

The Effects of Starvation

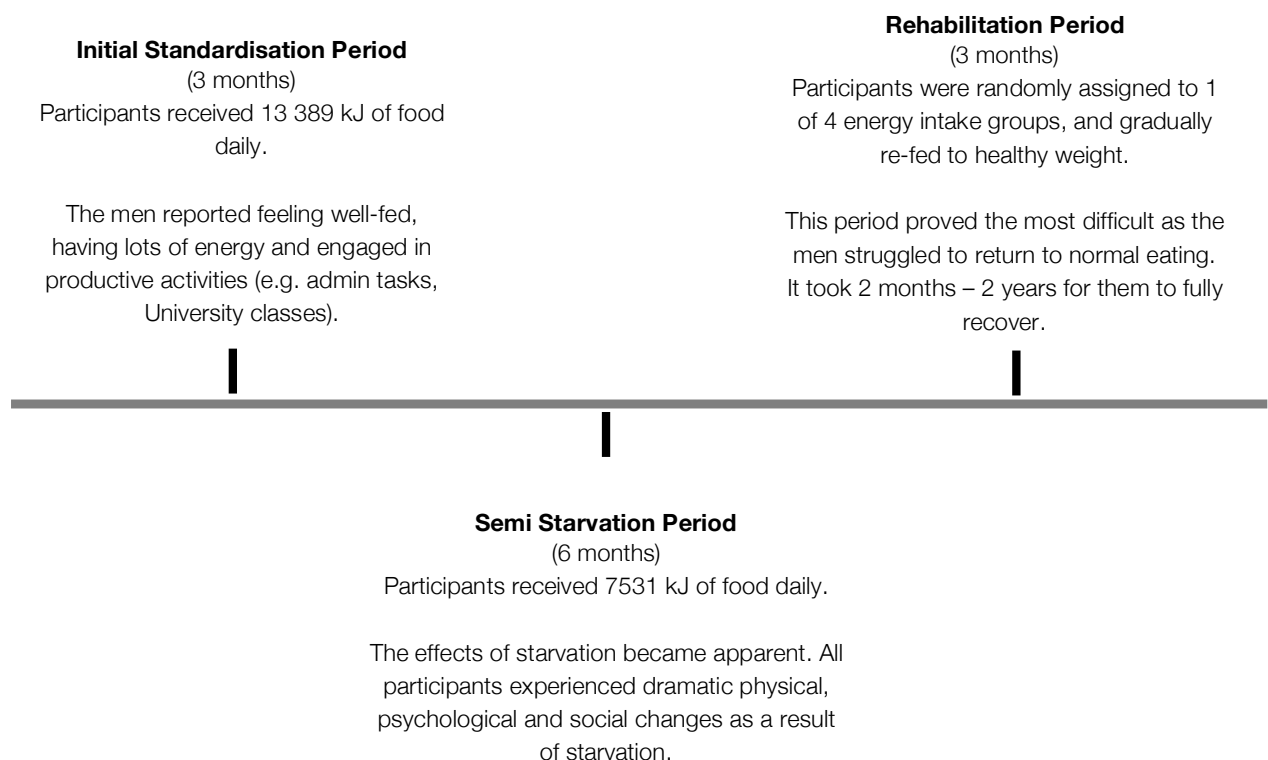
A landmark study conducted between November 1944 and December 1945 in the United States, the “Ancel Keys Semi Starvation study”, demonstrated the effects of starvation on the mind and the body.

Ancel Keys, a professor of physiology at the University of Minnesota and a consultant to the War Department, wanted to study the effects of starvation, and find the best way to provide post-war rehabilitation to people who had experienced severe deprivation and emaciation during the war. This led Keys to conduct a study to observe the physical and mental effects of starvation on healthy men by studying them under normal conditions, subjecting them to semi-starvation, and then following them through rehabilitation. The participants were healthy young men who were “World War II conscientious objectors” (refused to serve in the war).

The Minnesota Starvation Experiment

Out of 400 applications, 36 healthy young men were selected. Throughout the experiment, researchers measured and tracked in detail physical and psychological information, such as body weight, size, strength, basic functions, behaviour, personality, and eating patterns.

Stages of the experiment



What are the effects of starvation?

The men reported experiencing a wide range of changes; physically, psychologically, socially and behaviourally as a result of being in semi-starvation. Below are some of the symptoms that can be experienced as a result of being in a state semi-starvation.

- Physical changes – reduced energy, reduced need for sleep, dizziness, headaches, hypersensitivity to noise and light, cold hands/feet and hair loss
- Psychological changes – Increased mood fluctuations, intense and negative emotional reactions, decreased enthusiasm, increased irritability, low libido, reduced motivation and impaired concentration, problem solving and comprehension
- Behaviours related to food – Unusual food routines and rituals, binge eating, becoming obsessed with food (cooking, reading and talking about food)
- Attitudes related to food – Preoccupation with food, feeling anxious about meal times and food rations.
- Social changes – Feeling more critical of others and more introverted

Key points

The Ancel Keys Minnesota Experiment demonstrated that starvation dramatically affects the mind and the body. Starvation can lead to serious psychological and physical complications which affect nearly all areas of functioning including attitudes and behaviour related to food/eating, emotional and personality changes, social and sexual changes and some physical changes.

Relevance to working with individuals with disordered eating patterns

The starvation syndrome and its symptoms can be experienced by any significant calorie deficit. This means that even if a person appears to have an adequate caloric intake, or appears to be within or above a healthy weight range, they can still experience the symptoms of starvation.

The symptoms are often attributed to other causes, rather than being correctly attributed to the result of a significant calorie deficit. Psychoeducation about the effects of starvation is an important part of engagement and treatment. These symptoms, which affect the person's quality of life, can often be used as a motivating factor to support increasing calorie intake or reducing purging behaviours.

References:

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Keys, A., Brozek, J., Henschel, A., Mickelsen, O., & Taylor, H. L. (1950). *The Biology of Human Starvation* (2 Vols.). University of Minnesota Press, Minneapolis, MN.