

## Understanding and Shaping Human Change Processes - A Simulation Tool of Nonlinear Processes in Psychotherapy and Coaching



How to become familiar with chaotic processes in psychotherapy and consulting? Of course, by doing psychotherapy and coaching with real clients and by getting feedback from experienced teachers. A complementary way will be getting experienced by acting in the artificial world of a computer simulation. This simulation is based on a mathematical model which integrates comprehensive knowledge on the psychological mechanisms underlying the change processes of a client.

Users decide on interventions which can be applied on five variables representing the cognitive and emotional functioning of a client: therapeutic progress and success (S), symptom and problem intensity (P), motivation to change (M), insight and development of new perspectives (I), stressful or worrying and positive emotions (E). Different initial conditions of the variables and different levels of competencies and dispositions of an artificial client can be defined. The development of the process after an intervention can be compared to the dynamics without the intervention.

Users learn ...

- how to act in chaotic systems and on dynamics with restricted predictability
- how specific parameters (dispositions of the client) and inputs affect the development of therapy-related time series
- how different types of noise impact the system dynamics
- whether and to what extent interventions may have consequences on the process
- to understand the role of personal resources, traits, and competencies ("control parameters") in facilitating phase transitions

The simulated dynamics are presented like empirical time series which can be assessed and represented in the Synergetic Navigation System (SNS, [www.ccsys.de](http://www.ccsys.de)).

Schiepek, G., Viol, K., Aichhorn, W., Hütt, M.-T., Sungler, K., Pincus, D., & Schöllner, H. (in press 2017). Psychotherapy is chaotic—(not only) in a computational world. *Frontiers in Psychology for Clinical Settings*, 8:379. doi: 10.3389/fpsyg.2017.00379

