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Stability Coefficient

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Stability coefficient is a term that, in the social sciences, means the correlation of measurement results from Time 1 with measurement results from Time 2, where the subjects being measured and the measuring instrument remain precisely the same. If the coefficient is high (and no instrument reactivity is present), it generally signals both measurement reliability and response continuity. If it is low, a correct interpretation is harder to reach.

A low stability coefficient with measures of personal history or behavior plainly derives from unreliability. If respondents first report and then later deny features of personal background or past conduct, one does not interpret the change as “discontinuity.” However, with attitudes and opinions, the low coefficient is of less certain meaning. It is not uncommon for such a coefficient to be treated as an indicator of unreliability when the test-retest interval is short (Carmines & Zeller, 1979; Litwin, 1995) but as an indicator of attitudinal discontinuity when that interval is long (Converse & Markus, 1979). Neither of these two interpretations is self-evidently correct, and disentangling the reliability and continuity components of a stability coefficient can be complicated and important (Achen, 1975). Indeed, an accurate estimate of continuity cannot be determined without knowing, and correcting for, the level of measurement unreliability.

A test-retest time interval of days or weeks obviously strengthens the assumption that low stability is caused by measurement problems rather than attitude change. Even here, however, other factors may intervene. For example, in turbulent times, there may be considerable short-term shuffling of true opinions. And whether the times be turbulent or peaceful, accurately stated opinions on unfamiliar or ill-considered topics also may show substantial short-run instability. Attitudinal ephemera do not represent true measurement error, although if one embraces a definition of “attitude” that emphasizes its enduring nature, such ephemera may be regarded as “nonattitudes.”

The use of correlation coefficients, whether product-moment or rank-order, in estimating continuity may sometimes be problematic. With either standardized or ranked data, there can be systematic change between Time 1 and Time 2 that is not reflected in the correlations. Response distributions may shift upward or downward or may tighten or spread, and stability coefficients nonetheless remain high. For that reason, it is

important to look further into the correlation, inspecting scatter diagrams with interval data or contingency tables with ranked data, for signs of such distributional changes.

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