Your life satisfaction will change more than you think: A comment on Harris and Busseri (2019)

Jordi Quoidbach [a,*], Daniel T. Gilbert [b], Timothy D. Wilson [c]

[a] Universitat Ramon Llull, ESADE, Spain
[b] Harvard University, United States
[c] University of Virginia, United States

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ABSTRACT

Harris and Busseri (2019) examined the changes in life satisfaction people predicted vs. experienced for 30-years based on the three waves of the Midlife in the United States (MIDUS) survey. They conclude that "Contrary to the EOHI [end of history illusion], most individuals either were accurate or anticipated too much change into the future, rather than too little" (abstract). Examining these same data we arrive at the opposite conclusion, that people systematically underestimate future changes to their life satisfaction. The discrepancy arises because Harris and Busseri find stability in the average life satisfaction across the entire sample, while we find instability in life satisfaction within individuals. Both of these can happen. Although the average altitude of all the elevators in a skyscraper is remarkably stable over time, the altitude of each elevator changes by the second.

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1. Introduction

In 2013, we reported five studies in which we asked samples of people who varied widely in age to predict how much they would change over the next 10 years or to report how much they had changed over the past 10 years, and we compared the predictions of people aged *x* years to the recollections of people aged *x + 10* years (Quoidbach, Gilbert, & Wilson, 2013). We found that at every age, people tended to underestimate how much their personalities, values, and preferences would change over the next decade—a phenomenon we labelled the "end of history illusion".

In their article "Is there an 'end of history illusion' for life satisfaction? Evidence from a three-wave longitudinal study" (JRP, 2019, DOI: https://doi.org/10.1016/j.jrp.2019.103869), Harris & Busseri (hereinafter "HB") examined the relationship between predicted and reported change in a new domain: life satisfaction. Specifically, they examined people's predicted and reported life satisfaction across the three waves of the MIDUS dataset, and concluded that "most individuals either were accurate or anticipated too much change into the future, rather than too little." This conclusion appears to be the opposite of ours. HB suggest that their conclusion differs from ours because they examined longitudinal data that allowed them to estimate how much people actually changed, whereas we based our analyses on people's retrospective

reports. The authors also raise the possibility that life satisfaction – unlike personality, values, and preference – could represent a facet of the self for which the end of history illusion does not apply.

2. Intuition for the problem

But the real reason our conclusions differ is that HB analyzed mean-level change, whereas we analyzed individual-level change. These two analyses are known to answer different questions and yield different results (for extensive discussions see e.g., De Fruyt et al., 2006; Roberts & Mroczek, 2008). A simple example is illustrative. Imagine that in 2009, three fictitious people were asked to report their current level of life satisfaction (on a scale from 1 to 10) and to predict their level of life satisfaction 10 years later. Imagine that in 2019, these same people were asked to report their current level of life satisfaction. Finally, imagine that this exercise yielded the results shown in Fig. 1.

A mean-level analysis focuses on the average life satisfaction in a population (grey bars). Those means show that the three participants *on average* expected to change over ten years (Mean of predicted satisfaction in 2019 - Mean of reported satisfaction in 2009 = 1) but that *on average* they did not change (Mean of reported satisfaction in 2019 – Mean of reported satisfaction in 2009 = 0). This is similar to HB's finding. And yet, as the individual trajectories show, *every one* of the three participants *did* in fact change over ten years. And as a comparison of the slopes of expected and actual change shows, these participants all underes-
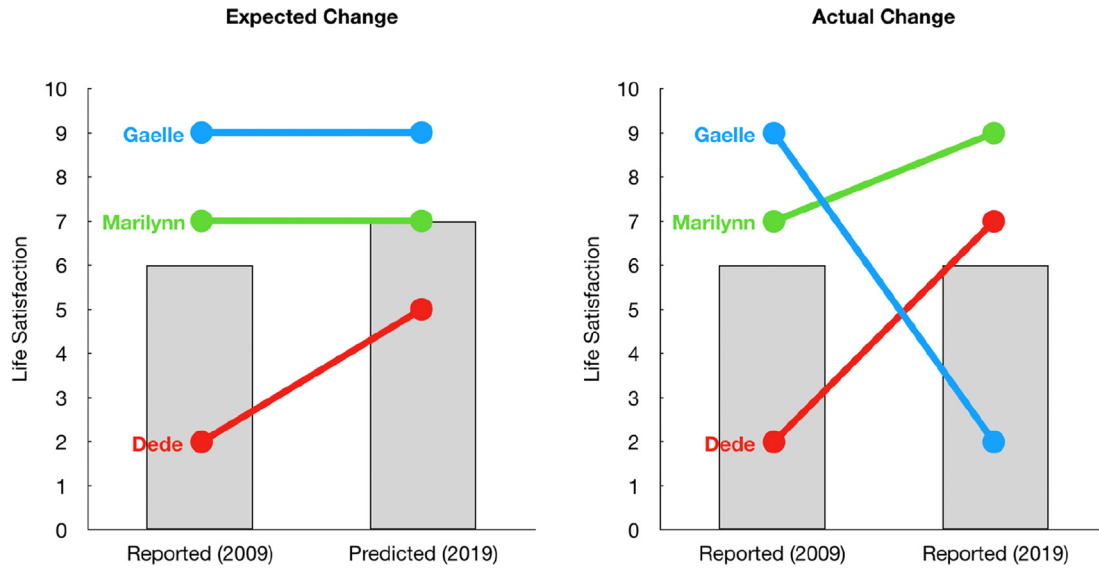
Expected Change

Actual Change

Fig. 1. Difference between mean-level change and individual-level change. While participants predict more change than they actually experience at the mean-level (grey bars), every participant actually underestimated how much they would change at the individual-level (colored slopes).

timated how much they would change. The point is that simply comparing the means of reported and predicted life satisfaction over time (as HB's analysis does) obscures these critical facts. If one person's score on a measure increases by n points and another person's score decreases by n points, it is correct to say (as we do) that these people have changed, and it is incorrect to say (as HB do) that they have not.

HB reported the measures of absolute change that are critical to the end of history illusion in Table 4 in their Supplemental Materials, but did not report a proper analysis of those data. We con-

ducted such an analysis, and we found strong support for the end-of-history illusion.

3. Data re-analysis

We estimated a multilevel regression predicting the absolute amount of change in life satisfaction based on whether this change was predicted (=0) vs. experienced (=1). Because some participants provided two sets of prediction and experience across the three waves of MIDUS (i.e., prediction and experience for the 1996–
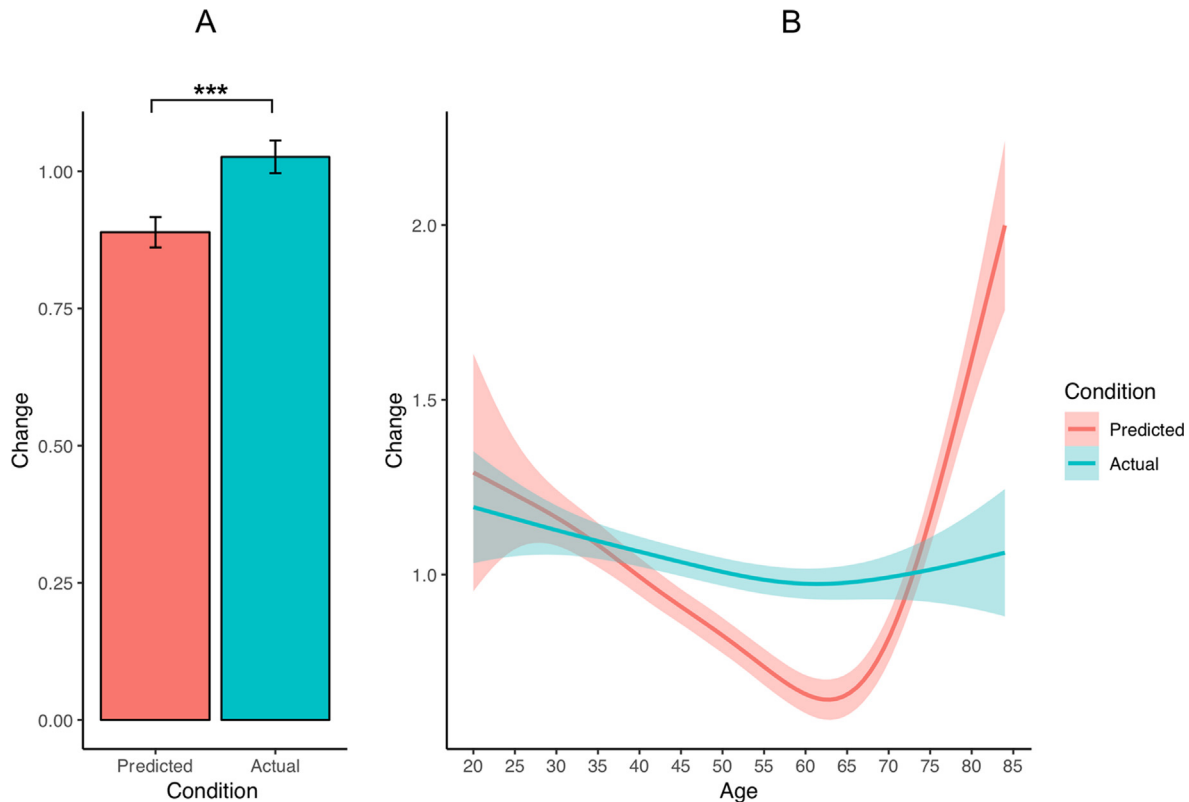
A

B

Fig. 2. *Predicted and actual individual change in life satisfaction over 10 years*. Panel A displays mean change in life satisfaction. Panel B displays change in life satisfaction as a function of age. Error bars (panel A) and error ribbons (panel B) display 95% confidence intervals. R code to reproduce figure: https://osf.io/xm89t.

2006 waves and prediction and experience for the 2006–2016 waves), we added a random intercept to our model to account for the nested structure of the data ($N_{participants}$ = 3,909 and $N_{observations}$ = 14,174; R code to reproduce all our analyses can be found on https://osf.io/xm89t). As Fig. 2A shows, on average, participants significantly *underestimated* how much their life satisfaction would change, b = 0.15, $t(10,430)$ = 8.463, p < .001. This result was robust whether we added random slopes to our model, b = 0.15, $t(10,430)$ = 8.12, p < .001, included or excluded participants who provided only prediction (but no actual change) data ($N_{participants}$ = 6,344 and $N_{observations}$ = 16,609; b = 0.11, t (11,830) = 6.474, p < .001) and when we used another classic measure of individual-level change, namely the Asendorpf (1992) individual stability (IS) coefficient ($IS_{predicted}$ = 0.61, $IS_{experienced}$ = 0.47, $t(4365)$ = 6.316, p < .001).

We also used generalized additive models (GAMs; Hastie & Tibshirani, 1987) to further explore how predicted and actual change in life satisfaction may differ as a function of participants' age. As Fig. 2B shows, the end of history illusion was apparent from the early 40′s to the early 70′s. In fact, the age range for which the 95% CI of predicted and actual change do not overlap encompasses 68% of the data. We note that the oldest participants (75 +), in contrast, seem to have overestimated how much they would change by the age 85+, although these results should be interpreted with caution given the relatively small number of observations in this age group (<4% of the data).

4. Conclusion

Many studies on the end of history illusion have been limited by the use of retrospective or peer-reports rather than directly mea-suring change (e.g., Quoidbach et al., 2013; Renoult, Kopp, Davidson, Taler, & Atance, 2016; Van Ryzin, 2016). The 30-year longitudinal MIDUS study allows us to contrast people's prediction with how much they *actually* change, providing an ideal dataset to determine whether individuals display an end of history illusion in the domain of life satisfaction. These data show that while *average* life satisfaction in the U.S. has remained relatively stable for 30 years, individuals have systematically under-estimated how much their own life-satisfaction will change. The end of history illusion is not an illusion.

References

Asendorpf, J. B. (1992). Beyond stability: Predicting inter-individual differences in intra-individual change. *European Journal of Personality, 6*, 103–117.

De Fruyt, F., Bartels, M., Van Leeuwen, K. G., De Clercq, B., Decuyper, M., & Mervielde, I. (2006). Five types of personality continuity in childhood and adolescence. *Journal of Personality and Social Psychology, 91*, 538–552.

Harris, H., & Busseri, M. A. (2019). Is there an 'end of history illusion' for life satisfaction? Evidence from a three-wave longitudinal study. *Journal of Research in Personality, 83*, 103869.

Hastie, T., & Tibshirani, R. (1987). Generalized additive models: Some applications. *Journal of the American Statistical Association, 82*, 371–386.

Quoidbach, J., Gilbert, D., & Wilson, T. (2013). The end of history illusion. *Science, 339*, 96–98.

Renoult, L., Kopp, L., Davidson, P. S., Taler, V., & Atance, C. M. (2016). You'll change more than I will: Adults' predictions about their own and others' future preferences. *The Quarterly Journal of Experimental Psychology, 69*, 299–309.

Roberts, B. W., & Mroczek, D. (2008). Personality trait change in adulthood. *Current Directions in Psychological Science, 17*, 31–35.

Van Ryzin, G. G. (2016). Evidence of an 'end of history illusion' in the work motivations of public service professionals. *Public Administration, 94*, 263–275.