## Revision of research on suicide risk assessment. Failures in experimental designs prevent identification of valid risk assessment tools

11. Risk assessment and screening

## Lars-Håkan Thorell<sup>1, 2</sup>

<sup>1</sup> Lars.Håkan Thorell, Associate Professor in Experimental Psychiatry, Retired from the Department of Clinical and Experimental Medicine, Linköping University, Linköping, Sweden <sup>2</sup> No other affiliation exists.

## Abstract text

The search for valid tools to assess suicide risk has a history spanning at least 40 years. The typical approach has been to evaluate tools presumed to be capable of estimating this risk in clinical settings, primarily within psychiatry and often focused on patients with depression. These studies generally involve testing a sample of patients and then, after a specified follow-up period, recording the outcome as either suicide or no suicide. The sensitivity, specificity, and both positive and negative predictive values of these instruments have traditionally been assessed using standard 2x2 table analysis.

However, the tools investigated in this manner have often been rejected due to insufficient sensitivity. This low sensitivity has been attributed to a high number of false positives - i.e., a high number of individuals identified as at risk who later do not commit suicide. This explanation has been the prevailing interpretation in most studies. But, in fact, this situation is exactly what successful suicide prevention should strive for.

A substantial number of evaluation studies, ranging from Beck's Hopelessness Scale to the EDOR Test, will be presented and used as examples to support the discussion.

The planned presentation will demonstrate why rejecting tools based on low sensitivity, due to a high number of false positives, is a flawed approach that has contributed to the failure to identify valid suicide risk assessment tools. In fact, this traditional, ineffective method is incapable of detecting even a fully valid tool for assessing suicide risk. The presentation argues that this insight calls for the development of relevant study designs and the re-evaluation of previously examined tools or renewal or creation of innovative evaluation methods to enhance suicide prevention efforts.