



HESE: Health Enhancing Sport Exercise Programs

An essential and effective replenishment of HEPA



1. The target group: Sedentary adult population
2. The recommendation: Health enhancing physical activity (HEPA) including exercise (HESE)
3. The evidence: health-effects of HEPA & HESE
4. The difference is quality:
 - ❖ Quality-Parameters
 - ❖ Quality by Structuring Sport Exercise Programs (aims and sequences)
 - ❖ Other (selected) quality Parameters of Sport Exercise Programs
5. The long way: Four steps from inactivity to activity and the necessity of combined interventions.
6. The problem of naming: Health Enhancing Sport Exercise Programs (HESE)?



1. The target group: Sedentary Adults



Of the adults in Germany..

....70% - 98% say, that they are active for at least 30 minutes every day;

....about 40% claim, that they are regular active in sports;

...but only about 20% accumulate at least 800kcal with moderate "sport-activities" (including for example riding a bicycle).



The target group "sedentary adults" is large (not only in Germany) – up to 80% of the adult population.



EU-Office (2010). Physical Activity in Europe. EOC-EU-Office: Monthly Report, March 2010.

Rütten, A., Abu-Omar, K., Lampert, L. & Ziese, T. (2005). Körperliche Aktivität.

In: Bd. Gesundheitsberichterstattung des Bundes, Heft 26, Berlin: Robert-Koch Institut.

Woll, A. (2006). Sportliche Aktivität, Fitness und Gesundheit im Lebenslauf. Hofmann-Verlag: Schorndorf.



Sedentary adults...



- ❖ .. are more often affected by risk factors of the metabolic syndrome (obesity, lipid metabolism disturbance, hypertension, prediabetes);
- ❖ .. suffer more often from complaints and diseases of the muscle-skeleton-system (e.g. back pain, osteoporosis);
- ❖ .. have more often problems in the psychic and somatic area (e.g. depressive mood)
- ❖ .. have more often a low self-esteem, a low state of well-being and are less satisfied.

The target group "sedentary adults" is affected by more risk factors, complaints and other psycho-social problems than physical active adults.

Bouchard, C., Blair, S.N. & Haskell, W. L. (2007). Physical Activity and Health. Champaign: Human Kinetics (Part III, p. 141–300)

Janke, A. (2009). Gesundheitsförderung bei Patienten mit Metabolischem Syndrom. Hamburg: Verlag Dr. Kovav:

Pahmeier, I., Tiemann, M. & Brehm, W. (2006). Multiple Beschwerden. In: Bös. K. & Brehm, W. (Hrsg.) Handbuch Gesundheits-sport. Schorndorf: Hofmann Verlag, 2. Aufl., 427 –440.

Vuori, I. (2004). Physical inactivity as a disease risk and health benefits of increased physical activity. In P. Oja & J. Borms (Eds.), Health enhancing physical activity (pp. 29-95). Oxford: Meyer & Meyer.



2. The recommendation:

Health enhancing physical activity (HEPA) including exercise (HESE)

Some examples of guidelines and recommendations

American College of Sports Medicine (2006). ACSM's Guidelines for Exercise Testing and Prescription. Philadelphia etc: Lippincott Williams & Wilkins, 7th Ed.

US Department of Health & Human Services:

2008 Physical Activity Guidelines for Americans

(www.health.gov/PAGuidelines)



Centers for Disease Control and Prevention (2008) Physical Activity for Everyone - Recommendations <http://www.cdc.gov/nccdphp/dnpa/physical/recommendations/index.htm>. Accessed 20/10/08

WHO-Europe (2006). Physical Activity and health in Europe.

Evidence for Action

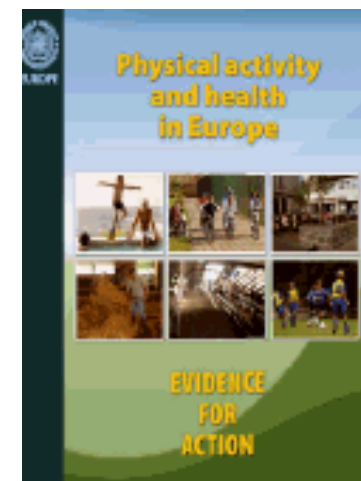
WHO-Europe (2007). Steps to health. A European Framework

To Promote Physical Activity For Health.

WHO Regional Office for Europe: Copenhagen.

EU-Leitlinien für körperliche Aktivität. 4. Fassung 2008

(<http://ec.europa.eu/sport>)





The recommendation: Health enhancing physical activity (HEPA) including exercise (HESE)

What do we recommend adults?

(despite substantial differences in the published recommendations)

- (1) Accumulate at least two hours per week (or 30 minutes on most of the days) of **everyday life physical activity** (e.g. brisk walking, stair-climbing, cycling) or of **sport activity** (e.g. playing golf, tennis or volleyball) requiring at least moderate physical intensity.
- (2) Accumulate additionally at least 90 minutes of “structured physical activity” per week – that means **sport exercise** stimulating effective the fitness factors endurance, strength, flexibility, coordination, relaxation.





3. The evidence: health-effects of HEPA & HESE



Population based studies and some longitudinal studies show evidence

- ❖ for preventive effects (reduction of risk factors of the metabolic syndrome);
- ❖ for an improvement of the quality of life (better fitness, less complaints, better emotional status).

But these studies also show that

- ❖ **everyday life activities** are less effective than **sport activities**;
- ❖ sport activities are less effective than **sport exercise programs**;
- ❖ **behavior change** from sedentary to active behavior does not come about automatically.

Abu-Omar, K. & Rütten, A. (2006). Sport oder körperliche Aktivität im Alltag. Zur Evidenzbasierung von Bewegung und Gesundheitsförderung. Bundesgesundheitsblatt 11, 1162 – 1168.

Bouchard, C., Blair, S.N. & Haskell, W. L. (2007). Physical Activity and Health. Champaign: Human Kinetics

Brehm, W., Wagner, P., Sygusch, R., Hahn, U. & Janke, A (2005). Health Promotion by means of Health Sport. A framework and a controlled intervention study with sedentary adults. *Scandinavian Journal of Medicine and Science in Sports*. 15(1):13-20

Oja, P. & Borms, J. (Eds.) (2004). Health enhancing physical activity. Oxford: Meyer & Meyer.

(Oja, P.: Frequency, Duration, Intensity and total volume of physical activity as Determinants of health outcomes, pp. 169 - 207; Vuori, I. Physical inactivity as a disease risk and health benefits of increased physical activity, pp. 29-95)



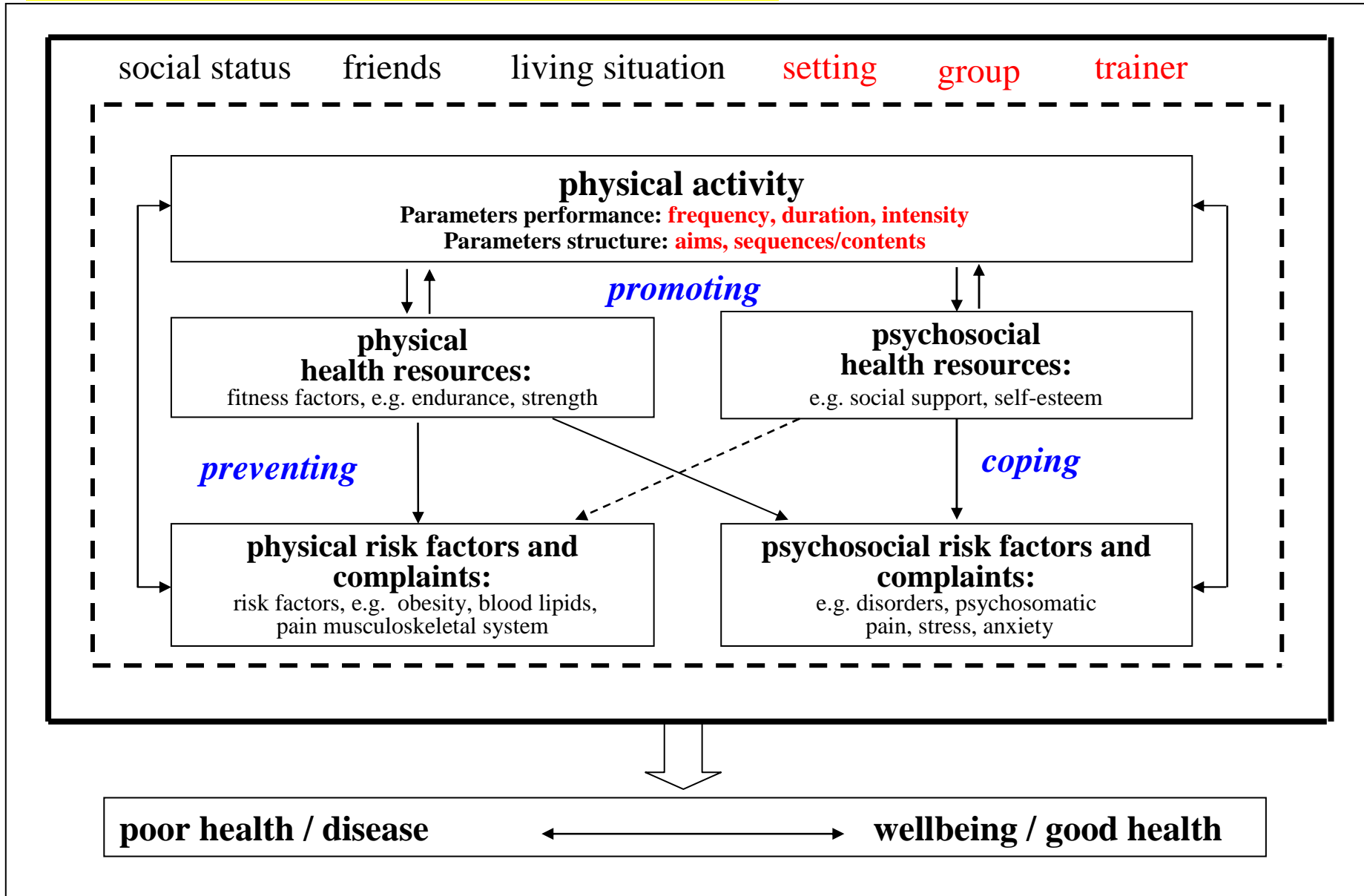
4. The difference is quality:

- ❖ Quality-Parameters
- ❖ Quality by Structuring Sport Exercise Programs (aims and sequences)
- ❖ Other (selected) quality Parameters of Sport Exercise Programs





The difference is quality: Quality-Parameters





The difference is quality: Quality-Parameters Structure (Aims and Sequences)

	Aims	Sequences
<p>everyday life physical activity</p> 	<ul style="list-style-type: none"> ❖ carry out something ❖ accumulate calories (?) 	<p>no explicit sequences</p> 
<p>sport activity</p> 	<ul style="list-style-type: none"> ❖ improve abilities ❖ have fun ❖ have success in competition 	<p>sometimes, e.g. of training</p> 



Quality by structuring sport exercise programs: aims



Sport-Exercise-Programs

Health-Sport-Programs¹

- (1) Improvement of physical resources /fitness (endurance, strength, flexibility, coordination, relaxation).
- (2) Improvement of psychological and social resources (motivation, knowledge, mood/fun, social competence, integration).
- (3) Prevention of risk factors and chronic degenerative diseases.
- (4) Improvement of coping competence.
- (5) Improvement of compliance with health directed physical activities (changing behavior).
- (6) Creation of supportive settings (i.e. qualified teachers, networking with physicians)

(Aims derived from WHO-concept of health promotion)

Fitness-Sport-Programs²

- (1) Improvement of fitness (endurance, strength, flexibility, coordination, relaxation – often focused).
- (2) Improvement of psychological and social resources (especially: mood/fun, motivation, integration).
- (3) Prevention of risk factors and chronic degenerative diseases.

1 + 2:

Brehm, W., Wagner, P., Sygusch, R., Hahn, U. & Janke, A (2005).

Health Promotion by means of Health Sport. A framework and a controlled intervention study with sedentary adults. *Scandinavian Journal of Medicine and Science in Sports*. 15(1):13-20

German Gymnastic Federation (2011). GYMWELT. Frankfurt (19 pages)
Also adopted by **German Federation of Spots Science** since 1999.

2: **American College of Sports Medicine (2006)**. ACSM's Guidelines for Exercise Testing and Prescription. Philadelphia etc: Lippincott Williams & Wilkins, 7th Ed.



Quality by structuring sport exercise programs: Sequences

Health-Sport-Programs (90 min)

- 1. Opening Sequence** (come together, heart rate, today's program, max. 5 min.)
- 2. Warming-Up Sequence** (games, low intensity motivating large muscle activities, max. 10 min.)
- 3. Endurance Sequence** (walking, jogging in variations/with music, max. 25 min.)
- 4. Muscular Strength and Flexibility Sequence** (max. 30 min.)
- 5. Relaxation Sequence** (max. 10 min.)
- 6. Final fun & activating Sequence** (max. 10 min.)
- 7. Information Sequence** (max. 10 min., combined with one of the sequences 1 - 6)

Brehm, W., Pahmeier, I. & Tiemann M. (1997).

Gesundheitsförderung durch sportliche Aktivierung: Qualitätsmerkmale, Programme, Qualitätssicherung. *Sportwissenschaft* 27 (1), 38-59.

Brehm, W., Wagner, P., Sygusch, R., Hahn, U. & Janke, A (2005). Health Promotion by means of Health Sport. A framework and a controlled intervention study with sedentary adults.

Scandinavian Journal of Medicine and Science in Sports. 15(1):13-20.

Fitness-Sport-Programs (60 – 90 min.)

- 1. Warm-Up:** 5 – 10 min. of low-intensity large muscle activities (e.g. walking, stretching).
- 2. Stimulus or Conditioning Phase**
Includes endurance, resistance & flexibility programming.
- 4. Recreational activities**
e.g. modified games to experience successful participation.
- 5. Cool-Down**
e.g. stretching, relaxation, yoga or tai chi exercises

American College of Sports Medicine (2006). ACSM's Guidelines for Exercise Testing and Prescription. Philadelphia etc: Lippincott Williams & Wilkins, 7th Ed. (p. 136 - 163).



Other quality parameters of Sport Exercise Programs



Health-Sport-Programs

- an evaluation of the program (experts & research);
- a published Program-Manual;
- a qualified basic training of the trainers and a special introduction in the program;
- a quality management within the club;
- a satisfying setting (gym, equipment, shower)
- preventive health check-ups in cooperation with physicians.



Fitness-Sport-Programs

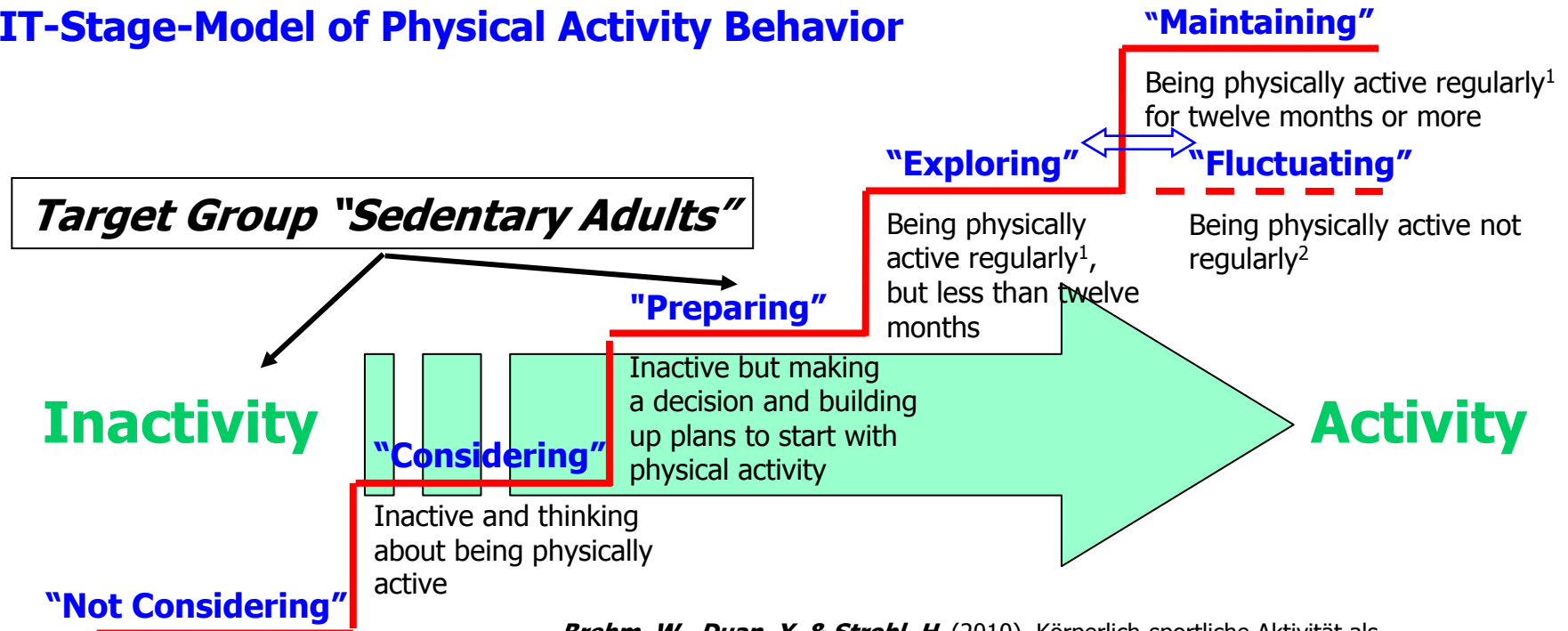
- qualified basic training of the trainers;
- maybe special qualification in new trends (e.g. Drums Alive, Aroha, Indian Balance, Body-Work-Out).





3. The long way: Four steps from inactivity to activity....

FIT-Stage-Model of Physical Activity Behavior



Brehm, W., Duan, Y. & Strobl, H. (2010). Körperlich-sportliche Aktivität als Gesundheitsverhalten: Das FIT-Stufen Modell. Methodenband. Bayreuther Beiträge zur Sportwissenschaft, Heft 12, Institut für Sportwissenschaft

Biddle, J.H. & Mutrie, N. (2002). Psychology of Physical Activity. Determinants, well-being and interventions. London: Routledge

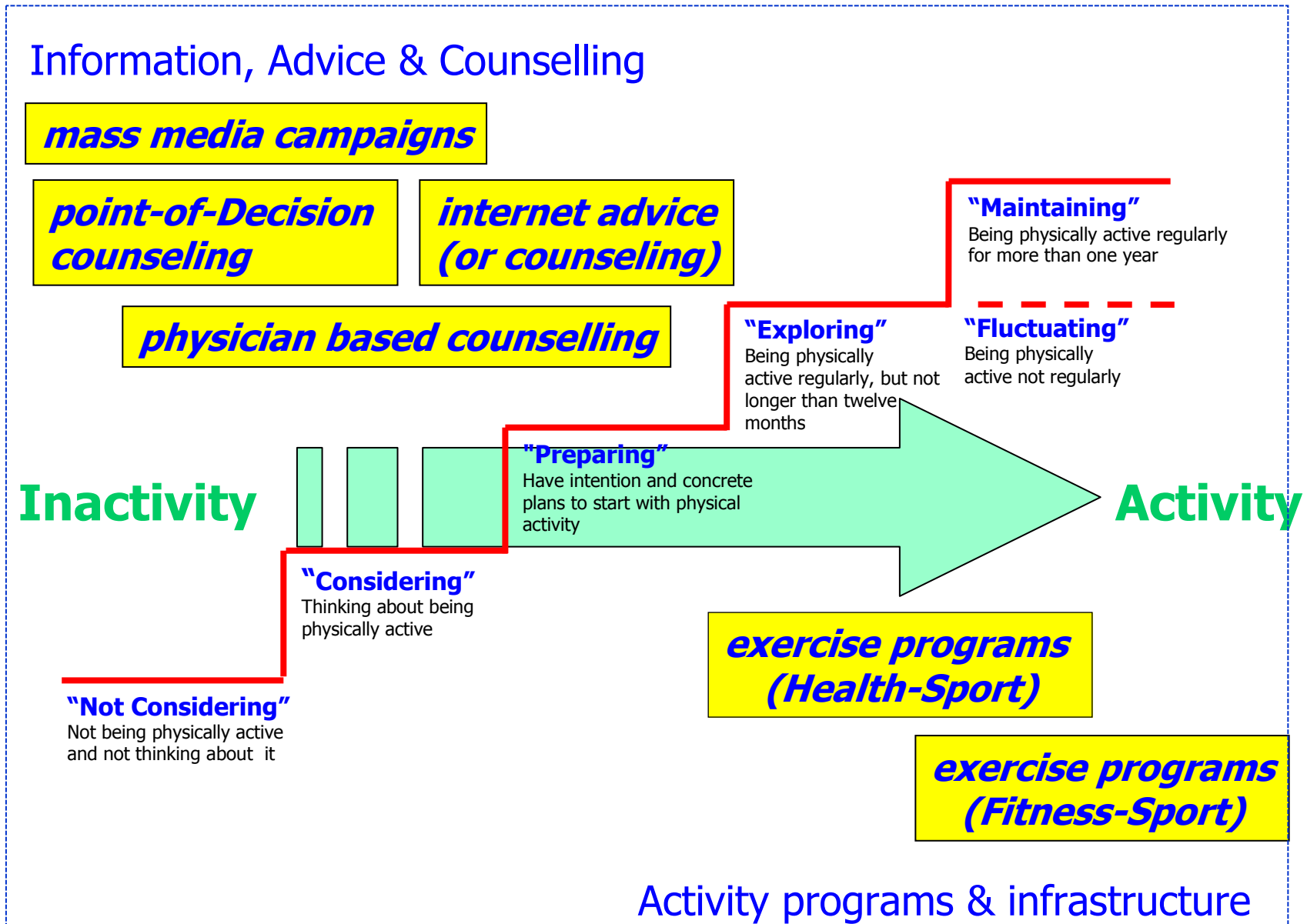
Prochaska, J.O. & DiClemente, C.C. (1992). Stages of change in the modification of problem behaviors. In Hersen, R.M., Eisler & P.M. Miller (Eds.), Progress in behavior modification (pp. 184-218). Sycamore: Sycamore Press

1: "regular" means at least 120 minutes per week

2: "not regular" means not regular every week and not in every week for accumulated at least 120 minutes



.....and the necessity of combined interventions.





Health Sport Programs: Development & Implementation in the DTB

Until 2010 the German Gymnastic Federation has published and is communicating 10 health sport programs of high quality





Until 2011 the German Gymnastic Federation has implemented the Health Sport Programs in about 14 000 of his clubs (70%)

Breuer, Ch. (2010): Sportentwicklungsbericht 2009/10. Turnvereine in Deutschland. Sporthochschule Köln & DTB

Fitness Sport Programs are integrated in nearly all of the about 20 000 DTB Clubs

Program Examples: Aroha, Ausdauertraining, Aerobic, Step-Aerobic, Power-Step, B.Co intelligent trainieren, Body-Workout, Group-Fitness, Bauch-Beine-Po, Gerätetraining, Cross-Training, Muskeltraining, Konditionsgymnastik, Gymnastik, Männer Fitness, Fitness-Spiele-Mix, Feel Well, Indian Balance, Pilates, Body and Mind, Stretching, Stretch & Relax, Yoga, Fitness aus Fernost, Gymnastik für Frauen, Pezziball, Gymnastik-Treff, Skigymnastik, Seniorengymnastik, Wandern, Walking, Nordic Walking





The problem of naming: Health Enhancing Sport Exercise (HESE)?



Health Enhancing Sport Exercise? (HESE)

Health Enhancing Physical Exercise? (HEPE)

Health-Sport-Programs?

Health-Exercise-Programs?

Fitness-Sport-Programs?

Fitness-Exercise-Programs?