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This Week's Citation Classic®

Rahe R H & Arthur R J. Life change and illness studies: past history and future directions. *J. Hum. Stress* 4:3-15, 1978.
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A literature review supporting the influence of persons' recent life change events on the precipitation of a wide variety of illnesses led to the formulation of an "optical lens" model illustrative of the modifying impact of perception, defense, physiological reactivity, coping, and illness behavior. [The *SCI*® and the *SSCI*® indicate that this paper has been cited in more than 145 publications.]

Understanding Life Change and Illness Onset

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This paper was a distillation of information that I had accumulated during my first 15 years of psychosomatic research. This paper pulled together relevant literature and described a model for understanding the several modifying influences of person and environment along a pathway between the occurrence of life stress events and the clinical onset of disease.

My studies began when I was a medical student at the University of Washington, School of Medicine, Seattle. In those halcyon days, conducting research, with subsequent publication of the results, was considered to be an integral part of one's medical education.

Subsequently, I had the opportunity to continue my research while on active duty in the US Navy. Here I found that extremely stressful life events were part of the everyday experience of aviators, underwater demolition team trainees, and submariners.[1-3] I could study their responses to stressful events and was actively supported in doing so by Ransom J. Arthur—my commanding officer. Ultimately, Arthur was my coauthor on over two dozen papers. Our "classic" was the last publication we wrote together. He retired from the Navy earlier that year to become dean of the University of Oregon Medical School, Portland. He spent the final years of his career as professor of psychiatry at UCLA. Arthur developed a fatal infectious illness within a year of his academic retirement. A yearly memorial lectureship was established in his name at UCLA.

My lens model occurred to me one evening, when I was explaining psychosomatic concepts to my wife. The idea of psychological defenses, such as denial, diffracting away input from a recent stressful life event, seemed to make sense to her. I suggested that psychological defenses acted much like a negative lens. Conversely, illness behaviors tend to focus medical attention on the existence of one or many body symptoms. Illness behavior was best represented by a positive lens. One polarizing filter, one color filter, and a "black box" completed the model.

Since the publication of the classic, I became interested in the health effects of being taken captive.[4-6] The lens model is still extremely helpful in both the evaluation and the presentation of these studies. I still believe that only by studying extremely stressful life events can one readily see the effects of illnesses. In the more ordinary world of most of us, the confounding influences of variables expressed in the model tend to obscure stress effects. However, when virtually every captive I've studied reports having experienced a major depression within the first few months of being taken prisoner, this illness result of the early phase of captivity is clearly evident. Even today, as I talk to relatives of military personnel in the recent Gulf War, I use the lens model to help them understand how their family members in the service handle the stresses of battle.

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2. **Rubin R T, Rahe R H, Arthur R J & Clark B R.** Adrenal cortical activity changes during underwater demolition team training. *Psychol. Med.* 31:553-64, 1969.
3. **Campbell D T & Rahe R H.** Serum uric acid and cholesterol variability for men aboard a Polaris submarine. *Milit. Med.* 139:462-5, 1974.
4. **Rahe R H & Genender E.** Adaptation to and recovery from captivity stress. *Milit. Med.* 148:577-85, 1983.
5. **Rahe R H, Karson S, Howard N S, Rubin R T & Poland R E.** Psychological and physiological assessments on American hostages freed from captivity in Iran. *Psychol. Med.* 52:1-16, 1990.
6. **Rahe R H.** Life change, stress responsivity, and captivity research. *Psychol. Med.* 52:373-96, 1990.

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