

# Big changes before big birthdays? Panel data provide no evidence of end-of-decade crises

Alter and Hershfield (1) argue that individuals search for meaning and change attitudes as well as behavior when approaching a new decade in chronological age. Using diverse data on the meaningfulness of life (studies 1 and 2 in ref. 1), search for extramarital affairs (study 3 in ref. 1), suicide rates (study 4 in ref. 1), marathon running times and age at first marathon (studies 5 and 6 in ref. 1), the authors found significant differences in attitudes and behavior between 9-enders—that is, adults facing the end of an age decade (e.g., 29 or 39)—and non-9-enders.

Although the topic and the six studies are truly innovative, we see some methodological problems. First, the standardized effects are very small. Second, some data raise questions: In study 3 of ref. 1, Alter and Hershfield analyzed the age provided by individuals on an online dating site. Previous research has shown that deception regarding age varies by age and sex on such platforms (2). In study 5 of ref. 1, improved running time might increase some individuals' subsequent marathon participation, whereas individuals with no improvement might quit and therefore be excluded from the analysis by definition. Third, the studies based on cross-sectional data face the problem of unobserved heterogeneity (e.g., cohort effects).

To confirm Alter and Hershfield's (1) results, extensive longitudinal data with a large sample size are required. The German Socio-Economic Panel Study (SOEP, version 29) is

an ongoing annual survey of private households in Germany since 1984 (3). These longitudinal data allow for estimation of panel fixed-effects regression models, making it possible to uncover variation at an individual level as people age, while controlling for all time-constant unobserved heterogeneity between individuals (4).

In line with Alter and Hershfield (1), we focus on adults aged 25–64 y. Our subsamples comprise 21,216–42,722 persons observed on average 3.0–7.7 times. We selected variables close to those used in Alter and Hershfield's studies. An increased search for meaning (studies 1 and 2) should lead to lower current life satisfaction, lower expected future life satisfaction, and an increase in willingness to take risks. To test the effect on romantic relationships (study 3), we used changes in relationship status (union formation and separation). As a proxy for suicides (study 4), respondents' mental health was measured with the SF-12 component scale (5). Increases in physical activities and health consciousness (study 5 and 6) were operationalized by body mass index and the frequency of sports activities. According to the SOEP data, reaching an age ending with a 9 does not change any of the variables tested compared with previous or subsequent ages (current life satisfaction:  $\beta = 0.003$ ,  $P = 0.632$ ; expected future life satisfaction:  $\beta = 0.012$ ,  $P = 0.109$ ; risk preference:  $\beta = -0.023$ ,  $P = 0.131$ ; change in relationship:  $\beta = 0.010$ ,  $P = 0.112$ ; mental

health:  $\beta = -0.017$ ,  $P = 0.206$ ; body mass index:  $\beta = 0.012$ ,  $P = 0.349$ ; frequency of sports:  $\beta = 0.001$ ,  $P = 0.859$ ;  $\beta$ s are  $y$ -standardized).

In conclusion, we found no evidence for a change in attitudes or behavior that would indicate an intensified search for meaning in life when adults approach a new decade in chronological age.

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