THE GERONTOLOGICAL SOCIETY OF AMERICA®

OXFORD

Special Issue: Preregistered Studies of Personality Development and Aging Using Existing Data

Personality Development Beyond the Mean: Do Life Events Shape Personality Variability, Structure, and Ipsative Continuity?

Joshua J. Jackson, PhD*,● **and Emorie D. Beck, MA**

Department of Psychological and Brain Sciences, Washington University in St. Louis, Missouri.

*Address correspondence to: Joshua J. Jackson, PhD, Department of Psychological and Brain Sciences, Washington University in St. Louis, St. Louis, MO 63130. E-mail: j.jackson@wustl.edu

Abstract

Objectives: Life experiences are thought to prompt changes in personality. However, existing studies find few replicable mean-level changes in personality following life events. The focus on mean-level change may obscure other types of personality change that are not routinely studied in the context of life events. These are variability in response, structural, and ipsative change.
Methods: The current proposal examines whether major life events (e.g., divorce and job loss) affect these 3 understudied types of personality trait change using 3 waves of Big Five trait data in a large-scale, representative longitudinal study (German Socioeconomic Panel Study, *N* = 16,368). Structural equation models compare those who had an event to their prior self and a control group who did not experience the event.
Results: Life events were found to have mostly null or small effects on variability in response, structural, and ipsative change. Across 2 types of tests for variability in response, few replications occurred. The only consistent effect across 3 types of change was for mental health events, which served to increase variance in all Big Five traits and increase consistency in ipsative profiles.
Discussion: Life events tend not to affect these novel metrics of personality trait change. The one exception of mental health events is consistent with previous literature on mean-level change. Overall, life events do not appear to by major catalysts of personality change, regardless of how change is defined.

Keywords: Consistency, Ipsative, Life events, Longitudinal, Personality development

While relatively consistent across time, personality traits are not completely immutable. Changes occur throughout the life span from childhood (Hill & Edmonds, 2017) to young adulthood (Donnellan et al., 2007) and old age (Oltmanns et al., 2020). Despite such regular and replicable patterns of personality change, little progress has been made to understand the mechanisms responsible for changes in personality (Bleidorn et al., 2018). The most promising catalyst driving changes in personality is major life events such as divorce or starting a first job. Indeed, there are a number of reasons for life events are good candidates: life events occur across cultures (Bleidorn et al., 2013), are viewed as psychologically important (McAdams et al., 2001), are easy to measure (e.g., using check-boxes of events), and serve as proxies for numerous experiences that extend prior and after the event. While there is some evidence that life events are associated with mean-level changes (Specht et al., 2011), few studies examine other types of change in personality. The current study examines whether life events affect personality development through indices other than mean-level change. Using a large-scale representative longitudinal study, we investigated changes in variability in response, structural, and ipsative change.

Types of Personality Continuity and Change

Personality development cannot be measured via a single index. Indeed, there are several different types of change and continuity, often leading to confusion as to whether personality is stable or consistent (Caspi & Bem, 1990). Most common types of change are differential continuity and absolute continuity. The former is commonly assessed via test–retest correlations or intraclass correlations and represents the relative standing within a group across time. The latter, absolute continuity, is assessed through mean-level comparisons with simple *t tests or growth models* (Jackson & Allemand, 2014). Less commonly assessed metrics of continuity are interindividual differences in intra-individual change (i.e., variability), structural continuity, and ipsative change.

Individual differences in intra-individual change index the extent that people do not follow normative, absolute change trajectories. Individual differences in intra-individual change are typically assessed using variability in personality trajectory estimates. Evidence suggests people change in different directions throughout the life span. Testing the existence of individual differences in intra-individual change across the life span, Schwaba and Bleidorn (2018) found evidence across adulthood except for older adulthood. However, other studies have identified individual differences in change even among older and oldest-old adults (Mroczek & Spiro, 2003; Oltmanns et al., 2020).

Structural continuity is another type of continuity. Unlike individual differences in intra-individual change that focus on changes in one dimension, structural continuity reflects the association between indicators of constructs across time. Typically addressed through tests of measurement invariance (MI), structural continuity can be interpreted to reflect whether the meaning of the construct is consistent. Some age-related examinations of the Big Five test find that the Big Five factors are interpretable as the same construct across age groups (Allemand et al., 2007; Jackson et al., 2009; Mõttus et al., 2012), whereas others identify some potential misfit (Beck, Condon et al., 2020; Marsh et al., 2013; Nye et al., 2016; Olaru et al., 2018; Tackett et al., 2009).

Ipsative change indexes the configuration of variables within a person over time. While intra-individual and structural continuity index change with regard to the population, ipsative continuity is interpreted only in reference to the individual. Ipsative continuity is often described as a person-centered approach compared with a variable-centered approach of differential, absolute, and structural continuity (Block, 1971). Ipsative consistency of Big Five profiles tends to show high levels of consistency (Donnellan et al., 2007; Robins et al., 2001) across the life span, as do more person-centered idiographic assessments of personality (Beck & Jackson, 2020).

Life Events and Personality Change

Currently, there is a considerable body of work investigating whether major life experiences change mean levels of personality traits (Denissen et al., 2019; Jackson et al., 2012; Lüdtke et al., 2011; Specht et al., 2011; van Scheppingen et al., 2016)—and to a lesser extent differential continuity (Specht et al., 2011). For example, starting a new job is linked to increases in neuroticism, openness, and conscientiousness (Lüdtke et al., 2011; Specht et al., 2011), whereas family-related events such as having a child are associated with decreases in conscientiousness (Specht et al., 2011).

Despite the plethora of studies, there are failures to replicate these findings. For example, starting a job is inconsistently associated with increases in neuroticism in some studies (Lüdtke et al., 2011) but not others (Specht et al., 2011). Moreover, when accounting for selection biases and ensuring that changes in personality are adequately assessed with more than two waves of personality there are almost no replicable mean-level changes following a large number of life events (Beck, Specht et al., 2020).

The lack of replication suggests a few possibilities. It is possible that life events do not change personality. However, people do feel as though their personality changes with age, when asked whether their personality was different a decade prior (Oltmanns et al., 2020). Moreover, people draw on their own experiences and think that life experiences are capable of generating change (Pals, 2006). Finally, theories of personality development almost exclusively employ environmental models to explain changes rather than endogenous biological explanations (Specht et al., 2014).

If life events are capable of changing personality, it is possible that many previous investigations have focused on the wrong type of change. For example, individual differences in intra-individual change may reflect people responding differently to normative life events with some responding positively while others respond negatively. If life events do not have a uniform effect—but still influence people—they may serve to increase individual differences in personality. In line with this, variability in personality change is larger for younger adults, on average, relative to older adults (Schwaba & Bleidorn, 2018).

Variability in response to a life event may reflect different reactions people have to a life event, but life events can also change how people view and interpret the world. Given the age-graded nature of life events, issues such as these are often discussed in terms of age-related artifacts in personality assessment (Nye et al., 2016). For example, a retiree is likely going to respond differently to a conscientiousness item because conscientiousness scales are often strongly work-focused or contain behaviors relevant to work. What it means to be conscientious in older adulthood may now be better assessed by different indicators relative to a person's working years (Mike et al., 2014).

Person-centered ipsative approaches to personality are often touted as better able to capture the gestalt or broader functioning of a person because they include many variables and are interpreted relative to a single, target person, not in regard to others. Rather than events influencing one trait in isolation similarly for every person, life events may have a nonspecific influence, whereby life events influence the relative ordering of personality. Rather than an event making everyone more extraverted, for example, events have unique influences for each person through a reordering of their personality profiles. Few if any studies have investigated life events and personality profile development, with one cross-sectional study finding that profiles of children with divorced parents differ from profiles of children from nonseparated families (Block et al., 1986).

Current Study

The current study examines whether personality continuity using three different metrics of continuity is affected by 16 major life events. Three questions were addressed. First, do life events engender greater (or less) variation in personality? Second, do life events influence the structure of personality? Third, do life events influence the ipsative profile continuity of personality?

Method

Participants

This study uses the German Socioeconomic Panel Study (GSOEP) data. These data were collected by the German Institute of Economic Research (DIW Berlin) and are available, through the application, at https://www.diw.de/soep.

The GSOEP is a nationally representative sample of private German households. It is critical to note that the GSOEP samples households, not individuals, and the households consist of individuals living in both the "old" and "new" federal states (the former West and East Germany), foreigners, and recent immigrants to Germany. Participants were recruited from more than 11,000 households and data have been collected annually since 1985. On average, 20,000 individuals are sampled each year.

Our project focuses on two groups: (a) people who experienced a life event and (b) people who did not. As documented in our preregistration (osf.io/c8x7y), we outline the item text used to gather information on life events in each wave of the GSOEP. To be included in the final sample, participants had to have at least two waves of personality assessments (personality was assessed in 2005, 2009, and 2013), a measure of life events in between the two assessments of personality, and the person could not have the life event at the initial wave or any assessment wave prior. Participants whose data fall outside the possible range of responses for a given question were also excluded.

Measures

Life events

We investigated the effects of 16 life events. A full list of life events, as well as sample size and gender breakdowns for each, are given in Table 1. Information on the occurrence of these life events was collected annually. For each life event, participants reported whether a life event had occurred in the survey year or the year prior. Responses were coded as "1" for that event if participants reported experiencing it anytime between 2006 and 2015 and "0" otherwise. For physical and mental health events, there was a checklist for ailments

Table 1. Descriptive Statistics of Those Experiencing Life Events

Life event	Frequency (total)	Age in 2005		% Women
		M	*SD*	
Birth of a child	1,559 (15,993)	29.77	7.59	54.39
New relationship	923 (14,135)	28.89	13.08	51.57
Moved in with partner	1,418 (16,083)	30.73	11.19	54.16
Child moves out	2,415 (15,979)	47.64	8.20	55.53
Married	1,527 (16,121)	31.56	11.40	52.46
Separated from partner	1,315 (16,138)	34.41	12.18	56.35
Divorced	503 (16,283)	40.47	8.77	57.26
First job	5,001 (15,167)	33.64	12.56	55.01
Unemployed	254 (2,195)	31.43	12.73	51.18
Father died	1,207 (16,220)	42.79	10.30	54.18
Mother died	1,285 (16,211)	49.24	10.23	51.75
Parent(s) died	2,296 (16,109)	46.06	10.95	53.14
Partner/spouse died	571 (16,304)	63.76	11.33	71.80
Mental health event	1,766 (16,368)	47.04	14.82	64.89
Physical health event	7,526 (16,368)	56.32	14.47	50.73
Retired	136 (1,783)	59.53	8.70	60.29

that a participant indicated they had been diagnosed by a doctor. Participants checking any of the following health events (stroke, diabetes, cancer, arthritis, high blood pressure, and dementia) were coded as "1" for physical health event. Participants who checked they received a diagnosis of depression were coded as "1" for a mental health event.

Personality

Personality was measured using the German version of the Big Five Inventory Short (Gerlitz & Schupp, 2005) and it contains 15 items that participants responded to on a Likert-like scale from 1 (does not apply at all) to 7 (applies perfectly). An English translation of a sample item is "I am a thorough worker." Scale reliability assessed using Cronbach's α suggests modest reliability, ranging from 0.49 (agreeableness in 2013) to 0.66 (extraversion in 2013).

Analysis plan

The analyses for this project were preregistered on the Open Science Framework (OSF; osf.io/c8x7y), with all data available through the GSOEP website, and codebooks, code, and results for the models available through OSF project page (osf.io/c8x7y). Table 2 describes the previous involvement with study data. We deviated from the preregistered plan to include the use of mental and physical health events. These events were initially not included in the preregistration due to the authors' not being aware of their existence. In between preregistration and analyses, these variables were identified within the SOEP's Cross-National Equivalent File data set. Given previous associations between personality development and physical and mental health (Jackson et al., 2017), we chose to include these life events.

Table 2. Jackson & Beck Answers to Previous Data Involvement

1	Can you document (with data contract or something similar) that all team members have never had any exposure to the data before the preregistration was created?	No
2	Do you assert, even if no verifiable evidence exists, that all team members have never had any exposure to the data before the preregistration was created?	No
3	Do you assert that the author of the preregistration document did not have any exposure to the data before the preregistration, even if some coauthors have worked with the data?	No
4	Do you assert that the authors of the article have had no exposure to the primary variables (including calculating descriptive statistics) in the analyses, even if they have worked with other variables from the same sample?	No. Both authors have worked with life events (except for mental and physical health) and personality data to examine mean-level changes in personality.
5	Do you assert that the authors of the article have had no exposure to one or more primary variables (including calculating descriptive statistics), even if they have worked with some of the primary variables	Yes. Some of the variables have not been examined previously by the authors. Mental and physical health events and ipsative personality profiles.
6	Do you assert that the authors of the article have had exposure to all the primary variables, but that they have never done any analyses that examined their associations?	Yes. Despite running analyses with the same study variables in a previous article, the current set of hypotheses tested within this study have not been previously calculated.
7	Does the primary analysis involve data from new waves of assessment that have never been analyzed (even if similar variables from prior waves had been examined by study authors)?	No. But new combinations of data may have been used, e.g., previously all three waves of personality variables were analyzed. For some analyses in the current study, only two waves were analyzed.
8	Have authors had exposure to variables in the same data set that might be expected to correlate relatively strongly with those used in the primary analysis for this article (e.g., depression and loneliness; self-esteem and life satisfaction)?	Yes, though authors are attempting to use all variables that fall under the umbrella of Big Five trait personality and life events.
9	Are you analyzing data from a subset of participants (e.g., a hold-out sample) who you have not studied before?	Yes, though not technically a subset. The previous investigation from this sample was based on a propensity score matched sample. The current study uses all available data points, so the sample size (of event/no event) differs in this study.

All models were run in R, using the SEM package lavaan (Rosseel, 2012). Full-Information Maximum Likelihood estimation was used. In general, we fit two types of models. First, longitudinal second-order growth models were fit to examine how people changed across time. Indicators were items, with the latent intercept defined as the first wave of assessment and the latent slope defined as a change per assessment. Second, longitudinal multigroup confirmatory factor analysis (CFA) models were used to address questions that do not involve intercept and slope latent variables.

To address our first research question—are life events associated with greater (or less) variation in personality—two sets of analyses were run. First, a series of multigroup, second-order latent growth curve models were fit separately for each trait and for each life event. For each combination of life event and personality trait, we examined whether the variability in the slope estimate is the same across groups by fixing all loadings, intercepts, and (residual) variances to be equivalent except for the variance of the slope factor. This model was then compared to a model where the variance was fixed to be equivalent across groups. Age and gender were included as covariates on both intercept and slope.

A second test of research question 1 constructed a CFA that does not include any growth or time components. For each group (event/no event), a measurement model was constructed for pre- and postevent latent personality variables. Again, a multiple group model was tested such that a constrained model will impose equal variance across groups for both pre- and postevents. This model was then compared to a model where the event group post-assessment latent variability was unconstrained.

Research question 2 examined whether the measurement properties (structure) of personality change as a function of life event status. Using the multiple-group measurement models, MI tests examined to see if a life event was associated with changes in the measurement properties of the five personality variables. Four different models were run—configural, metric/weak/loadings, scalar/strong/intercepts, and strict/residuals—with three comparisons among the models.

Three different types of comparisons were run, two of which were preregistered. First, analyses compared preevent initial wave data among the groups to see if there were any preexisting measurement differences. Second, not preregistered was a comparison of postevent (or last wave) between the groups. Finally, a model compared the longitudinal measurement equivalence (pre–postevent) across groups, which probes whether one group has worse longitudinal fit than the other.

Research question 3 examines whether ipsative continuity is associated with life events. The correlation between longitudinal personality profiles was created using the multicon package (Sherman & Serfass, 2015). A person's postevent time point was regressed onto pre, and a life event dummy was used to predict postevent. Alpha was set at 0.01. Gender and age were used as exploratory moderators.

Results

Table 1 lists the final sample sizes for each wave of personality assessment and the number of people who experienced each life event but had not experienced a life event prior to the initial wave. To evaluate some of our research questions below, we fit second-order latent growth models. Overall, these models fit the data well (comparative fit index >0.91 and root mean square error of approximation <0.08; Supplementary Table S1) and demonstrated mean-level changes consistent with previous investigations (Lucas & Donnellan, 2011; Specht et al., 2011; see osf.io/c8x7y for full results).

Do Life Events Affect Individual Differences in Intra-Individual Change?

We addressed our first question concerning individual differences in change in two different ways. First, we examined group differences in slope variance of second-order latent growth models, to test whether experiencing a life event increased or decreased variability in change (Table 3). Out of 80 tests, 20 significant event–trait combinations were significant at the 0.05 level (25%). There was some evidence for both increases and decreases in variance based on experiencing a life event. Having a child moving out (conscientiousness and openness) or losing their mother (conscientiousness) was associated with smaller individual differences in change. In contrast, becoming unemployed (all traits), getting married (agreeableness), having a partner pass away (conscientiousness and openness), and having a mental health event (extraversion, agreeableness, and neuroticism) were all associated with increased slope variability.

Second, we looked at group differences in variance at the wave after the event. As some of the variability in slope may be due to selection processes, postevent personality may yield a less biased assessment. We fit a model that constrained pre–post for each group and compared that to a model that relaxed that constraint for postevent variance. Table 4 presents the unconstrained variances for clarity and thoroughness, but the significance test is based on the constrained versus unconstrained comparison. Out of 80 tests, 30 event–trait combinations were significant at the 0.05 level (38%). In general, postevent personality variance was almost always lower compared to a comparison group that did not experience the event. For example, having a partner move in, get married, divorce, or separation with partner are all associated with lower variance in conscientiousness. The two exceptions to this pattern of lower variance were being unemployed and having a mental health event (Figure 1).

Table 3. Latent Growth Models With Separate Group Variance Estimates

Event	Extraversion		Agreeableness		Conscientiousness		Emotional stability		Openness	
	No Event	Event	No Event	Event	No Event	Event	No Event	Event	No Event	Event
Birth of a child	0.07	0.06	0.03	0.02	0.05	0.07	0.06	0.07	0.07	0.06
New relationship	0.07	0.05	0.02	0.07	0.05	0.08	0.06	0.09	0.07	0.10
Moved in with partner	0.07	0.09	0.03	0.02	0.05	0.03	0.06	0.07	0.07	0.03
Child moves out	0.07	0.05	0.03	0.01	**0.05**	**0.03**	0.06	0.07	**0.08**	**0.03**
Married	0.07	0.12	**0.02**	**0.07**	0.05	0.07	0.06	0.06	0.07	0.12
Separated from partner	0.07	0.05	0.03	0.03	0.05	0.06	0.06	0.04	0.07	0.04
Divorced	0.07	0.01	0.03	0.04	0.05	0.05	0.06	0.01	0.07	0.00
First job	0.07	0.07	0.03	0.02	0.05	0.05	**0.05**	**0.08**	0.08	0.06
Unemployed	**0.06**	**0.12**	**0.02**	**0.05**	**0.04**	**0.07**	**0.05**	**0.12**	**0.07**	**0.10**
Father died	0.07	0.07	0.03	0.04	0.05	0.02	0.06	0.04	0.07	0.03
Mother died	0.07	0.06	0.03	–0.00	**0.05**	**0.00**	0.06	0.09	0.07	0.08
Parent(s) died	0.07	0.06	0.03	0.02	**0.05**	**0.00**	0.06	0.07	0.07	0.07
Partner/spouse died	.07	0.11	0.03	0.05	**0.05**	**0.15**	0.06	0.15	**0.07**	**0.26**
Mental health event	**0.07**	**0.10**	**0.02**	**0.05**	0.05	0.04	**0.06**	**0.10**	0.08	0.05
Physical health event	0.06	0.07	0.02	0.03	0.04	0.05	0.05	0.07	0.07	0.08
Retired	**0.08**	**0.06**	0.03	0.02	**0.06**	**0.04**	0.06	0.06	**0.09**	**0.06**

Note: Bolded values represent significantly different event slope variances compared to no event slope variances at α = 0.05.

This second test of our first research question mostly did not replicate the findings from our first test. Only 10 replicated effects were found (in terms of significance and direction). Retirement (conscientiousness and openness) and losing a parent (conscientiousness) were associated with lower variance, whereas unemployment (all traits except openness) and mental health event (extraversion, agreeableness, and emotional stability) were associated with larger variance.

Do Life Events Contribute to Structural Differences in Personality?

We next tested whether experiencing a life event was associated with differential item functioning for personality items compared to people who did not experience the event. Three tests were run (Supplementary Tables S2–S4). Given the similarity between tests, we report the comparison of structure for those who experienced an event versus those who did not at the final time point. In comparing the fit between event groups, we found almost no effect of life events (Supplementary Table S3). Out of 240 comparisons (5 traits, 16 events, and 3 comparisons across 4 models within each trait and event), only 20 were significant (8%). Starting a first job, physical health events, and retirement accounted for nearly all the effects. For these events, minor differences in interpretation occurred, most often at the scalar level, compared to those who did not experience the event.

Is Ipsative Continuity Associated With Life Events?

Finally, we examined ipsative continuity across time to test whether life events lead to decreased or increased consistency in ipsative personality profiles. In general, there was high levels of consistency across time with an average of profile $r = 0.6$. In addition, there was large levels of individual differences indicating that not everyone was consistent across time. Some people had a correlation of 0 across time, whereas others were completely consistent. However, those differences in ipsative consistency were not explained by life events. As shown in Figure 2, density distributions for groups that did and did not experience each life event are plotted. For each life event, the density distribution for each group is mostly the same with each density plotted almost on top of one another. People's profiles shift slightly in response to some life events. People who had a child ($b = 0.04$, $p < .01$), lost a father ($b = 0.04$, $p < .01$), or either parent ($b = 0.04$, $p < .01$), and experienced a mental health event ($b = 0.06$, $p < .01$) were somewhat more consistent across time compared to those who did not, even when controlling for gender and age.

Exploratory analyses examined whether ipsative consistency was moderated by age or gender. Only one very small effect emerged (Supplementary Table S5). Those who were older that began a first job had more continuity than those who were younger.

Discussion

The current study examined whether major life events affect personality development beyond the standard indices of continuity. Instead of focusing on differential or absolute change, the current study examined changes in variance, structure, and profiles across time in a large-scale longitudinal study. In general, life events were found to have little effect on variance, structure, and profile consistency

Table 4. Pre–Post Models With Separate Variance Estimates

	Extraversion				Agreeableness				Conscientiousness				Emotional stability				Openness			
	Pre		Post		Pre		Post		Pre		Post		Pre		Post		Pre		Post	
	No Event	Event	No Event	Event	No Event	Event	No Event	Event	No Event	Event	No Event	Event	No Event	Event	No Event	Event	No Event	Event	No Event	Event
Birth of a child	1.02	1.01	0.98	1.00	0.69	0.60	0.62	0.59	0.64	0.60	0.58	0.51	0.72	0.71	0.73	0.63	0.82	0.84	0.77	0.65
New relationship	1.02	0.81	0.99	0.84	0.69	0.54	0.61	0.61	0.63	0.71	0.58	0.55	0.72	0.56	0.72	0.71	0.83	0.56	0.76	0.72
Moved in with partner	1.02	0.93	0.99	0.88	0.69	0.58	0.62	0.55	0.64	0.55	0.59	0.40	0.72	0.80	0.72	0.66	0.83	0.54	0.76	0.70
Child moves out	1.02	0.92	0.98	0.97	0.69	0.63	0.62	0.59	0.65	0.43	0.58	0.56	0.72	0.69	0.72	0.71	0.83	0.76	0.77	0.72
Married	1.02	1.04	0.98	0.89	0.69	0.74	0.62	0.55	0.64	0.61	0.59	0.36	0.72	0.60	0.72	0.80	0.83	0.53	0.76	0.71
Separated from partner	1.02	1.05	0.98	0.96	0.69	0.83	0.62	0.54	0.64	0.61	0.59	0.42	0.72	0.64	0.72	0.68	0.83	0.66	0.76	0.73
Divorced	1.02	0.92	0.98	0.91	0.69	0.62	0.61	0.60	0.64	0.49	0.58	0.32	0.72	0.63	0.72	0.61	0.83	0.75	0.76	0.47
First job	1.05	0.95	0.98	0.99	0.70	0.65	0.64	0.56	0.65	0.58	0.62	0.51	0.73	0.69	0.74	0.69	0.86	0.74	0.78	0.73
Unemployed	1.02	1.05	0.96	1.15	0.68	0.77	0.60	0.74	0.63	0.69	0.57	0.68	0.73	0.75	0.71	0.82	0.82	0.82	0.75	0.82
Father died	1.02	0.94	0.99	0.73	0.69	0.57	0.61	0.75	0.64	0.62	0.59	0.41	0.73	0.48	0.72	0.54	0.83	0.58	0.76	0.68
Mother died	1.02	0.96	0.99	0.85	0.69	0.47	0.62	0.38	0.64	0.37	0.58	0.55	0.72	0.74	0.72	0.71	0.83	0.70	0.76	0.65
Parent(s) died	1.02	0.96	0.99	0.82	0.69	0.51	0.62	0.56	0.64	0.49	0.59	0.48	0.73	0.64	0.72	0.63	0.83	0.65	0.76	0.68
Partner/spouse died	1.02	0.85	0.98	1.33	0.69	0.88	0.61	0.74	0.64	0.59	0.58	0.66	0.72	0.95	0.72	0.74	0.83	0.70	0.76	0.94
Mental health event	1.01	1.09	0.94	1.27	0.69	0.70	0.60	0.73	0.63	0.65	0.57	0.66	0.71	0.79	0.67	0.80	0.82	0.90	0.74	0.91
Physical health event	1.01	1.04	0.98	0.99	0.69	0.68	0.60	0.63	0.66	0.55	0.56	0.61	0.72	0.76	0.70	0.76	0.81	0.84	0.72	0.83
Retired	1.09	0.98	0.94	1.00	0.71	0.68	0.65	0.60	0.71	0.60	0.65	0.54	0.79	0.69	0.77	0.69	0.97	0.76	0.84	0.73

Note: Bolded values represent significantly different group variances at α = 0.05.
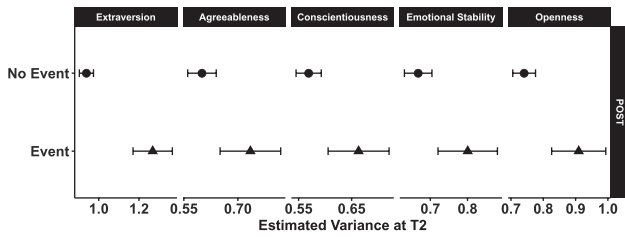
Figure 1. Differences in Big Five latent variance after experiencing a mental health event. Confidence bars reflect 95% CI.
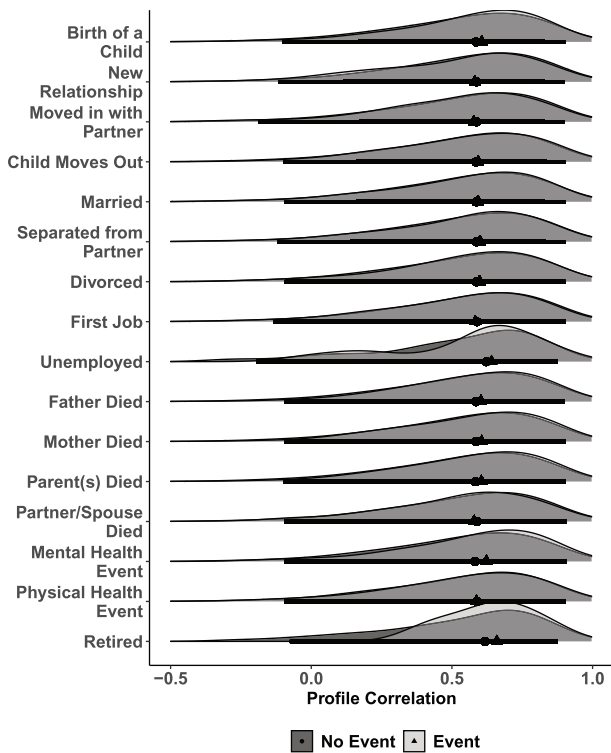

Figure 2. Distributions of ipsative profile consistency across life events.

of personality traits. These largely small and inconsistent effects are despite the existence of personality change, as we found meaningful individual differences in change and individual differences in profile consistency. Thus, while people are changing their personality traits across different metrics of change, they tend not to change much in response to broad life events. The few effects identified in were either (a) counter to expectations such that life events tended to make people more similar or (b) involved mental health events. Below we discuss the ramifications these findings have for personality development.

Small Effects of Life Events

Most findings for life events on different metrics of personality continuity were null or small in magnitude. Furthermore, for our first research question, those effects that met the cutoff for statistical significance mostly did

not replicate across our two different tests. On the one hand, these findings are surprising: One common interpretation of the small effect size or failure to replicate for the impact of life effects on mean-level changes in personality is that people respond differently to objectively the same life event (Beck, Specht et al., 2020). Yet experiencing an event did not generally increase the variance in slopes of personality. Similarly, age differences in personality are thought to exist due to differences in item appropriateness whereby a relevant marker of extraversion to someone who is young may not be appropriate for an older adult (Nye et al., 2016). Despite the intuition that items may be more or less appropriate pre- versus postevent, few effects of MI were found. Finally, personality development is often criticized for focusing on a single trait rather than a person holistically (Block, 1971; Jackson et al., 2019). Yet our person-centered profile analysis did not find large effects for life events.

On the other hand, these findings may not be so surprising given the way experiences are thought to drive personality development. While life experiences may prompt change, the mere existence of a life event does not necessarily induce change. Life events, contrary to inducing change, can even reinforce preexisting individual differences making change less likely (Caspi & Moffitt, 1993). Furthermore, while theories of personality development propose that life events lead to short-term state changes in personality, additional components are necessary for these short-term changes to translate into long-term personality change (Wrzus & Roberts, 2017). It is possible that people did not change their state-level manifestations of personality or if they did the change was too short to result in long-term change.

Absent better measurement of life events, it is difficult to address whether life events lead to changes in personality. Even without explicitly measuring all potential mediating and moderating processes (Wrzus & Roberts, 2017), life events as currently measured are likely a poor proxy for a causal mechanism driving personality development. One objection to standard life event studies is that life events are not subjective such that people can have different reactions to the same objective life event. We had hypothesized that if people interpreted life events differently that it would lead to increased variance. However, even though people interpret life events differently (Lüdtke et al., 2011; Vaidya et al., 2002), our signal may be too diffuse to identify these patterns. When life events were experienced versus when they were assessed will affect our findings (Luhmann et al., 2014) and other life events could mitigate the effect of life events.

Despite these apparent difficulties, life event checklists such as the one used in the current study are not without merit, as they are effectively used with other individual differences such as well-being (Luhmann & Eid, 2009). The lack of current findings may thus be a function of operationalizing personality as traits. Some evidence suggests that personality development occurs at the level of facets

rather than broad traits (Jackson et al., 2009; Soto et al., 2011). However, investigations on the impact of life events at the facet level find that life events affect facets similar to broad traits (Sutin et al., 2010), suggesting that facets may not be the optimal level of analysis. Future research of the impact on life evens should investigate more personalized, within-person, idiographic models of personality, as they may be better suited to examining the antecedents to personality development (Beck & Jackson, 2020). Given that the structure of personality is not shared within people, a uniform taxonomy of personality (e.g., Big Five) is likely not the correct level of analysis for investigating personality development (Beck & Jackson, 2020).

Life Events Make People More Similar

We identified a pattern such that, if effects were found, life events were associated with decreased variance in personality, counter to expectations. Rather than make people more different, life events constrained personality variability. There are at least three reasons why this may occur. First, absent any prescribed way on how to behave people pull on their already existing dispositions, solidifying and strengthening their current standing (Caspi & Moffitt, 1993). This may be especially true for stressful and/or major life events where one's day-to-day routine is totally uprooted. Take retirement for example, despite the extra flexibility in available time—allowing one to take in museums or in contrast stay in all day on the couch—shifts in variance are not materialized.

Second, homogeneity in response could occur if people perceive life events similarly—and life events have an effect. It is possible that life events bring people to a common "set point" or range that is optimal. If someone is near this set point or range, then no change is necessary. Future research should examine who is responsible for the decreased variance as a response to life events and whether there are advantages for certain levels of traits for different life events.

Third, the effect may be produced not by the event but by what other events are not happening. That is, people who are undergoing these life events may be missing out on other events that lead to changes in personality (and thus variability). Given that we did not account for a broad range of background differences among those that did and did not experience life events, it is possible that other variables are responsible for decreases in variance. Consistent with this idea, accounting for background characteristics leads to fewer life event effects compared to not accounting for covariates (Beck, Specht et al., 2020; Jackson et al., 2014; van Scheppingen et al., 2016).

Mental Health Events

The one event that had a noticeable effect across the three metrics of change was mental health events. Mental health events resulted in greater variance in personality, evidenced changes in structure, and were associated with greater profile consistency. These findings converge with other evidence that finds mental health events, and the seeking of treatment for them, are associated with changes in mean levels of personality (Jackson et al., in press; Roberts et al., 2017). Past studies have found that therapy is associated with changes in personality, primarily associated with declines in neuroticism (Roberts et al., 2017). In contrast, other studies find increases in neuroticism associated with seeking mental health services (Ludtke et al., 2011; Chow et al., 2017). These alternative findings suggest the potential for different responses to mental health events, potentially explaining the increased variance found in the current study, with personality changing in a different direction depending on whether treatment was effective or not.

Limitations and Future Directions

Despite the large sample size, the study is not without limitations that suggest avenues of future research. One limitation of the current study is that we do not know how people reacted to and anticipated these life events. With the numerous potential responses, people likely varied a lot in their day-to-day experiences. For example, for a mental health event, we do not know whether treatment was successful or whether people continued to seek treatment at the past the last assessment of personality. A second limitation is that we did not specifically examine the age-graded nature of these events. While we controlled for the age when possible, the exploratory age moderation in profile consistency suggests that people's responses to events may depend in part on whether events were unexpected or normative. This is especially important given the sporadic effects found for retirement, first job, and unemployment. Third, changes in personality were operationalized using a short Big Five measure that did not have great reliability. While latent variables help overcome measurement issues, measurement models still have difficulty in accurately assessing change. Future research should include better assessments, more measurement waves, and different perspectives to better assess personality.

Conclusions

The current study examined three types of personality change that are not routinely studied in the context of life events. Life events outside of mental health events, and to a lesser extent retirement and unemployment, had little to no effect on variance, structure, and profile consistency of personality traits. The broadly small effect sizes suggest a need to move toward better measurement of both life events and personality along with advances in conceptualizing what it means to change in personality.

Supplementary Material

Supplementary data are available at *The Journals of Gerontology, Series B: Psychological Sciences and Social Sciences* online.

Funding

None declared.

Conflict of Interest

None declared.

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