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Full Length Article

## Future self-continuity promotes meaning in life through authenticity

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## ABSTRACT

We concerned with the emerging construct “future self-continuity” and its psychological consequences. We hypothesized, in particular, that future self-continuity, the perceived connection between one’s present and future self, is related—correlationally and causally—to meaning in life via authenticity, the subjective alignment with one’s true self. We tested and supported this hypothesis in three studies using measurement-of-mediation and experimental-causal-chain designs. At the trait level, future self-continuity was positively associated with meaning in life through authenticity (Study 1;  $N = 255$ ). Experimentally induced high (vs. low) future self-continuity increased meaning in life via authenticity (Study 2;  $N = 177$ ). Finally, experimentally induced authenticity (vs. controls) augmented meaning in life (Study 3;  $N = 369$ ). Future self-continuity has implications for psychological well-being.

## 1. Introduction

Authenticity and meaning in life (henceforth: meaning) have implications for goal pursuit, psychological well-being, and physical well-being (Czekierda et al., 2017; Rivera et al., 2019; Zika & Chamberlain, 1992). As such, it is important to understand precursors of authenticity and meaning. We focused on one such precursor, future self-continuity. In particular, we tested in three studies the idea that future self-continuity imbues life with meaning by increasing authenticity.

## 1.1. Defining the constructs of interest

Future self-continuity, also labeled present-future self-continuity (Sedikides et al., 2023), refers to the sense of connection between one’s present and future self. The construct has been gaining traction in the literature (Hershfield, 2023; Oyserman & Horowitz, 2023; Sedikides et al., 2023). It is typically assessed with scales that estimate one’s proximity, affinity, perceived link, or similarity to their future self (Blouin-Hudon & Pychyl, 2015; Ersner-Hershfield et al., 2009; Kamphorst et al., 2017; Sokol & Serper, 2020; cf. Hong et al., 2021, 2022). Further, the construct is often manipulated by representing one’s future self vividly in their imagination (Hershfield, 2011), interacting virtually with an aged version of themselves (Hershfield, 2011; Shen et al., 2022), visualizing the future as a journey (Landau et al., 2014), writing a letter to one’s future self (Simić et al., 2021) and—pretending to be that future

self—writing back (Chishima & Wilson, 2021), chronicling an imagined day in one’s life when they are 70 years old (Gasiorek, 2022), or varying the strength of association with one’s future self (Sedikides et al., 2023; cf. Sedikides et al., 2015).

Meaning in life is the sense that one’s life has coherence (i.e., is comprehensible or predictable), purpose (i.e., is goal-oriented or worth pursuing), and significance (i.e., has value or matters; King et al., 2016; Krause & Hayward, 2014; Martela & Steger, 2016). These three components are correspondingly cognitive, motivational, and evaluative (Costin & Vignoles, 2020; Reker & Wong, 1988). Recent research has ascribed particular weight to the evaluative component of significance (Costin & Vignoles, 2020). Regardless, we are interested in meaning in life as an inclusive construct, and, in particular, its perceived presence in one’s life (Steger et al., 2006).

Lastly, authenticity is the sense that one is in alignment with their true self (Sedikides et al., 2017). Feeling authentic, then, means feeling like one’s real self. This definition, which emphasizes global or felt authenticity, reflects contemporary advances in the literature (Chen, 2019; Lenton, Bruder, et al., 2013; Rivera et al., 2019; Schmader & Sedikides, 2018; Sedikides et al., 2019; Vess, 2019). Notably, authenticity is linked to essentialist thinking (Christy et al., 2019); that is, individuals often think of true selves as essences that are relatively immutable across time and context.

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## 1.2. Interrelations among the constructs of interest

High future self-continuity invites clarity about the present self, the future self, and their interrelation (Jiang et al., 2020). In projecting the present self onto the future self, the individual ponders who they truly are. By engaging in future self-continuity, then, the individual is likely to feel more authentic. In contrast, low future self-continuity is associated with lack of cognitive insight such as reduced introspection or ability to acknowledge fallibility and overconfidence in one's beliefs (Rifkin & Etkin, 2019; Sokol & Serper 2019a). Relatedly, when the future self is perceived as similar to the present self (i.e., temporally continuous), it will feel like the person one really is; however, when the future self is perceived as dissimilar to the present self (i.e., temporally discontinuous), it may feel psychologically as a stranger (Hamilton & Cole, 2017; Pronin et al., 2008) and thus not as one's real self. In addition, an individual who perceives themselves as more continuous in the future, or contemplates characteristics that will continue onto the future, may be more in tune with aspects they consider part of their true self, which, as stated above (Christy et al., 2019), are seen as unlikely to change. Taken together, high future self-continuity will be related, or lead to, greater authenticity.

By experiencing cognitive clarity, psychological closeness to their real self, or a sense of self-immutability, the person might feel that "all the pieces of the puzzle fit together (i.e., coherence), that their goals are lucid (i.e., purpose), and that life is becoming more worth living (i.e., significance). The person will accrue meaning. Stated otherwise, future self-continuity will be related—correlationally or causally—to meaning.

Prior research has indicated that authenticity is positively related to meaning in life (Rivera et al., 2019; Schlegel et al., 2009, 2011; Wood et al., 2008) and confers meaning in life (Schlegel et al., 2009, 2011). We expected to replicate these findings. More importantly, we hypothesized that, by virtue of its association with or capacity to increase authenticity, future self-continuity will augment meaning in life.

## 1.3. Overview

We tested the hypothesis that authenticity mediates the relation between future self-continuity and meaning in three studies. In Study 1, we used a measurement-of-mediation approach to examine whether future self-continuity and meaning are positively associated through authenticity. In Studies 2 and 3, we implemented the experimental-causal-chain approach (Spencer et al., 2005) to evaluate each causal link. In particular, we tested whether future self-continuity increases authenticity in Study 2, and whether authenticity promotes meaning in Study 3.

All studies were approved by Institutional Review Boards. We report sample size determination, all manipulations, and all measures (no data exclusions), and we follow Journal article reporting standards (Kazak, 2018). The studies were not preregistered. All materials (including participant ethnicity and additional analyses), data, and analysis code are available at (<https://osf.io/gf8tj/>).

## 2. Study 1

In Study 1, we tested the hypothesis that, at the trait level, future self-continuity and meaning are positively associated via greater authenticity.

### 2.1. Participants

We aimed to recruit at least 250 participants (Schönbrodt & Perugini, 2013). We recruited 255 (181 women, 71 men, 3 "other") UK-based participants aged 18–70 years ( $M = 36.07$ ,  $SD = 12.02$ ) on Prolific. Of them, 243 were White/White British, 6 Black/Black British, 4 Asian/Asian British, 1 mixed, and 1 "other." The sensitivity analysis had 80 % power to detect the smallest effect size of  $b = 0.17$ . By requirement (in

this and all studies), participants' first language was English.

### 2.2. Materials and procedure

First, we assessed future self-continuity with four items, adapted from Sedikides et al. (2015). A sample item is: "I feel connected with who I will be in the future" (1 = *not at all*, 7 = *very much*;  $M = 4.89$ ,  $SD = 1.14$ ,  $\alpha = 0.91$ ).

Next, we assessed authenticity with three scales in a fixed random order. The first was the Southampton Authenticity Scale (Kelley et al., 2022). It comprises four items preceded by the stem "In most situations....". A sample item is: "I feel true to myself" (1 = *not at all*, 7 = *very much*;  $M = 5.36$ ,  $SD = 1.23$ ,  $\alpha = 0.91$ ). The second scale was the single-item Real-Self Overlap Scale (Lenton, Slabu et al., 2013) where participants chose one of seven pairs of circles. The circles on the left represent one's general self (*who you feel yourself to be*), whereas the circles on the right represent one's real self (*who you truly are*). Each pair varied in the degree of overlap (closeness) between one's general self and real self (1 = *circles not at all overlapping*, 7 = *circles overlapping strongly*;  $M = 4.64$ ,  $SD = 1.55$ ). Greater overlap indicates more authenticity. The third scale was the 12-item Authenticity Scale (Wood et al., 2008). A sample item is: "I think it is better to be yourself, than to be popular" (1 = *does not describe me at all*, 7 = *describes me very well*;  $M = 4.94$ ,  $SD = 1.03$ ,  $\alpha = 0.88$ ). We present scale intercorrelations in Table 1. The three scales produced virtually identical results. We report the Southampton Authenticity Scale results for brevity and consistency with our practice in Study 2. We describe the results for the other two scales in Supplementary Material.

Finally, we measured meaning with the 5-item Presence of Meaning Subscale of the Meaning in Life Questionnaire (Steger et al., 2006). A sample item is: "My life has a clear sense of purpose" (1 = *not at all*, 7 = *very much*;  $M = 4.18$ ,  $SD = 1.44$ ,  $\alpha = 0.90$ ).

### 2.3. Results and discussion

The more future self-continuity participants reported, the more authenticity and the more meaning they experienced. Also, the more authenticity they reported, the more meaning they experienced (Table 1).

We conducted a mediation analysis using Hayes' (2013) Process Macro (Model 4, 10,000 bootstrap samples). Future self-continuity was positively associated with authenticity,  $b = 0.67$ ,  $SE = 0.05$ ,  $t(253) = 12.69$ ,  $p < .001$ . The direct effect of future self-continuity on meaning was significant,  $b = 0.64$ ,  $SE = 0.08$ ,  $t(252) = 8.33$ ,  $p < .001$ . Authenticity and meaning were positively associated controlling for future self-

**Table 1**  
Correlations Among Scales in Study 1.

Measure	1	2	3	4	5
1. Future Self-Continuity Scale	–				
2. Southampton Authenticity Scale	0.624	–			
3. Real Self Overlap Scale	0.490	0.682	–		
4. Authenticity Scale	0.499	0.654	0.601	–	
5. Presence of Meaning Subscale of the Meaning in Life Questionnaire	0.634	0.519	0.494	0.465	–

Note. All correlations were significant at  $p < .001$  ( $df = 253$ ).

continuity,  $b = 0.24$ ,  $SE = 0.07$ ,  $t(252) = 3.32$ ,  $p = .001$ . Lastly, the

indirect of future self-continuity on meaning through authenticity was significant,  $b = 0.16$ ,  $SE = 0.06$ , 95 % CI [0.049, 0.270].<sup>1</sup>

### 3. Study 2

In Study 2, we hypothesized that induced high (vs. low) future self-continuity would increase meaning through greater authenticity.

#### 3.1. Participants

Based on relevant research (Sedikides et al., 2015, Study 2), we aimed to recruit a minimum of 176 participants to achieve a medium effect with 95 % power, assuming  $\alpha = 0.05$ . We recruited 177 UK-based participants (114 women, 62 men, 1 “other”), aged 18–65 years ( $M = 29.10$ ,  $SD = 12.18$ ) on Prolific. Of them, 138 were White/White British, 8 Black/Black British, 15 Asian/Asian British, 10 mixed, and 6 “other.” The sensitivity analysis had 80 % power to detect the smallest effect size of  $d = 0.42$ . We randomly assigned them to the high future self-continuity ( $n = 88$ ) or low future self-continuity ( $n = 89$ ) condition.

#### 3.2. Materials and procedure

We manipulated future self-continuity as follows. Participants in the high future self-continuity condition described an important aspect of their lives that is invariant across their present and future self; this aspect would characterize them in the present and the future. Participants in the low future self-continuity condition described an important aspect of their future lives that would be different from now; this aspect would characterize them now but not in the future.

Subsequently, participants responded to a 3-item manipulation check adapted from Study 1’s trait-level future self-continuity questionnaire. A sample item is: “There is continuity in my life – from present to future” (1 = *not at all*, 7 = *very much*;  $M = 4.85$ ,  $SD = 1.30$ ,  $\alpha = 0.82$ ). Lastly, participants completed state-versions of the Southampton Authenticity Scale (1 = *not at all*, 7 = *very much*) and the Presence of Meaning Subscale of the Meaning in Life Questionnaire ( $M = 4.35$ ,  $SD = 1.57$ ,  $\alpha = 0.94$ ).

#### 3.3. Results and discussion

We report correlations among variables in Table 1S, Supplementary Material. We conducted a MANOVA to examine the effects of condition on the manipulation check, authenticity, and meaning. As intended, participants in the high future self-continuity condition reported greater future self-continuity ( $M_{\text{future self-continuity}} = 5.06$ ,  $SD_{\text{future self-continuity}} = 1.05$  vs.  $M_{\text{control}} = 4.64$ ,  $SD_{\text{control}} = 1.47$ ), authenticity ( $M_{\text{future self-continuity}} = 5.66$ ,  $SD_{\text{future self-continuity}} = 1.07$  vs.  $M_{\text{control}} = 5.01$ ,  $SD_{\text{control}} = 1.45$ ), and meaning ( $M_{\text{future self-continuity}} = 4.60$ ,  $SD_{\text{future self-continuity}} = 1.45$  vs.  $M_{\text{control}} = 4.10$ ,  $SD_{\text{control}} = 1.63$ ), than those in the low future self-continuity condition,  $F(1, 175) = 3.90$ ,  $p = .010$ ,  $\eta^2 = 0.06$ .<sup>2</sup>

We proceeded with a mediation analysis (Hayes, 2013; Model 4, 10,000 bootstrap samples). Future self-continuity increased authenticity,  $b = 0.65$ ,  $SE = 0.19$ ,  $t(175) = 3.40$ ,  $p < .001$ . The direct effect of the future self-continuity condition on meaning was not significant,  $b =$

<sup>1</sup> We acknowledge the limitations of comparing the hypothesized model with alternative mediation models (i.e., involving different ordering of variables) in cross-sectional designs (Bullock et al., 2010; Winer et al., 2016). Nevertheless, for completion purposes, we wish to report a test of an alternative model, namely, future self-continuity  $\Rightarrow$  meaning  $\Rightarrow$  authenticity. This model yielded worse fit,  $b = 0.14$ ,  $SE = 0.06$ , 95% CI = [0.041, 0.261], than our hypothesized model.

<sup>2</sup> The tests of between-subjects effects were as follows: future self-continuity  $F(1, 175) = 4.84$ ,  $p = .029$ ,  $\eta^2 = 0.03$ ; authenticity  $F(1, 175) = 11.56$ ,  $p < .001$ ,  $\eta^2 = 0.06$ ; and meaning  $F(1, 175) = 4.67$ ,  $p = .032$ ,  $\eta^2 = 0.03$ .

0.08,  $SE = 0.20$ ,  $t(174) = 0.38$ ,  $p = .705$ . Authenticity and meaning were positively associated, controlling for the future self-continuity condition,  $b = 0.65$ ,  $SE = 0.08$ ,  $t(174) = 8.44$ ,  $p < .001$  (we are referring to the b path of the mediation model where the mediator predicts the dependent variable while controlling for the independent variable). Importantly, the indirect effect of the future self-continuity condition on meaning through authenticity was significant,  $b = 0.43$ ,  $SE = 0.14$ , 95 % CI [0.176, 0.704]. In all, high future self-continuity increased meaning by raising authenticity.

### 4. Study 3

In Study 3, and in accordance with the experimental-causal-chain approach (Spencer et al., 2005), we were concerned with manipulating the putative mediator. In particular, we tested whether authenticity augments meaning. We manipulated authenticity in line with our theorizing, while contrasting it with both a neutral and an inauthenticity condition, and assessed meaning.

#### 4.1. Participants

Based on relevant research (Gino & Kouchaki, 2020, Study 1), we aimed to recruit a minimum of 252 participants to achieve a medium effect size with 95 % power and an alpha of 0.05. We tested 369 undergraduate students (279 women, 82 men, 5 non-binary, 1 transgendered man, 1 “other”), aged 17–51 years ( $M = 19.96$ ,  $SD = 3.99$ ) enrolled in the U.S. and U.K. In particular, we recruited 269 undergraduates (191 women, 71 men, 5 non-binary, 1 transgendered man, 1 other; 238 White/White American, 11 Black/African American, 7 Asian/Asian American, 4 Middle Eastern/Arab American, 7 mixed, 2 “other”), aged 17–51 years ( $M = 20.19$  years,  $SD = 4.61$ ) from a U.S. University. We recruited 102 undergraduates (88 women, 11 men, 1 other; 83 White/White British, 3 Black/Black British, 9 Asian/Asian British, 1 mixed, 4 “other”), aged 18–22 years ( $M = 19.34$  years,  $SD = 1.08$ ) from a UK University. We continued data collection until the end of the academic term. The sensitivity analysis had 80 % power to detect the smallest effect size of  $f = 0.16$  ( $\eta_p^2 = 0.025$ ). We randomly assigned participants to the authenticity ( $n = 117$ ), neutral ( $n = 129$ ), or inauthenticity ( $n = 123$ ) condition.<sup>3</sup>

#### 4.2. Materials and procedure

We manipulated authenticity after Gino et al. (2015). In the authenticity condition, participants read: “Please recall a time in your personal or professional life when you behaved in a way that made you feel true to yourself, that made you feel authentic.” It elaborated: “It should just be a situation in which you felt authentic with your core self.” Participants in the neutral condition recalled “what happened yesterday, throughout the day.” In the inauthenticity condition, participants read: “Please spend the next five minutes describing the details about this situation that made you feel inauthentic.” It elaborated: “It should just be a situation in which you felt inauthentic with your core self.”

Then, participants responded to a 3-item authenticity manipulation check (Kifer et al., 2013). A sample item is: “I am my true self” (1 = *not at all*, 7 = *very much*;  $M = 4.95$ ,  $SD = 1.93$ ,  $\alpha = 0.98$ ). Lastly, participants completed the same meaning scale as in Study 2 ( $M = 4.70$ ,  $SD = 1.27$ ,  $\alpha = 0.86$ ).

<sup>3</sup> We found no significant Condition (authenticity vs. neutral vs. inauthenticity) x Source (U.S. vs. U.K.) interaction on any measure. The results did not vary by university.

### 4.3. Results and discussion

We report correlations among variables in Table 2S, Supplementary Material. We conducted one-way ANOVAs to examine the effects of condition on the manipulation check and meaning. Participants differed in authenticity as a function of condition,  $F(2, 366) = 103.79, p < .001, \eta_p^2 = 0.362$ . Analytical comparisons (Bonferroni correction) revealed that participants in the authenticity condition ( $M = 6.08, SD = 1.08$ ) reported greater authenticity than those in the neutral ( $M = 5.46, SD = 1.55, p = .006, d = 0.46$ ) or inauthenticity ( $M = 3.36, SD = 1.88, p < .001, d = 1.77$ ) condition. Moreover, participants in the neutral condition reported greater state authenticity than their inauthenticity counterparts ( $p < .001, d = 1.22$ ). The manipulation was effective.

Importantly, meaning also varied by condition,  $F(2, 366) = 13.04, p < .001, \eta_p^2 = 0.067$ . Participants in the authenticity condition ( $M = 5.11, SD = 1.14$ ) reported greater meaning than those in the neutral ( $M = 4.71, SD = 1.32, p = .032, d = 0.32$ ) or inauthenticity ( $M = 4.30, SD = 1.22, p < .001, d = 0.69$ ) condition, and participants in the neutral condition reported greater meaning than their inauthenticity counterparts ( $p = .027, d = 0.32$ ). Authenticity augmented meaning.

### 5. General discussion

Future self-continuity has been garnering empirical and theoretical attention. We added to this literature by taking a step toward specifying its psychological benefits. In particular, we hypothesized and found that future self-continuity is positively related to and increases meaning in life; further, it does so via its association with or capacity to foster authenticity. Additionally, we contributed to the literature by introducing a manipulation of future self-continuity.

We tested a cross-sectional mediation model in Study 1, a practice that has come under criticism (Maxwell & Cole, 2007; O’Laughlin et al., 2018). However, this criticism is inapplicable in our case. First, we were interested in the empirical plausibility of a specific hypothesis. As such, testing a cross-sectional mediation model was informative, because it placed our hypothesized model (future self-continuity  $\Rightarrow$  authenticity  $\Rightarrow$  meaning) under risk (Anderson & Bushman, 1997; Fiedler et al., 2011). Nevertheless, as noted in Footnote #1, we also tested an alternative model (future self-continuity  $\Rightarrow$  meaning  $\Rightarrow$  authenticity), which had worse fit than ours. We consider our reported mediation as plausible. Importantly, we implemented an experimental-causal-chain approach (Spencer et al., 2005) in Studies 2 and 3 that contributed to the validation of our hypothesized model.

The findings are generative. Prior work has shown that low future self-continuity is a liability for psychological health. For example, low future self-continuity is regarded as a causal factor in depression (Roepke & Seligman, 2015) and is related to severity of psychiatric symptoms (Sokol & Serper 2019a); in contrast, higher future self-continuity is positively associated with subjective well-being (increased positive affect, reduced negative affect; Blouin-Hudon & Pychyl, 2015) and satisfaction with life (Reiff et al., 2020; Sokol & Serper, 2019b). Here, we illustrated that high future self-continuity augments meaning by raising authenticity. Follow-up research could address whether losses in authenticity and meaning drive, in part, the correlates or consequences of low future self-continuity, or whether gains in authenticity and meaning drive, in part, the correlates of consequences of high future self-continuity. Follow-up research might also examine which component of meaning in life (coherence, purpose, or significance; King et al., 2016) future self-continuity impacts the most through authenticity. Lastly, follow-up investigations might consider additional psychological benefits of future self-continuity, including facets of eudaimonic wellbeing (e.g., vitality, personal growth, optimism, spirituality, positive relationships, competence or environmental mastery; Ellison, 1983; Ryff, 1989; Su et al., 2014).

Future self-continuity is relevant to other domains of human functioning. Participants higher (than lower) on future self-continuity are

more likely to increase their monetary savings or financial assets (Bryan & Hershfield, 2012), make more ethical decisions (Hershfield et al., 2012), and exhibit stronger academic motivation or performance (Peetz et al., 2009). These future self-continuity effects may also be mediated by authenticity. That is, individuals experiencing future self-continuity may become savvier financially, more responsible ethically, and more motivated academically by feeling more like their true self.

Follow-up work would need to address limitations of our research. Longitudinal or experience sampling methodology studies could examine the viability of our findings, especially in field settings. Cross-cultural studies could test the generalizability of our findings in non-Western cultures. Lastly, studies with older adults could explore age boundaries of future self-continuity. Lastly, studies could test the applicability of our findings among dementia patients (El Haj et al., 2022) or patients with Korsakoff’s syndrome (El Haj & Moustafa, 2023).

In conclusion, future-self-continuity is emerging as a construct that links the psychology of the present with the psychology of the future. Our research represented a foray into the construct’s psychological benefits (i.e., meaning) and a mechanism through which such benefits are afforded (i.e., authenticity). The empirical future of the construct is bright.

### CRedit authorship contribution statement

**Emily K. Hong:** Conceptualization, Formal analysis, Funding acquisition, Investigation, Methodology, Project administration, Writing – original draft, Writing – review & editing. **Yiyue Zhang:** Investigation, Writing – original draft, Writing – review & editing. **Constantine Sedikides:** Conceptualization, Methodology, Supervision, Writing – original draft, Writing – review & editing.

### Declaration of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

### Data availability

All materials (including participant ethnicity and additional analyses), data, and analysis code are available on Open Science Framework at (<https://osf.io/gf8tj/>). The studies were not preregistered.

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### Appendix A. Supplementary data

Supplementary data to this article can be found online at <https://doi.org/10.1016/j.jrp.2024.104463>.

### References

- Anderson, C. A., & Bushman, B. J. (1997). External validity of “trivial” experiments: The case of laboratory aggression. *Review of General Psychology, 1*(1), 19–41. <https://doi.org/10.1037/1089-2680.1.1.19>
- Blouin-Hudon, E.-M.-C., & Pychyl, T. A. (2015). Experiencing the temporally extended self: Initial support for the role of affective states, vivid mental imagery, and future self-continuity in the prediction of academic procrastination. *Personality and Individual Differences, 86*, 50–56. <https://doi.org/10.1016/j.paid.2015.06.003>
- Bryan, C. J., & Hershfield, H. E. (2012). You owe it to yourself: Boosting retirement saving with a responsibility-based appeal. *Journal of Experimental Psychology: General, 141*(3), 429–432. <https://doi.org/10.1037/a0026173>

- Bullock, J. G., Green, D. P., & Ha, S. E. (2010). Yes, but what's the mechanism? (don't expect an easy answer). *Journal of Personality and Social Psychology*, 98(4), 550–558. <https://doi.org/10.1037/a0018933>
- Chen, S. (2019). Authenticity in context: Being true to working selves. *Review of General Psychology*, 23(1), 60–72. <https://doi.org/10.1037/gpr0000160>
- Chishima, Y., & Wilson, A. E. (2021). Conversation with a future self: A letter-exchange exercise enhances student self-continuity, career planning, and academic thinking. *Self and Identity*, 20(5), 646–671. <https://doi.org/10.1080/15298868.2020.1754283>
- Christy, A. G., Schlegel, R. J., & Cimpian, A. (2019). Why do people believe in a “true self”? The role of essentialist reasoning about personal identity and the self. *Journal of Personality and Social Psychology*, 117(2), 386–416. <https://doi.org/10.1037/pspp0000254>
- Costin, V., & Vignoles, V. L. (2020). Meaning is about mattering: Evaluating coherence, purpose, and existential mattering as precursors of meaning in life judgments. *Journal of Personality and Social Psychology*, 118(4), 864–884. <https://doi.org/10.1037/pspp0000225>
- Czekierda, K., Banik, A., Park, C. L., & Luszczynska, A. (2017). Meaning in life and physical health: Systematic review and meta-analysis. *Health Psychology Review*, 11(4), 387–418. <https://doi.org/10.1080/17437199.2017.1327325>
- El Haj, M., Allain, P., Boutoleau-Bretonniere, C., Chapelet, G., Antoine, P., & Gallouj, K. (2022). “Who will I be?”: The future of the self as described by Alzheimer's disease (AD) patients. *Geriatric Nursing*, 46, 1–6. <https://doi.org/10.1016/j.gerinurse.2022.04.016>
- El Haj, M., & Moustafa, A. A. (2023). “Who am I?”, diminished sense of self in Korsakoff's syndrome. *Self and Identity*. Advance online publication. <https://doi.org/10.1080/15298868.2023.2246679>
- Ellison, C. W. (1983). Spiritual well-being: Conceptualization and measurement. *Journal of Psychology and Theology*, 11(4), 330–340. <https://doi.org/10.1177/009164718301100406>
- Ersner-Hersfield, H., Garton, M. T., Ballard, K., Samanez-Larkin, G. R., & Knutson, B. (2009). Don't stop thinking about tomorrow: Individual differences in future self-continuity account for saving. *Judgment and Decision Making*, 4(4), 280–286. <https://doi.org/10.1177/S1930297500003855>
- Fiedler, K., Schott, M., & Meiser, T. (2011). What mediation analysis can (not) do. *Journal of Experimental Social Psychology*, 47(6), 1231–1236. <https://doi.org/10.1016/j.jesp.2011.05.007>
- Gasiorek, J. (2022). Present-future self-continuity and intergenerational communication as predictors of young adults' evaluations of older adults and attitudes toward aging. *Journal of Language and Social Psychology*, 41(4), 476–489. <https://doi.org/10.1177/0261927X211068539>
- Gino, F., & Kouchaki, M. (2020). Feeling authentic serves as a buffer against rejection. *Organizational Behavior and Human Decision Processes*, 160, 36–50. <https://doi.org/10.1016/j.obhdp.2020.03.006>
- Gino, F., Kouchaki, M., & Galinsky, A. D. (2015). The moral virtue of authenticity: How inauthenticity produces feelings of immorality and impurity. *Psychological Science*, 26(7), 983–996. <https://doi.org/10.1177/0956797615575277>
- Hamilton, J., & Cole, S. N. (2017). Imagining possible selves across time: Characteristics of self-images and episodic thoughts. *Consciousness and Cognition: An International Journal*, 52, 9–20. <https://doi.org/10.1016/j.concog.2017.04.015>
- Hayes, A. F. (2013). *Introduction to mediation, moderation, and conditional process analysis: A regression-based approach*. Guilford Press.
- Hershfield, H. E. (2011). Future self-continuity: How conceptions of the future self transform intertemporal choice. *Annals of the New York Academy of Sciences*, 1235(1), 30–43. <https://doi.org/10.1111/j.1749-6632.2011.06201.x>
- Hershfield, H. (2023). *Your future self: How to make tomorrow better today*. Hachette.
- Hershfield, H. E., Cohen, T. R., & Thompson, L. (2012). Short horizons and tempting situations: Lack of continuity to our future selves leads to unethical decision making and behavior. *Organizational Behavior and Human Decision Processes*, 117(2), 298–310. <https://doi.org/10.1016/j.obhdp.2011.11.002>
- Hong, E. K., Sedikides, C., & Wildschut, T. (2021). Nostalgia strengthens global self-continuity through holistic thinking. *Cognition and Emotion*, 35(4), 730–737. <https://doi.org/10.1080/02699931.2020.1862064>
- Hong, E. K., Sedikides, C., & Wildschut, T. (2022). How does nostalgia conduce to global self-continuity? The roles of identity narrative, associative links, and stability. *Personality and Social Psychology Bulletin*, 48(5), 735–749. <https://doi.org/10.1177/01461672211024889>
- Jiang, T., Chen, Z., & Sedikides, C. (2020). Self-concept clarity lays the foundation for self-continuity: The restorative function of autobiographical memory. *Journal of Personality and Social Psychology*, 119(4), 945–959. <https://doi.org/10.1037/pspp0000259>
- Kamphorst, B. A., Nauts, S., & Blouin-Hudon, E.-M. (2017). Introducing a continuous measure of future self-continuity. *Social Science Computer Review*, 35(3), 417–421. <https://doi.org/10.1177/0894439316653513>
- Kazak, A. E. (2018). Editorial: Journal article reporting standards. *American Psychologist*, 73(1), 1–2. <https://doi.org/10.1037/amp0000263>
- Kelley, N. J., Davis, W. E., Dang, J., Liu, L., Wildschut, T., & Sedikides, C. (2022). Nostalgia confers psychological wellbeing by increasing authenticity. *Journal of Experimental Social Psychology*, 102, Article 104379. <https://doi.org/10.1016/j.jesp.2022.104379>
- Kifer, Y., Heller, D., Perunovic, W. Q. E., & Galinsky, A. D. (2013). The good life of the powerful: The experience of power and authenticity enhances subjective well-being. *Psychological Science*, 24(3), 280–288. <https://doi.org/10.1177/0956797612450891>
- King, L. A., Heintzelman, S. J., & Ward, S. J. (2016). Beyond the search for meaning: A contemporary science of the experience of meaning in life. *Current Directions in Psychological Science*, 25(4), 211–216. <https://doi.org/10.1177/0963721416656354>
- Krause, N., & Hayward, R. D. (2014). Assessing stability and change in a second-order confirmatory factor model of meaning in life. *Journal of Happiness Studies*, 15(2), 237–253. <https://doi.org/10.1007/s10902-013-9418-y>
- Landau, M. J., Oyserman, D., Keefer, L. A., & Smith, G. C. (2014). The college journey and academic engagement: How metaphor use enhances identity-based motivation. *Journal of Personality and Social Psychology*, 106(5), 679–698. <https://doi.org/10.1037/a0036414>
- Lenton, A. P., Bruder, M., Slabu, L., & Sedikides, C. (2013). How does “being real” feel? The experience of state authenticity. *Journal of Personality*, 81(3), 276–289. <https://doi.org/10.1111/j.1467-6494.2012.00805.x>
- Lenton, A. P., Slabu, L., Sedikides, C., & Power, K. (2013). I feel good, therefore I am real: Testing the causal influence of mood on state authenticity. *Cognition and Emotion*, 27(7), 1202–1224. <https://doi.org/10.1080/02699931.2013.778818>
- Martela, F., & Steger, M. F. (2016). The three meanings of meaning in life: Distinguishing coherence, purpose, and significance. *Journal of Positive Psychology*, 11(5), 531–545. <https://doi.org/10.1080/17439760.2015.1137623>
- Maxwell, S. E., & Cole, D. A. (2007). Bias in cross-sectional analyses of longitudinal mediation. *Psychological Methods*, 12(1), 23–44. <https://doi.org/10.1037/1082-989X.12.1.23>
- O'Laughlin, K. D., Martin, M. J., & Ferrer, E. (2018). Cross-sectional analysis of longitudinal mediation processes. *Multivariate Behavioral Research*, 53(3), 375–402. <https://doi.org/10.1080/00273171.2018.1454822>
- Oyserman, D., & Horowitz, E. (2023). Future self to current action: Integrated review and identity-based motivation synthesis. In A. J. Elliot (Ed.), *Advances in motivation science*, 10, 73–147. <https://doi.org/10.31234/osf.io/24wvd>
- Peetz, J., Wilson, A. E., & Strahan, E. J. (2009). So far away: The role of subjective temporal distance to future goals in motivation and behavior. *Social Cognition*, 27(4), 475–495. <https://doi.org/10.1521/soco.2009.27.4.475>
- Pronin, E., Olivola, C. Y., & Kennedy, K. A. (2008). Doing unto future selves as you would do unto others: Psychological distance and decision making. *Personality and Social Psychology Bulletin*, 34(2), 224–236. <https://doi.org/10.1177/0146167207310023>
- Reiff, J. S., Hershfield, H. E., & Quoidbach, J. (2020). Identity over time: Perceived similarity between selves predicts well-being 10 years later. *Social Psychological and Personality Science*, 11(2), 160–167. <https://doi.org/10.1177/1948550619843931>
- Reker, G. T., & Wong, P. T. P. (1988). Aging as an individual process: Toward a theory of personal meaning. In J. E. Birren, & V. L. Bengtson (Eds.), *Emergent theories of aging* (pp. 214–246). Springer Publishing Company.
- Rifkin, J. R., & Etkin, J. (2019). Variety in self-expression undermines self-continuity. *Journal of Consumer Research*, 46(4), 725–749. <https://doi.org/10.1093/jcr/ucz016>
- Rivera, G. N., Christy, A. G., Kim, J., Vess, M., Hicks, J. A., & Schlegel, R. J. (2019). Understanding the relationship between perceived authenticity and wellbeing. *Review of General Psychology*, 23(1), 113–126. <https://doi.org/10.1037/gpr0000161>
- Roepke, A. M., & Seligman, M. E. P. (2015). Doors opening: A mechanism for growth after adversity. *The Journal of Positive Psychology*, 10(2), 107–115. <https://doi.org/10.1080/17439760.2014.913669>
- Ryff, C. D. (1989). Happiness is everything, or is it? Explorations on the meaning of psychological well-being. *Journal of Personality and Social Psychology*, 57(6), 1069–1081. <https://doi.org/10.1037/0022-3514.57.6.1069>
- Schlegel, R. J., Hicks, J. A., Arndt, J., & King, L. A. (2009). Thine own self: True self-concept accessibility and meaning in life. *Journal of Personality and Social Psychology*, 96(2), 473–490. <https://doi.org/10.1037/a0014060>
- Schlegel, R. J., Hicks, J. A., King, L. A., & Arndt, J. (2011). Feeling like you know who you are: Perceived true self-knowledge and meaning in life. *Personality and Social Psychology Bulletin*, 37(6), 745–756. <https://doi.org/10.1177/0146167211400424>
- Schmader, T., & Sedikides, C. (2018). State Authenticity as Fit to Environment (SAFE): The implications of social identity for fit, authenticity, and self-segregation. *Personality and Social Psychology Review*, 22(3), 228–259. <https://doi.org/10.1177/1088868317734080>
- Schönbrodt, F. D., & Perugini, M. (2013). At what sample size do correlations stabilize? *Journal of Research in Personality*, 47(5), 609–612. <https://doi.org/10.1016/j.jrp.2013.05.009>
- Sedikides, C., Hong, E., & Wildschut, T. (2023). Self-continuity. *Annual Review of Psychology*, 74, 333–361. <https://doi.org/10.1146/annurev-psych-032420-032236>
- Sedikides, C., Lenton, A. P., Slabu, L., & Thomaes, S. (2019). Sketching the contours of state authenticity. *Review of General Psychology*, 23(1), 73–88. <https://doi.org/10.1037/gpr0000156>
- Sedikides, C., Slabu, L., Lenton, A., & Thomaes, S. (2017). State authenticity. *Current Directions in Psychological Science*, 26(6), 521–525. <https://doi.org/10.1177/0963721417713296>
- Sedikides, C., Wildschut, T., Routledge, C., & Arndt, J. (2015). Nostalgia counteracts self-discontinuity and restores self-continuity. *European Journal of Social Psychology*, 45(1), 52–61. <https://doi.org/10.1037/gpr0000156>
- Shen, Y. I., Nelson, A. I., & Oberlin, B. J. (2022). Virtual reality intervention effects on future self-continuity and delayed reward preference in substance use disorder recovery: Pilot study results. *Discover Mental Health*, 2, 19. <https://doi.org/10.1007/s44192-022-00022-1>
- Simić, A., Vardo, E., & Solaković, Š. (2021). Future self-continuity increases responsibility during Covid-19 restrictions. *Psihologijske Teme*, 30(2), 205–223. <https://doi.org/10.31820/pt.30.2.3>
- Sokol, Y., & Serper, M. (2019a). Temporal self, psychopathology, and adaptive functioning deficits: An examination of acute psychiatric patients. *Journal of Nervous Mental Disorders*, 207(2), 76–83. <https://doi.org/10.1097/NMD.0000000000000925>
- Sokol, Y., & Serper, M. (2019b). Experimentally increasing self-continuity improves subjective well-being and protects against self-esteem deterioration from an ego-deflating task. *Identity*, 19(2), 157–172. <https://doi.org/10.1080/15283488.2019.1604350>

- Sokol, Y., & Serper, M. (2020). Development and validation of a Future Self-Continuity Questionnaire: A preliminary report. *Journal of Personality Assessment*, 102(5), 677–688. <https://doi.org/10.1080/00223891.2019.1611588>
- Spencer, S. J., Zanna, M. P., & Fong, G. T. (2005). Establishing a causal chain: Why experiments are often more effective than mediational analyses in examining psychological processes. *Journal of Personality and Social Psychology*, 89(6), 845–851. <https://doi.org/10.1037/0022-3514.89.6.845>
- Steger, M. F., Frazier, P., Oishi, S., & Kaler, M. (2006). The meaning in life questionnaire: Assessing the presence of and search for meaning in life. *Journal of Counseling Psychology*, 53(1), 80–93. <https://doi.org/10.1037/0022-0167.53.1.80>
- Su, R., Tay, L., & Diener, E. (2014). The development and validation of the comprehensive inventory of thriving (CIT) and the brief inventory of thriving (BIT). *Applied Psychology: Health and Well-Being*, 6(3), 251–279. <https://doi.org/10.1111/aphw.12027>
- Vess, M. (2019). Varieties of conscious experience and the subjective awareness of one's "true" self. *Review of General Psychology*, 23(1), 89–98. <https://doi.org/10.1177/1089268019829471>
- Winer, E. S., Cervone, D., Bryant, J., McKinney, C., Liu, R. T., & Nadorff, M. R. (2016). Distinguishing mediational models and analyses in clinical psychology: Atemporal associations do not imply causation. *Journal of Clinical Psychology*, 72(9), 947–955. <https://doi.org/10.1002/jclp.22298>
- Wood, A. M., Linley, P. A., Maltby, J., Baliousis, M., & Joseph, S. (2008). The authentic personality: A theoretical and empirical conceptualization and the development of the Authenticity Scale. *Journal of Counseling Psychology*, 55(3), 385–399. <https://doi.org/10.1037/0022-0167.55.3.385>
- Zika, S., & Chamberlain, K. (1992). On the relation between meaning in life and psychological well-being. *British Journal of Psychology*, 83(1), 133–145. <https://doi.org/10.1111/j.2044-8295.1992.tb02429.x>