“Healthy” When the pursuit of health turns into a mental disorder: the case of orthorexia nervosa.

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“Healthy”
When the pursuit of health turns into a mental disorder: the case of orthorexia nervosa

ACADEMISCH PROEFSCHRIFT

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aan de Vrije Universiteit Amsterdam,
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door

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CHAPTER 2. Theoretical Background

This chapter introduces the models and theories that constitute the theoretical foundation of this research. Three models were integrated to study the development of ON, by accounting for contributing socio-cultural factors: Snyderman's curve representing how complex conditions develop in time [1], [2]; the dynamic biopsychosocial model of health [3]; and the network theory of mental disorders [4].

2.1 Adaptation of Snyderman's Curve

Snyderman and Langheier's curve (2006) was conceptualized to facilitate the translation of prospective health care into practice. Authors considered that focusing on a single etiological cause of a disease is a reductionist approach, because a person's ill-health status would always depend on multiple factors interacting with each other. Their curve (Figure 2.1) conceptualizes the progression of a disease, by taking into account the interactions of bio-psycho-social factors. According to the model, chronic diseases result from an individual's baseline susceptibility (baseline risk) coupled with the influence of the environment. This initial interaction triggers initiating events, which lead to an accumulation of changes that are the basis for the development of the disease (disease initiation). Over time, pathology increases and reversibility decreases [2].

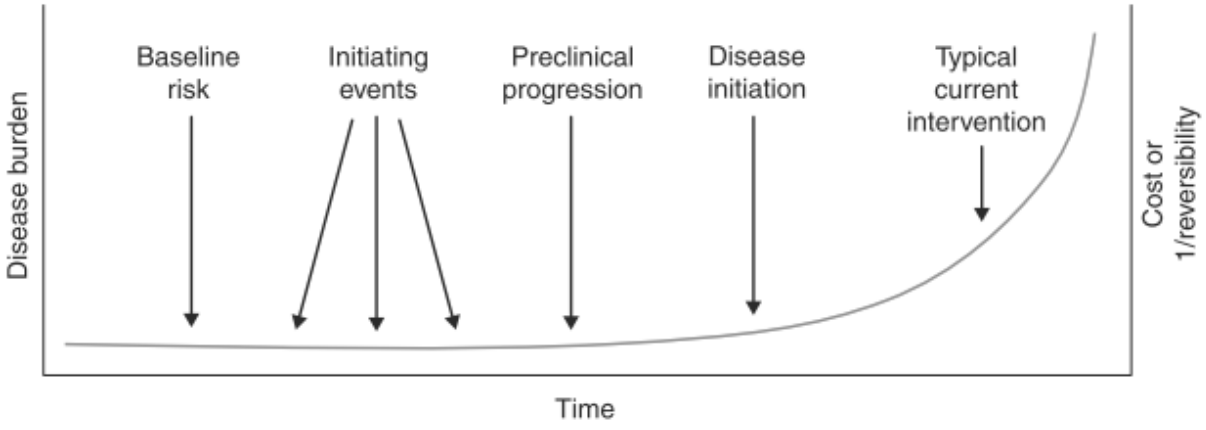

Figure 2.1. Snyderman and Langheier's curve representing disease progression [2].

Snyderman and Langheier's curve was subsequently adapted by Syurina et al. (2015). The model was enriched with the addition of crucial points along the curve (Figure 2.2). The adapted curve indicates six important points that need to be taken into account when investigating the progression of a disease: (A) parental genetic profile; (B) baseline genetic risk at birth; (C) environmental effects, which act as initiating events in the process of disease initiation; (D) cumulative exposure to environmental effects; (E) gene-environment interaction, where a few symptoms can be seen; (F) intensification of symptoms until they become structured into a

diagnosis; in this stage treatment is usually provided [1]. Notably, the current clinical paradigm intervenes only when a certain condition is sufficiently severe to get a diagnosis (point F), while this curve shows different points where an intervention could be desirable in terms of prevention.

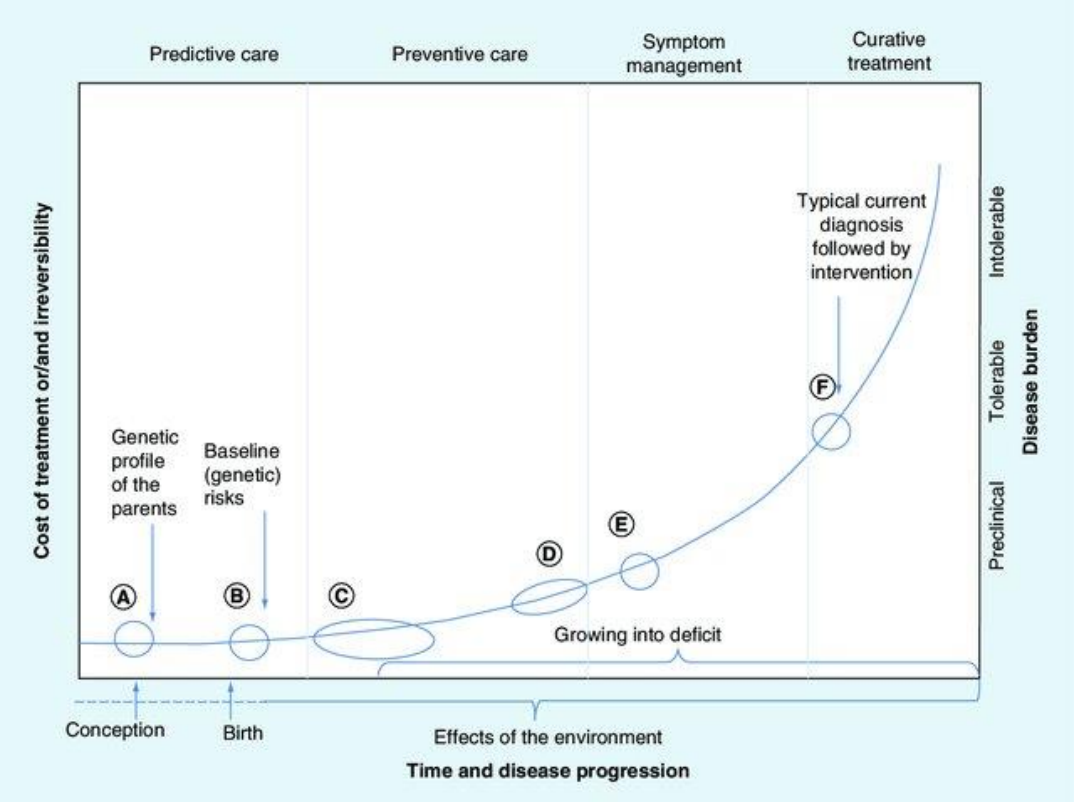

Figure 2.2. Syurina et al.'s adaptation of Snyderman's curve representing disease progression [1].

The adapted Snyderman's curve [1] was the foundation of our research into the developmental pathway of ON. The stages highlighted along the curve worked as points of investigation in our studies. This helped in collecting relevant information regarding baseline risks, triggering events, the tipping point between healthy eating and ON, symptoms, and proposed treatments for ON. Furthermore, this model helped to conceptualize ON not as a cut-and-dried entity, but as disordered behavior that progresses over time.

2.2 Dynamic Biopsychosocial Model of Health

A second model used to investigate the development of ON was the dynamic biopsychosocial model of health by Lehman, David and Gruber [3]. This model made it possible to account for the multiplicity of factors that have an effect on the development of a disease. The dynamic biopsychosocial model of health conceptualizes health as shaped by an interaction of biological, psychological, interpersonal, and contextual dynamics that always interact during an individual's life (Figure 2.3). The term *dynamics* is used to indicate systems that are continuously interacting with each other. Biological dynamics are physiological elements of the body that affect health. Psychological dynamics are cognitive, emotional, motivational, attitudinal, and behavioral systems affecting health. Social dynamics are divided into interpersonal and contextual dynamics. Interpersonal dynamics consist of the effects on health deriving from contacts with 'others', including the consequences of other's actions. Contextual dynamics are broader macro-level systems affecting health, such as culture, norms, policies and values. All these dynamics differ in the centrality of their influence on health. The term *centrality* means the extent to which each dynamic is relevant for a person's health at a certain point in time. In the model, centrality is indicated by the blue shading: the darker shading indicates influences that are more central, which therefore have more pronounced implications for the person's health.

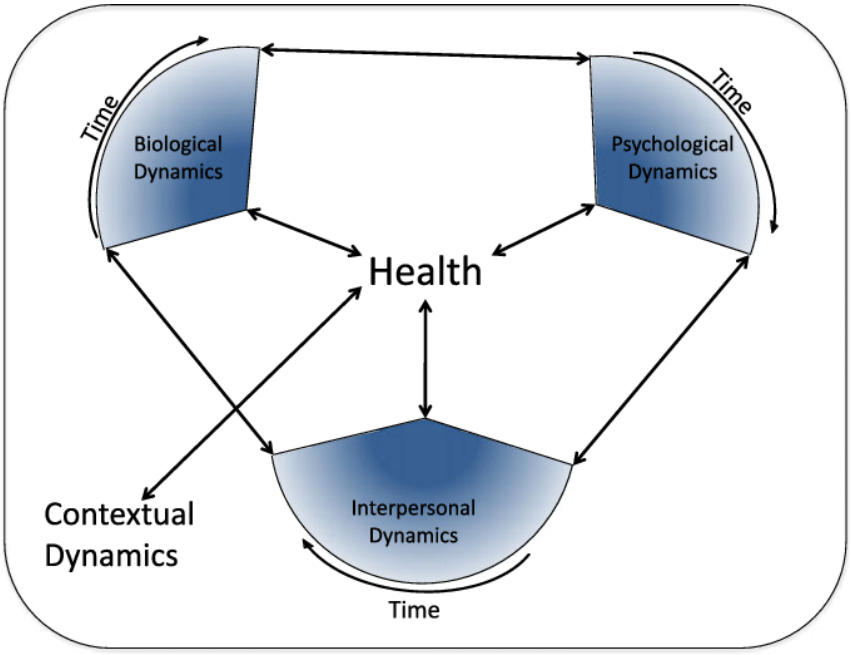

Figure 2.3. Lehman, David and Gruber's dynamic biopsychosocial model of health [3].

The dynamic biopsychosocial model of health [3] was integrated to the adapted Snyderman's curve [1] in order to be able to consider and categorize all possible factors, and their interactions, influencing the development of ON.

2.3 Network Theory of Mental Disorders

The network theory of mental disorders [4] interprets mental disorders as syndromic constellations of symptoms that causally interact with each other. Interactions between symptoms can be interpreted as a network, in which symptoms are nodes and causal interactions between symptoms constitute the links between nodes. The mechanism through which symptoms interact and activate one another is exemplified by Figure 2.4. The network reported in this figure has four symptoms (S_1, S_2, S_3, S_4). Symptoms that are casually connected to each other are connected by a line (e.g. S_1 - S_2), symptoms that are not directly connected (e.g. S_1 and S_4) can still synchronize if they share a common neighbor (e.g. S_3). The external field displays external factors (e.g. E_1, E_2, E_3) that may act as triggers for symptoms activation.

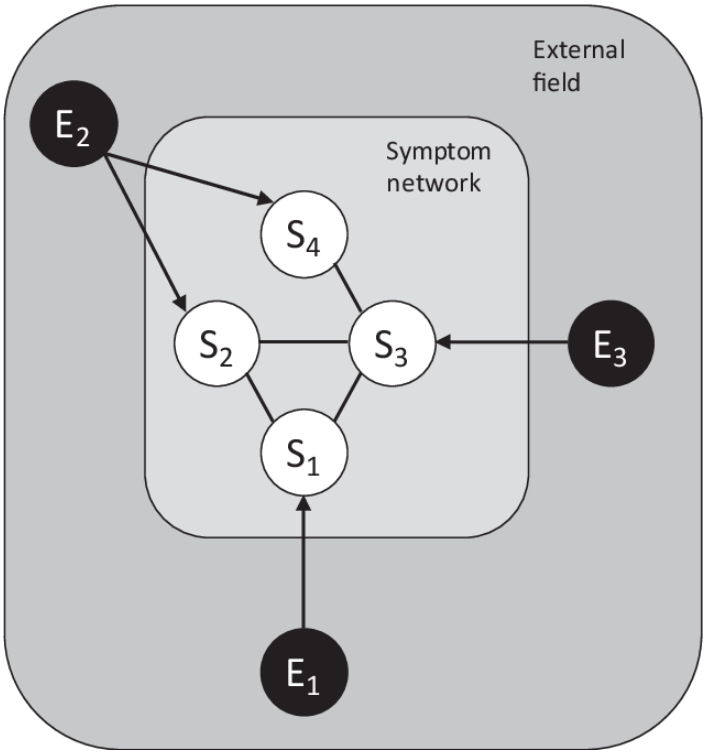

Figure 2.4. Example of a simple network structure of four symptoms [4].

The network theory is useful in studying the development of mental disorders (Figure 2.5). According to this theory, the initial state consists of an asymptomatic phase (Phase 1). When an external event acts upon the network structure, it activates some of the symptoms (Phase 2). These activated symptoms, in turn, activate other symptoms (Phase 3). When the network has strong connectivity, removal of the external event does not lead to recovery, i.e. the network is self-sustaining (Phase 4). When the network has weak connectivity, removal of the external event does lead to recovery. In this case, we talk about mental health with high resilience.

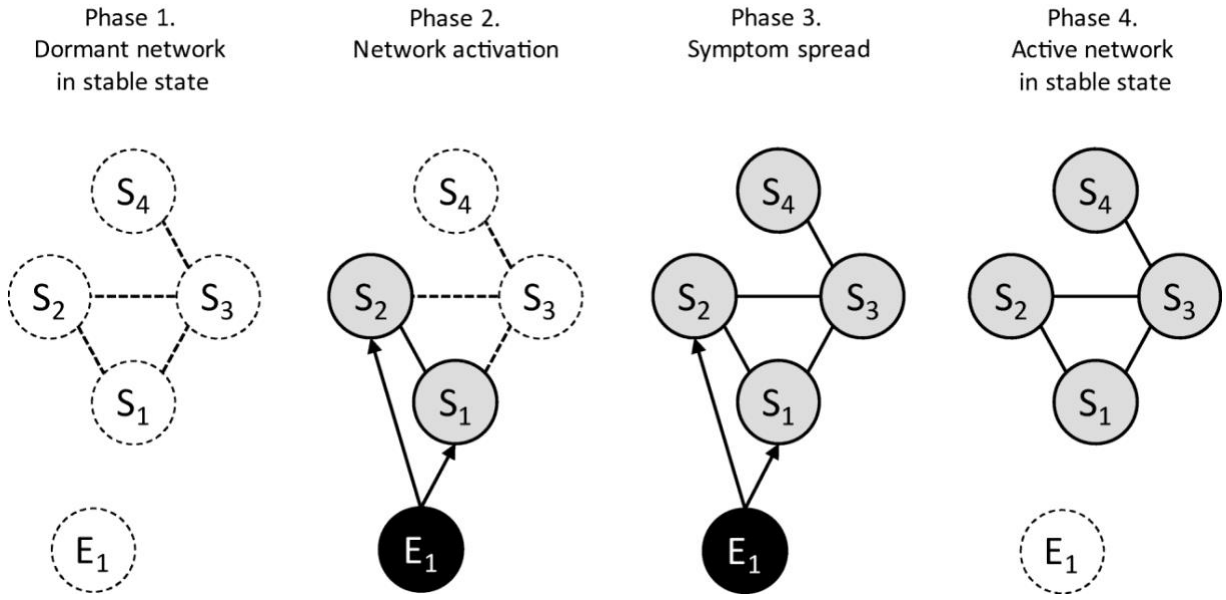

Figure 2.5. Development of a mental disorder according to the network theory of mental disorders [4].

The network theory of mental disorders [4] was used to conceptualize interactions among symptoms of ON. This allowed for considering symptoms as interacting with each other and generating a snowball effect leading to a disordered state.

The integration of these models is presented in Figure 2.6. The development of ON was conceptualized using Snyderman's curve. All the steps encountered along the curve were interpreted as interactions of bio-psycho-social factors. The onset of ON was interpreted as an interaction of symptoms, according to the network theory of mental disorders.

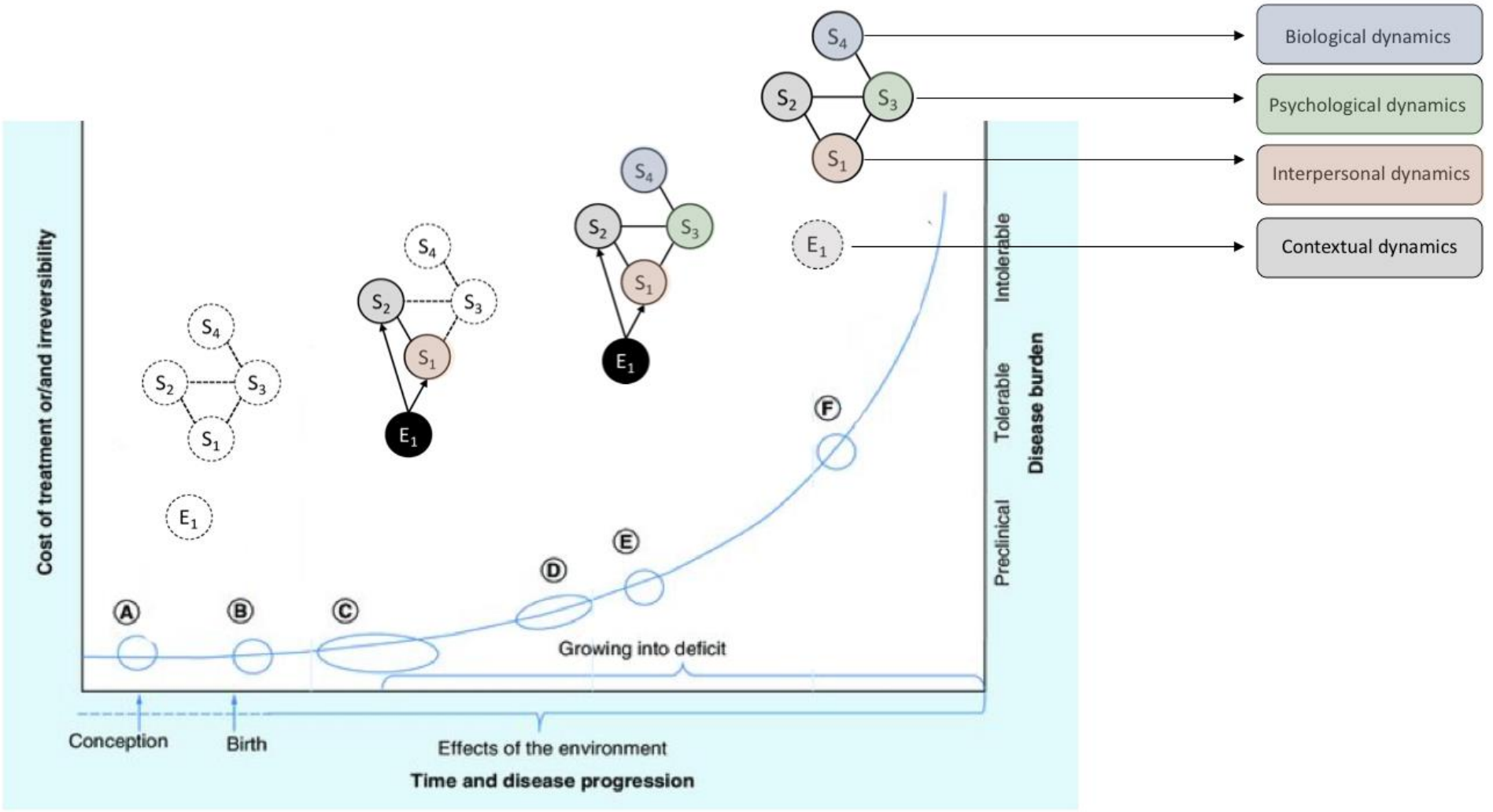

Figure 2.6. Theoretical framework derived from the integration of the adapted Snyderman' s curve [1], the dynamic biopsychosocial model of health [3] and the network theory of mental disorders [4].

From this theoretical framework, two main analytical sub-questions were derived, which are in line with the main research question of the study (i.e. *How can we understand the development of orthorexia nervosa and its socio-cultural contributing factors?*): (1) How does ON develop? (2) What are socio-cultural factors influencing ON? These sub-questions themselves have been further divided into more specific sub-questions, as shown in Table 2.1.

Table 2.1 provides an overview of the analytical sub-questions of the research and what chapters will address each of the sub-questions.

How can we understand the development of orthorexia nervosa and its socio-cultural contributing factors?							
Analytical sub-questions	Practitioner perspective			Insider perspective		Lay people's perspective	
	Ch.4	Ch.5	Ch.6	Ch.7	Ch.8	Ch.9	Ch.10
How does ON develop?	X			X	X		
What are baseline risks?	X				X		
What are initiating events?	X			X	X		
What are the main symptoms?	X	X			X		
What can be the approach to treatment?	X				X		
How has ON been assessed till now, and what are methodological issues of current diagnostic tools?			X				
What would be a new conceptualization and set of diagnostic criteria for ON?		X					
What are societal factors influencing ON?	X	X		X	X	X	X
What are socio-cultural factors influencing ON?	X	X		X	X	X	X
How does healthism contribute to the development of ON?				X	X		
What is the role of social media in the development of ON, and what does this reveal about the social construction of ON?					X	X	X

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[4] D. Borsboom, "A network theory of mental disorders," *World Psychiatry*, vol. 16, no. 1, pp. 5–13, 2017.