential conceptualization of competence
competence as ability – competence as learning and mastery
self-referenced vs comparative criteria
task orientation vs ego orientation
competence criteria important for the explanation of competence

interaction between goal orientations and goals that appear to be dominant in the achievement environment (motivational climate) important determinant of competence

Cognitive Theories of Motivation & Self-esteem

Self-efficacy – Social Cognitive Theory (Bandura, 1986)

- reciprocal relationship between self-efficacy and behaviour
- sources of self-efficacy – prior success, modelling, verbal persuasion

Self-determination theory (Deci & Ryan, 1995)

- process of internalization – from external to intrinsic regulation
- complementary of self-enhancement hypothesis
- competence – behaviour relationship

Theory to Practice

DO emphasize task mastery
personal improvement

DON'T emphasize peer comparison
winner-loser situation

DO promote self-determination
decision making and choice rather than anarchy

DON'T provide performance-contingent support
conditional acceptance

DO give encouragement and technical feedback
reinforce mastery efforts

DON'T rely on extrinsic rewards
promote intrinsic reasons for participation

DO promote fun and excitement
fun is the safer route for participation

DO play
better long-term effect than training

Theory to Practice

Critical for younger populations

Effort

Learning

Attainable Goals

Personal standards

Reality

Health & Fitness

Key texts

Fox, K.R. (1997). *The physical self: from motivation to well-being*. Champaign, Ill., Human Kinetics.

Fox, K.R. (2002). Self-perceptions and sport behaviour. In T.S. Horn, (ed.), *Advances in sport psychology* (2nd ed). Champaign, Ill., Human Kinetics.

Marsh, H.W. (2007). Physical self-concept and sport. In S. Jowett & D. Lavallee, (eds), *Social psychology in sport*. Champaign, IL: Human Kinetics.