

LESSONS FROM THE STARVATION EXPERIMENT FOR ANOREXIA NERVOSA

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MAIN QUESTION

- What can therapists for anorexia nervosa learn from the Minnesota starvation experiment?

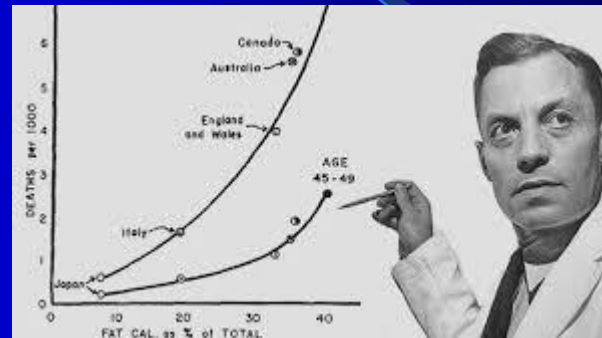


STARVATION DURING SECOND WORLD WAR 1944



MINNESOTA STARVATION EXPERIMENT 1944

- Anselm Keys e.a.



- 36 men were selected for participation
- 3 months research
- 6 months semi- starvation 1500 calories
- 3 months recovery

SELECTION OF 36 HEALTHY MALE PARTICIPANTS

Tested for physical, psychological
and social health



PHYSICAL CONSEQUENCES OF STARVATION

- Losing weight
- Losing muscles
- Less energy



PSYCHOLOGICAL CONSEQUENCES

- Obsessed by food
- Thinking and dreaming about food
- Not laughing anymore, no humor or jokes
- Irritated
- Apathy



BEHAVIOUR CONSEQUENCES

- Social isolation
- Eating everything !
- Much coffee, chewing gum
- Many cigarettes
- Reading about food
- Cook books



FIGURE 8.5. Minnesota volunteers at mealtime. Copyright 1950 by the University of Minnesota Press. Reprinted by permission.

CONCLUSION 1: MANY SIMILARITIES WITH ANOREXIA NERVOSA

- Physical
- Psychological
- Social



REFEEDING AFTER AFTER 6 MONTHS OF STARVATION

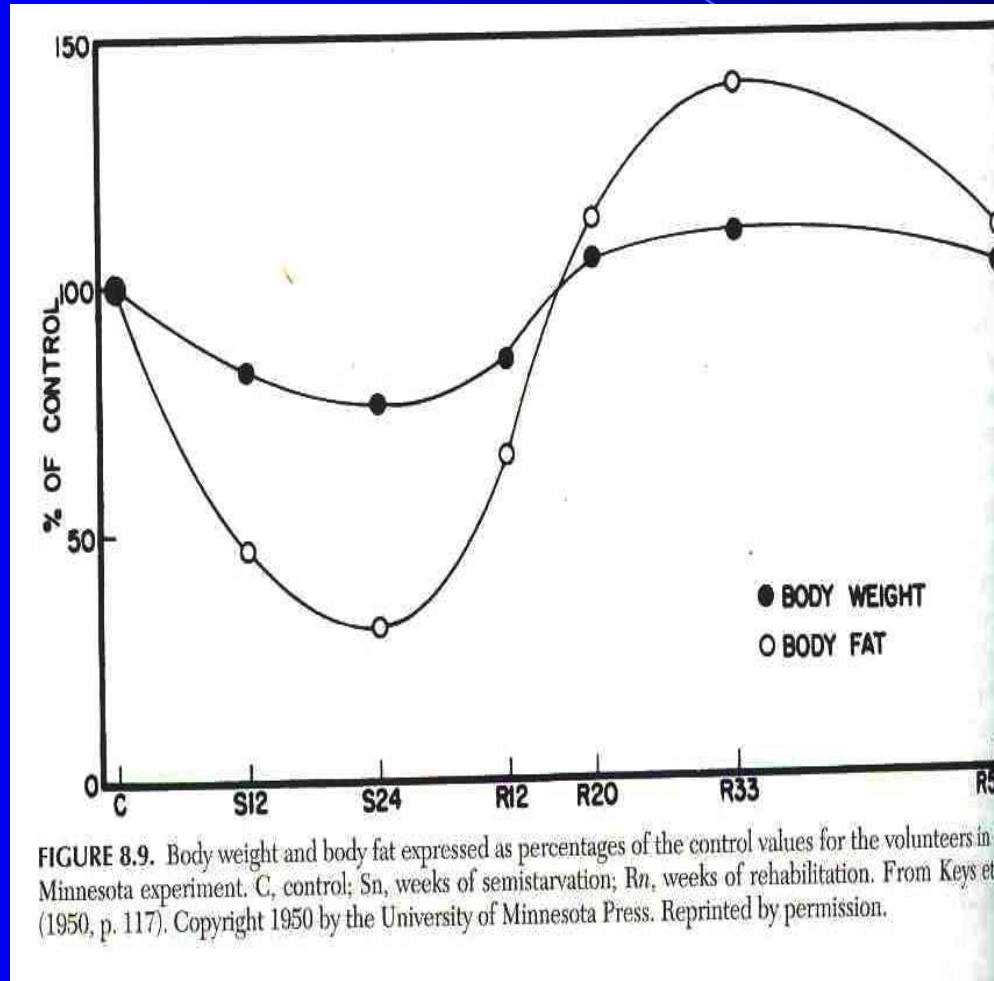
4 GROUPS

From 1500 calories to

1. 1900 calories
2. 2300 calories
3. 2700 calories
4. 3100 calories

Group 4 had the best results

WEIGHT AND FAT RECOVERY



RESULTS OF REFEEDING

All men were able to eat more and regain weight

Some had binges but no vomiting ect

After 8 months normal eating behaviour

3 men wanted to become a cook and
1 a farmer

PSYCHOLOGICAL & SOCIAL RECOVERY

- Starvation experiment was extreme life event
- Nobody longed back to food restriction
- No relapse
- Always afraid for lack of food.

CONCLUSION 2: ANOREXIA IS CONSEQUENCE OF STARVATION

- Anorexia is a consequence of starvation
- First aim of treatment:
 - 1) normalizing eating behaviour
 - 2) weight recovery
- Physical, psychological and social recovery

FOOD AND WEIGHT GAIN IN ANOREXIA PATIENTS

- AN: very afraid for food and weight gain

- Refuse to eat
- Frequent relapse
- Tube feeding
- Forced Feeding



CONCLUSION 3 : MANY DIFFERENCES BETWEEN ANOREXIA AN STARVATION

- Differences BEFORE starvation
- Differences DURING starvation
- Differences in REFEEDING proces



DIFFERENCES BEFORE STARVATION

Minnesota experiment

- Several health tests
- Physical
- Psychological
- Social



Anorexia Nervosa

- **Psychological problems:**
- Low self esteem
- Negative self evaluation
- Negative body image
- Fear of failure
- **Comorbidity**
- Depressed
- Fear disorder/ ocd
- Autism



DIFFERENCES DURING STARVATION

Minnesota Experiment



FIGURE 8.5. Minnesota volunteers at mealtime. Copyright 1950 by the University of Minnesota Press. Reprinted by permission.

- Very hungry
- Longing for food
- Eated everything

Anorexia Nervosa



- Refuse to eat
- Afraid to eat
- Eat as less as possible
- Hiding food
- Negative attitude to food

Different evaluation of starvation

Minnesota experiment



- Negative evaluation
- Felt weak
- Irritated when not having food in time

Anorexia Patients

- Positive evaluation
- Higher self esteem
- Feeling strong; control
- Anorexia is solution
- Irritated when forced to eat



DIFFERENT DURATION OF STARVATION

Minnesota experiment

- 6 months
- Longing for refeeding
- Physical , psychological, social recovery
-
- No forced feeding
- No relapse

Anorexia Patients

- 7 years: 1-40 years
- Afraid to eat more and to gain weight
- Inner critical voices
- Relapse after weight gain
- Forced feeding

CONCLUSION 4 : REFEEDING & RECOVERY

Starvation experiment



- Refeeding was enough for :
- physical, psychological
- and social recovery

Anorexia Nervosa

- Refeeding is not enough for recovery
- Psychotherapy is necessary to improve self-esteem, body image, emotion regulation.

QUESTIONS



References:

- Keys, A. e.a. (1950) *The Biology of Human Starvation*, Minnesota, The University of Minnesota Press.
- Noordenbos, G. (2020) Similarities and differences between anorexia nervosa and the Minnesota starvation experiment. *Dutch Journal of Psychotherapy* , 46 (4) 246-258.