

Internal, External, and Ecological Validity in the Context of Studies on Advance Directives

Sir,

Tekkalaki *et al.*^[1] describe an important and necessary study on how patients view the concept and implementation of advanced directives (ADs) in India. We believe that all research on this subject, and on subjects related to attitudinal matters, suffer from potential limitations in external, internal, and ecological validity.^[2]

ADs are prepared by patients who may have a distrust of their caregivers or the mental health-care system, or by patients who have reason to believe that a particular treatment is harmful, perhaps based on experience or hearsay. So, what a study on ADs will find could be specifically influenced by past experiences of the

study participants at the center in which the study is conducted. In other words, the findings of the study may not generalize to other treatment settings. Thus, the study has limited external validity.^[2]

Next, the manner in which ADs, psychiatric treatments, and other concepts are explained to study participants could influence their responses to enquiries about ADs. The influencing effect of the interviewer can be deliberate or unconscious. This is why structured or self-administered instruments are preferable in studies of attitudes and why the person administering the instrument should be known to be from outside the system to avoid a Hawthorne effect. So studies as conducted by Tekkalaki *et al.*^[1] could suffer from compromised internal validity.^[2]

Finally, what people say they will do in a study situation could be quite different from what they will actually do in real life. So studies on topics like AD suffer from compromised ecological validity.^[3]

In studies of this nature,^[1] external validity can be improved by drawing random samples from multiple settings rather than from a single setting. Internal validity can be improved by using structured interviews or self-administered instruments and by engaging neutral study personnel. Ecological validity cannot be improved because studies of this nature are conducted in the study and not in “actually happening” contexts.

Publications arising from studies such as this^[1] should explicitly state the precautions that were taken to avoid confounding factors as described above. Similar observations have been made about studies regarding attitudes toward electroconvulsive therapy (ECT).^[3]

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Conflicts of interest

There are no conflicts of interest.

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