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Changes in childhood caregiving impressions among middle-aged and older adults

William J. Chopik[1] | **Jeewon Oh**[2] | **Sneha R. Challa**[1] | **Hannah L. Hua**[1] | **Julia M. Maahs**[1] | **Jacqui Smith**[3]

[1]Department of Psychology, Michigan State University, East Lansing, Michigan, USA

[2]Department of Psychology, Syracuse University, Syracuse, New York, USA

[3]Institute for Social Research, University of Michigan, Ann Arbor, Michigan, USA

Correspondence
William J. Chopik, Department of Psychology, Michigan State University, 316 Physics Rd., East Lansing, MI 48824, USA.
Email: chopikwi@msu.edu

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Abstract

Childhood experiences and impressions are important for individuals' health and well-being—they often set the stage for how people approach relationships across the lifespan and how they make sense of their relational worlds. However, impressions of these experiences are likely not static and can change over time, even years after these experiences happened. The current study examined how impressions of parental relationships in childhood changed over time, and predictors of these changes, among middle-aged and older adults followed over a 4-year period ($N = 2692$; $M_{age} = 66.67$, $SD = 9.15$; 64.1% women). Childhood impressions of parental care were mostly stable over time, with 53.5%–65.0% of participants reporting consistent impressions. Becoming divorced/separated as an adult was associated with more negative impressions about relationships with fathers in the past. Having a mother pass away was associated with more positive impressions of mothers' caregiving when participants were children. Higher depressive symptoms at follow-up

Statement of Relevance: How people frame their childhood experiences has been purported to be influential for people's health and well-being across the lifespan, among researchers, clinicians, and practitioners. However, most of this research assumes that these impressions are reliable and stable when people are asked about them. People's impressions of their parents in childhood continued to change even into older adulthood. These changes were partially attributable to current relationship characteristics, depressive symptoms, and demographic characteristics.

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were associated with darker perceptions of the past—more negative impressions of mothers and fathers as caregivers. The current study is one of the most comprehensive studies of late-life changes in childhood impressions to date, suggesting future directions for studying the organization of relational experiences and recollection over time.

KEYWORDS

caregiving impressions, divorce/separation, Health and Retirement Study, life span development, reminiscence bump

1 | INTRODUCTION

How we frame and make sense of caregiving experiences is important for our health and well-being—it often sets the stage for how we approach relationships across the lifespan and make sense of our relational worlds. Indeed, remembering your parents and childhood as more positive is associated with better health and happiness across the lifespan (Chopik & Edelstein, 2019; Reuben et al., 2016; Shaw, 2006; Shaw et al., 2004). However, people's impressions of their upbringing may not always be accurate. In fact, even impressions about relationship events that happened mere weeks ago can change considerably (Feeney & Cassidy, 2003; Simpson et al., 2010). In relationships research, people are often asked to reflect on their caregiving experiences several years into adulthood, even when their impressions and feelings about those times are hazier and less reliable. One way of examining the reliability of these important impressions is by measuring how impressions of caregiving might change over time, on average. Knowing how these impressions change has implications for how researchers and clinicians quantify the influence of caregiving relationships and how people construct impressions about relational actors in their world. Thus, the current study examined changes in adults' impressions of their caregivers from childhood. Specifically, we examined these changes—and predictors of these changes—among middle-aged and older adults followed over a 4-year period.

1.1 | Impressions of childhood experiences and how they are shaped across the life course

The impressions people have about childhood are thought to be integrated into how they make sense of their relational worlds across the lifespan. Reflective processes help us make sense of our experiences, and actively reflecting on these impressions aids in organizing them in a coherent way that informs who we are as people (McAdams et al., 2006). Impressions with caregivers in particular are essential to an individual's development (Nivison et al., 2021; Reuben et al., 2016). Impressions of caregiver trust, warmth, and responsiveness are hypothesized to set the foundation for several different life outcomes, including personal, academic, romantic, and

parenting success (Collins & Read, 1990; Hazan & Shaver, 1987; Hinnen et al., 2009; Raby et al., 2015; Rholes et al., 1997).

How we make sense of experiences—past and present—also affects our ability to manage emotions and navigate future relational contexts, which has implications for health and well-being. This organization and interpretation also serve as some of the core features of working models of attachment orientations that are thought to continue to guide relational behavior across the lifespan and whether or not people think they and others are worthy of love (Bartholomew & Horowitz, 1991; Collins et al., 2004; Fraley, 2007). Specifically, prior impressions of interpersonal situations guide people as they navigate through new interpersonal situations, trigger cognitive and emotional reactions to new interpersonal situations, and help downregulate the stress response system and negative health behavior, ultimately enhancing health (Cohen & Pressman, 2006; Pietromonaco, DeBuse, & Powers, 2013; Pietromonaco, Uchino, & Dunkel Schetter, 2013). Among those with relatively positive impressions of their childhood, the positive emotions afforded by reflections can also provide benefits, like reducing stress or helping to facilitate positive health behavior (Hill et al., 2013; Sin et al., 2015). By now, it is relatively uncontroversial to say that more positive impressions of one's caregiving environment are associated with adaptive development, adjustment, lower substance abuse, and better health and well-being across the life span (Chopik & Edelstein, 2019; Enns et al., 2002; Luecken, 2000; Newcomb & Bentler, 1988; Oriña et al., 2011; Richman & Flaherty, 1986; Russek & Schwartz, 1997; Shaw, 2006; Shaw et al., 2004; Shaw & Krause, 2002; Wills & Cleary, 1996).

There are many reasons to expect why impressions about their caregiving experiences in childhood and adolescence are particularly influential for people's lives. For one, they are among the most powerful and potent impressions we have about our pasts. When instructed to recall autobiographical memories about their lives, people are most likely to recall events early in life and do so more quickly—a phenomenon called the *reminiscence bump* (Berntsen & Rubin, 2002; Berntsen & Rubin, 2004; Jansari & Parkin, 1996; Romaniuk, 1981; Romaniuk & Romaniuk, 1981; Rubin et al., 1986). Specifically, across a variety of different methods (e.g., asked to recall their most important memories, provided words/stimuli to cue memory retrieval), people tend to recall autobiographical memories and impressions they held from around the age of 10–30, although the exact age range varies across studies, methods of recall, and memory content (e.g., world events or personal events) (Holmes & Conway, 1999; Janssen et al., 2005; Munawar et al., 2018). Impressions that happen before and after this time are also less powerful for other reasons (see Jansari & Parkin, 1996; Rubin et al., 1986). For example, people are unlikely to remember things from early childhood because of infantile amnesia. Further, people are less likely to have strong impressions about things that happen after childhood and adolescence because it is a time of "primacy," in which a lot of important "firsts" (i.e., first experiences) happen in people's lives, and fewer occur after this point (Jansari & Parkin, 1996; Rubin et al., 1986).

A second major reason childhood and adolescent impressions are so important is that they contribute to people forming their identities and sense of self, ultimately helping them author their life stories (Glück & Bluck, 2007; McAdams, 1995). For example, researchers studying memory and impressions from the past find that they are particularly strong if they are tinged with accomplishment and autonomy (Thomsen, 2015; Thomsen et al., 2011). The interactions people have with their caregivers during this period are rife with conflicts around autonomy and pursuing one's independent identity (Arnett, 2000). There is also a sense that the

impressions people hold of their past are often mentioned when people are asked about the most formative experiences that contribute to their identity (Demiray et al., 2009), and people tend to generate stronger impressions around self-defining periods of their life (Rathbone et al., 2008). Essentially, these explanations suggest that the impressions of childhood caregiving experiences might be particularly important for people's lives because they actually are more important and self-relevant to many people. But are these impressions accurate, or even consistent, representations of people's past?

1.2 | How and why impressions of the past change over time

Although people tend to have stronger impressions of their childhood and adolescence, this does not necessarily mean that they hold stable ideas of what those experiences were like. Impressions of past relationships and events, particularly when recorded a long time ago, could be susceptible to many different types of biases (Roese & Summerville, 2005; Spielmann et al., 2016). One way to evaluate how reliable impressions about childhood are is to examine how they change over time. Of course, people's pasts and earliest experiences do not change, but the interpretations and reflections about early experiences might. Impressions might also become more positive and negative in their valence. For example, interactions with caregivers when children become adults might cause them to reflect more favorably on how they were raised (Smith & Zhang, 2009). Growing older allows for gathering additional context that can help reframe caregiving experiences (e.g., by having conversations with other family members). Perhaps having children of their own might result in adult children adjusting their impressions of their upbringing (Baruch & Barnett, 1983; Bojczyk et al., 2011; Miller, 1995). Discovering how difficult others' childhoods were might lead to downward social comparisons that give people a newfound appreciation for their own parents (Gerber et al., 2018). When children grow up, they might feel a sense of gratitude for their parents when they confront the possibility of life without them (Stoeckel et al., 2015). And, of course, impressions can turn more negative as people realize what seemed like normal parenting behavior might have been more akin to neglect or problematic parenting behavior.

Aside from whether or not impressions of experiences are stable, there is some conflicting evidence over whether people can accurately remember if some events even happened at all, particularly memories that have strong impressions associated with them. Luckily, over relatively short intervals, such as two weeks, many autobiographical memories and their emotional characteristics can be recalled accurately (Rubin et al., 2004), although the stability of their recall over short periods can range considerably ($rs \sim .50$ to .96). Over longer periods of time, the consistency of memories is much lower and might partially depend on a person's current mental state (Nivison et al., 2021). For example, Colman et al. (2016) found that 61% of young adults either "remembered" or "forgot" adverse childhood experiences (e.g., intense, frightening experiences) when asked again about those experiences 12 years later (39% gave consistent reports over time). Having depression, increased psychological distress, and stress were all associated with reporting an adverse childhood experience that was not previously mentioned in the first wave. The same effects are seen among older adults, albeit a little more consistent (20%–50% inconsistently reported adverse life events and impressions of health, but over shorter intervals of 4 and 10 years; Ayalon, 2015; Vuolo et al., 2014). In these studies, mental health symptomatology was not a significant predictor of consistent recall, but better health and cognitive functioning were.

In some even longer-term studies, individual and contextual factors can potentially instill changes in impressions about life and relationship circumstances from the past. For example, using a life story interview, college students provided multiple autobiographical reflections on their life stories over time (McAdams et al., 2006). Three years after an initial session, people's reflections on their past life events became more emotionally positive over time, and people became more nuanced and reflective in their narrative processing. But some impression changes are also seen for less significant events over shorter durations. For example, there is evidence that both adolescents (after 6 weeks) and young adults (after 1 week) tend to remember conflictual interpersonal discussions more negatively over time (if they were insecurely attached) or more positively (if they were securely attached) (Feeney & Cassidy, 2003; Simpson et al., 2010).

Worth noting, previous studies have found that the ways in which people are biased about their past are also important, lest we give the impression that impressions have no relation to a person's current circumstances and have no implications for people's lives. For example, in a study comparing prospective reports (i.e., childhood [objective] experiences) and retrospective impressions of childhood, Reuben et al. (2016) found that each type of report explained variance in outcomes in adulthood. In fact, they found the impressions of childhood experiences often explained more variance in midlife outcomes, despite involving interactions and experiences that happened several decades ago. The authors found that impressions of the past might overestimate the impact of these experiences on subjectively reported life outcomes (self-reported mental/physical health, memory, and relationship quality) and underestimate the impact of childhood experiences on objectively reported life outcomes (biomarkers and memory performance). One explanation is that people who self-report as having poorer functioning (e.g., more depressive symptoms) might be negatively biased and report more negative impressions about their childhood/adolescent experiences (Brewin et al., 1993; Dalgleish & Watts, 1990; Susser & Widom, 2012). The same is true for those with normal or positive functioning—they tend to "forget" or even underestimate the frequency of adverse experiences from their past (Hardt & Rutter, 2004; Robins et al., 1985). Furthermore, it is important to consider how mental health can affect the impressions people form about their past. For example, people with social anxiety tend to remember more distressing social events from their past (Morgan, 2010).

2 | THE CURRENT STUDY

The current study examined changes in impressions of childhood caregiving experiences among middle-aged and older adults and predictors of these changes. Previous research suggests that impressions about relationship experiences have the potential to change. We extended this work to examine impressions about people's parents from their childhood years, given the prominent role caregiving impressions have in the literature (Chopik & Edelstein, 2019; Nivison et al., 2021; Shaw et al., 2004). People's evaluative assessment of how their parents treated them during childhood departs a bit from other types of impression studies. Specifically, impressions about parents during childhood are not uniformly positive or negative across people (i.e., people vary in whether or not they had a positive relationship with their caregivers growing up). Further, these ratings reflect more of a qualitative assessment of the past (e.g., how positive was your relationship with your mother?) rather than the discrete measurement of whether an ostensibly good or bad thing happened (e.g., did you have an emotionally frightening experience before the age of 18 (yes or no)?).

A sample of 2692 middle-aged and older adults completed measures asking about their relationships with their parents during childhood before age 18 twice over a 4-year interval. First, we examined changes in these impressions to quantify how stable they were. Second, given that current close relationship characteristics, demographic characteristics, current mental state, cognitive ability, and contextual variables alter people's recall, we modeled whether changes in impressions of caregivers varied as a function of these variables.

3 | METHOD

The current study was not pre-registered. The terms of use of the data prevent us from publicly sharing the data file. However, we provided the syntax and output of the main models on an OSF site and are happy to send the data to any interested parties provided they register on the Health and Retirement Study website (https://osf.io/zsfbq/). This constituted a secondary data analysis and is exempt from ethical review.

3.1 | Sample and procedure

The Health and Retirement Study (HRS) is a nationally representative and prospective panel study that has surveyed more than 22,000 Americans over the age of 50 every two years (Sonnega et al., 2014). Data have been collected since 1992. We report on psychological, health, and covariate data collected in 2008 and 2012. The University of Michigan's Institute for Social Research is responsible for the study and provides extensive documentation about the protocol, instrumentation, sampling strategy, and statistical weighting procedures.

A random 50% of HRS respondents receives a self-report psychosocial questionnaire every other wave (every four years) that they complete and mail to the University of Michigan (Smith et al., 2017; Sonnega et al., 2014). The questions of interest in the current report are assessed in this self-report psychosocial questionnaire in 2008 and 2012. Because we were interested in changes in early life events and required participants to have memory information from both waves, we limited the sample to the 2692 non-proxy respondents who had full data on all the measures of interest on two occasions. Specifically, from an initial pool of 5997 individuals who completed at least one of the childhood impression items in 2008, 778 responses were excluded because they were completed (or aided by) a proxy respondent in 2008, 384 were excluded because they were completed (or aided by) a proxy respondent in 2012, and 2143 were excluded because they did not complete the measure or had full missingness in 2012. Compared with those excluded, those included in the present analyses were comparable in terms of overall quality with their mothers ($p = .996$) and fathers ($p = .294$) in 2008. However, those included in the analyses reported that their mothers spent more time ($d = .06$, $p = .020$), effort ($d = .08$, $p = .001$), and taught them more about life ($d = .08$, $p = .002$), although these differences were relatively small.

The final sample was comprised of 2692 participants ($M_{age} = 66.67$, $SD = 9.15$; 64.1% women). The mean years of education was 13.34 years ($SD = 2.57$), and the sample consisted primarily of non-Hispanic White participants (83.3%), followed by non-Hispanic African American participants (8.7%), Hispanic participants (6.2%), and other races/ethnicities (1.7%).

3.2 | Measures

Study descriptives and intercorrelations for the variables below are provided in Table 1.[1]

3.2.1 | Parental relationship quality

Five items assessed the quality of the respondent's relationship with his/her parents prior to the age of 18. Two items ("I had a good relationship with my mother before age 18" and "I had a good relationship with my father before age 18.") were answered on a scale ranging from 1 (strongly disagree) to 5(strongly agree).

The remaining three items ("How much time and attention did your mother give to you when you needed it?," "How much effort did your mother put into watching over you and making sure you had a good upbringing?," and "How much did your mother teach you about life?") were answered on a scale ranging from 1(not at all) to 4(a lot). As seen in Table 1, there were substantial correlations between these three items. Because of these high correlations and the fact that they were measured on the same response scale, we tested and confirmed via an exploratory factor analysis that these three items could be combined into a single composite (eigenvalue for the first component: 2.39 [79.68% variance explained]; second component: 0.38 [12.52% variance explained]). Averaging these three items together yielded good reliability at waves 1 ($\alpha = .87$) and 2 ($\alpha = .87$).

These five items were only repeated once (yielding two measurement points) and are not available for other participants or for additional waves.

3.2.2 | Predictors

We included several variables as predictors of changes in childhood impressions used in previous research assessing changes in retrospective memories (Vuolo et al., 2014). Many of these predictors are thought to have more direct effects on people's ability to recall details or give an impression of the past, such as a person's memory and cognitive ability. Other predictors have more distal relations to how people might form impressions about their childhood and their caregivers, primarily through negative life circumstances negatively clouding perceptions, such as being in poor mental and physical health or experiencing negative relationship events (e.g., divorce/separation, parental/partner bereavement). Yet others were included to control for covariation in exposure to these other predictors, such as demographic characteristics like age, gender, race, and socioeconomic status, all of which are correlated in some way with physical and cognitive health in older adulthood and an increased risk for bereavement experiences.

Demographic/socioeconomic characteristics included age in 2008, gender, race, years of education, and wealth in 2008. Age and years of education were treated as continuous variables. Race (-1 = White, 1 = non-White, person of color) and gender (-1 = men, 1 = women) were contrast coded. Wealth was the sum of all household assets (e.g., real estate, businesses, retirement, savings) minus debt. Because wealth was positively skewed, values were log-transformed.

Relationship characteristics included partnership status (-1 = non-partnered, 1 = partnered), whether they have children (-1 = no, 1 = yes), and if their mother (-1 = no, 1 = yes) and father (-1 = no, 1 = yes) were currently alive in 2008. We also included relationship transitions, such as if participants became divorced/separated (-1 = no, 1 = yes) or

TABLE 1 Bivariate correlations between all study variables.

		M/%	SD	1	2	3	4	5	6	7	8
1	Good relationship with mother 2008	4.17	1.13								
2	Good relationship with mother 2012	4.17	1.13	**.77****							
3	Good relationship with father 2008	3.92	1.23	.46**	.31**						
4	Good relationship with father 2012	3.96	1.24	.31**	.47**	**.73****					
5	Maternal time 2008	3.47	.77	.61**	.57**	.34**	.32**				
6	Maternal time 2012	3.47	.78	.58**	.62**	.32**	.35**	**.72****			
7	Maternal effort 2008	3.63	.69	.54**	.50**	.33**	.30**	.77**	.63**		
8	Maternal effort 2012	3.65	.68	.50**	.55**	.31**	.34**	.65**	.76**	**.72****	
9	Maternal teaching 2008	3.29	.85	.53**	.48**	.30**	.28**	.65**	.57**	.66**	.56**
10	Maternal teaching 2012	3.28	.86	.49**	.52**	.28**	.31**	.58**	.67**	.55**	.66**
11	Composite of time/effort/teaching 2008	3.46	.69	.63**	.58**	.36**	.34**	.90**	.72**	.90**	.72**
12	Composite of time/effort/teaching 2012	3.47	.69	.58**	.63**	.34**	.37**	.73**	.90**	.70**	.89**
13	Age 2008	66.67	9.15	.15**	.12**	.14**	.12**	.12**	.11**	.11**	.10**
14	Gender 2008	64.1% women		−.15**	−.17**	−.03	−.04	−.11**	−.10**	−.06**	−.06**
15	Race 2008	16.7% people of color		.02	.03	−.00	.02	.02	.04*	−.00	.02
16	Education 2008	13.34	2.57	.02	−.01	.01	.01	.03	.03	.07**	.07**
17	Wealth 2008	12.24	2.11	.07**	.06**	.09**	.09**	.08**	.05**	.09**	.07**
18	Partnered 2008	69.8% partnered		.06**	.04*	.06**	.04*	.04*	.02	.02	.03
19	Became divorced/separated 2008–2012	1.2% yes		.01	−.01	−.02	−.05*	−.02	−.04*	−.01	−.03
20	Became widowed 2008–2012	5.1% yes		.01	.02	.01	.02	−.01	−.03	−.01	−.00
21	Mother alive 2008	21.4% yes		−.10**	−.08**	−.06**	−.04	−.06**	−.06**	−.05**	−.03
22	Father alive 2008	9.4% yes		−.04	−.03	−.04	−.04*	−.03	−.02	−.03	−.02
23	Mother passed away 2008–2012	6.4% yes		−.03	−.03	.04	.04	−.03	−.03	−.02	.01

TABLE 1 (Continued)

		M/%	SD	1	2	3	4	5	6	7	8
24	Father passed away 2008–2012	4.1% yes		−.019	−.013	−.028	−.026	−.031	−.015	−.030	−.026
25	Has children 2008	91.5% yes		.005	−.018	.010	.008	−.011	−.032	−.028	−.038
26	Self-rated health 2008	3.40	1.00	.065**	.059**	.076**	.064**	.113**	.071**	.120**	.107**
27	Chronic Illness 2008	1.71	1.23	.017	−.003	−.002	−.004	−.015	−.019	−.027	−.029
28	Depression 2008	1.12	1.80	−.148**	−.117**	−.149**	−.112**	−.147**	−.116**	−.148**	−.140**
29	Depression 2012	1.13	1.73	−.110**	−.109**	−.128**	−.129**	−.126**	−.127**	−.129**	−.129**
30	Self-rated memory 2008	3.09	.88	.042*	.027	.043*	.021	.053**	.049*	.079**	.056**
31	Cognitive functioning 2008	16.58	3.67	−.044*	−.050**	−.011	−.028	−.005	−.016	.010	−.002

(Continues)

TABLE 1 (Continued)

9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
.698**														
.881**	.689**													
.690**	.884**	.792**												
.076**	.056**	.113**	.099**											
−.059**	−.043*	−.086**	−.078**	−.063**										
.037	.070**	.022	.049*	−.132**	.046*									
.027	.002	.047*	.033	−.094**	−.084**	−.188**								
.047*	.017	.077**	.051**	.091**	−.106**	−.295**	.335**							
.049*	.016	.045*	.024	−.179**	−.237**	−.086**	.094**	.298**						
−.016	.006	−.020	−.023	−.062**	−.014	.036	−.010	−.037	.071**					
.006	.005	−.004	−.009	.137**	.056**	−.035	−.035	.022	.152**	−.025				
−.074**	−.063**	−.071**	−.059**	−.457**	.045*	.032	.084**	−.005	.097**	.037	−.066**			
−.009	.013	−.027	−.010	−.355**	.027	.026	.064**	.011	.100**	.027	−.050**	.317**		
−.029	−.003	−.028	−.008	−.156**	.026	.004	.036	−.018	.024	.043*	−.019	.504**	.061**	
−.013	−.003	−.027	−.016	−.167**	.019	−.003	.063**	.038	.071**	.013	−.031	.138**	.647**	.045*
−.038	−.040*	−.029	−.041*	.050*	−.001	−.005	−.099**	.046*	.193**	−.004	.022	−.003	.021	−.001
.082**	.045*	.116**	.081**	−.052**	−.017	−.167**	.255**	.260**	.125**	−.029	−.011	.105**	.057**	.039*
−.012	−.008	−.020	−.020	.303**	−.048*	.025	−.149**	−.125**	−.141**	−.017	.038*	−.233**	−.140**	−.082**
−.149**	−.110**	−.166**	−.135**	−.055**	.106**	.070**	−.128**	−.188**	−.179**	.028	.017	.011	−.007	.006
−.121**	−.110**	−.140**	−.136**	.005	.109**	.060**	−.183**	−.205**	−.153**	.037	.101**	−.016	.001	−.014
.082**	.061**	.080**	.062**	−.094**	.007	−.122**	.235**	.139**	.048*	.017	.000	.076**	.055**	.037
−.029	−.047*	−.010	−.026	−.267**	.098**	−.214**	.355**	.233**	.055**	−.029	−.063**	.158**	.106**	.044*

TABLE 1 (Continued)

24	25	26	27	28	29	30
.017						
.038*	−.013					
−.094**	.034	−.451**				
−.019	−.013	−.381**	.172**			
−.011	.010	−.352**	.170**	.528**		
.037	−.052**	.350**	−.163**	−.204**	−.178**	
.062**	−.034	.207**	−.164**	−.127**	−.132**	.253**

Note: Bolded correlations are the 4-year stability of the childhood impressions.
*$p < .05$.**$p < .01$.

widowed (−1 = no, 1 = yes) and if their mothers (−1 = no, 1 = yes) or fathers (−1 = no, 1 = yes) passed away between waves.

Physical and mental health measures included self-rated health, chronic illnesses, and depression in 2008. Self-rated health was assessed with a single item, "Would you say your health is excellent, very good, good, fair, or poor?" Participants rated their health on a scale ranging from 1(poor) to 5(excellent). A count of seven major physician-diagnosed chronic conditions was computed for each participant. Chronic conditions included (1) high blood pressure, (2) diabetes, (3) cancer or a malignant tumor of any kind (excluding minor skin cancer), (4) lung disease, (5) coronary heart disease including heart attacks, angina, and congestive heart failure, (6) arthritis or rheumatism, and (7) stroke. Depression was measured with a modified eight-item version of the Center for Epidemiological Studies Depression Scale (CES-D; Radloff, 1977). Participants responded to a checklist of eight depressive symptoms that they reported feeling in the past week (feeling depressed, felt everything they did was an effort, restless sleep, happiness(R), lonely, enjoyed life(R), sad, and felt unmotivated). Responses were summed such that higher levels reflected higher depression. Internal consistency for the CES-D was high ($\alpha = .83$). Following a recommendation from an anonymous reviewer, we also included CES-D scores from 2012 ($\alpha = .84$) in the models to assess whether current mood/psychological states affect impression changes over time.

Finally, two measures were included to examine whether changes in impressions could be attributable to memory quality and cognitive functioning. Memory quality was assessed with a single item ("How would you rate your memory at the present time?") on a scale ranging from 1(poor) to 5(*excellent*). Cognitive functioning was measured as a composite of four different indices (see Choi et al., 2018; Crimmins et al., 2011 for full details): (1) Ten-word immediate recall (0–10 recalled words) and (2) ten-word delayed recall tests of memory (0–10 recalled words), (3) a serial 7-s subtraction test of working memory (0–5 successful trials), and (4) counting backwards to assess attention and processing speed (0 = unsuccessful, 1 = successful on second attempt, 2 = successful on first attempt). A broader cognitive functioning measure was created by summing participants' scores on these measures (range: 0–27). Thus, higher values correspond to less cognitive impairment. This summary cognitive functioning measure has been validated in previous work and has been shown to predict dementia status in 74% of participants (Crimmins et al., 2011).[2]

3.3 | Analytic strategy

For descriptive purposes, to characterize how childhood impressions of caregiving changed over a 4-year period, we subtracted participants standing in 2008 from their standing in 2012. Positive scores suggested impressions became more positive; negative scores suggested impressions became more negative. Scores of 0 suggested that impressions did not change.

To examine predictors of changes in childhood impressions, we employed latent change models (Castro-Schilo & Grimm, 2018). Specifically, participants' residual impressions from time 2 were estimated and regressed onto their time 1 impressions. Explanatory variables were then modeled as predictors of these time 2 residuals. Specifically, we added the aforementioned demographics, relationship characteristics, physical and mental health, and memory and objective cognitive performance as predictors of the time 2 residuals. Separate models were run for each outcome (maternal impressions, paternal impressions, and the composite impressions of maternal time/effort/teaching) in MPlus version 8 (Muthén & Muthén, 2017).

Model fit was assessed with comparative fit indices (CFI; Bentler, 1980), root mean square error of approximation (RMSEA) and its 90% confidence interval (CI) (Hu & Bentler, 1999), and standardized root mean square residual (SRMR; Hu & Hu & Bentler, 1998). CFI values above .90 and RMSEA/SRMR values below .08 suggest "acceptable" fit of the hypothesized model to the underlying data; CFI values above .95 and RMSEA/SRMR values below .06 are considered "good" model fit (Browne & Cudeck, 1992; Hu & Bentler, 1999; MacCallum et al., 1996). Chi-squared tests were also reported despite them often being too conservative when testing models in the context of large sample sizes. Model fit statistics are reported in the notes of Tables 2–4. These indices suggested largely good fit according to the RMSEA and SRMR criteria and adequate fit according to the CFIs.

4 | RESULTS

Figure 1 provides distributions of childhood impression changes over a 4-year period for maternal impressions of relationship quality (a), paternal impressions of relationship quality (b), and a composite measure of impressions regarding maternal time/effort/teaching (c). Across the three outcomes, the modal response was for impressions to not change over the 4-year period. However, the change scores were relatively normally distributed, with an approximately equal

TABLE 2 Childhood Impressions of maternal relationships.

	b	SE	*b*std	*t*	*p*	LB	UB
Age 2008	0.00	0.00	0.01	0.60	0.55	−0.00	0.01
Gender 2008	−0.08	0.02	−0.09	−4.45	<0.00	−0.11	−0.04
Race 2008	0.04	0.02	0.03	1.67	0.10	−0.01	0.08
Education 2008	−0.02	0.01	−0.06	−2.95	0.00	−0.03	−0.01
Wealth 2008	0.01	0.01	0.03	1.17	0.24	−0.01	0.03
Partnered 2008	−0.02	0.02	−0.02	−1.07	0.29	−0.06	0.02
Became divorced/separated 2008–2012	−0.13	0.07	−0.03	−1.73	0.08	−0.27	0.02
Became widowed 2008–2012	0.06	0.04	0.03	1.57	0.12	−0.01	0.13
Mother alive 2008	−0.00	0.03	−0.00	−0.11	0.92	−0.05	0.05
Father alive 2008	0.01	0.04	0.01	0.22	0.82	−0.07	0.08
Mother passed away 2008–2012	−0.01	0.04	−0.00	−0.21	0.84	−0.08	0.07
Father passed away 2008–2012	−0.00	0.05	−0.00	−0.08	0.94	−0.10	0.10
Has children 2008	−0.04	0.03	−0.02	−1.28	0.20	−0.09	0.02
Self-rated health 2008	0.01	0.02	0.01	0.31	0.75	−0.03	0.05
Chronic illness 2008	−0.03	0.02	−0.04	−1.71	0.09	−0.06	0.00
Depression 2008	0.01	0.01	0.03	1.11	0.27	−0.01	0.03
Depression 2012	−0.02	0.01	−0.04	−1.78	0.07	−0.04	0.00
Self-rated memory 2008	0.00	0.02	0.00	0.18	0.85	−0.03	0.04
Cognitive functioning 2008	0.00	0.01	0.02	0.70	0.49	−0.01	0.01

Note: χ^2 (19) = 187.99, $p < .001$; CFI = .909; RMSEA = .059 [.052, .067]; SRMR = .063.

TABLE 3 Childhood impressions of paternal relationships.

	b	SE	*b*std	*t*	*p*	LB	UB
Age 2008	0.00	0.00	0.02	0.70	0.49	−0.00	0.01
Gender 2008	−0.02	0.02	−0.02	−0.94	0.35	−0.05	0.02
Race 2008	0.05	0.02	0.04	2.06	0.04	0.00	0.10
Education 2008	−0.00	0.01	−0.01	−0.47	0.64	−0.02	0.01
Wealth 2008	0.01	0.01	0.03	1.24	0.22	−0.01	0.03
Partnered 2008	−0.01	0.02	−0.01	−0.60	0.55	−0.05	0.03
Became divorced/separated 2008–2012	−0.25	0.08	−0.06	−3.20	0.00	−0.40	−0.10
Became widowed 2008–2012	0.06	0.04	0.03	1.51	0.13	−0.02	0.13
Mother alive 2008	0.03	0.03	0.02	0.93	0.35	−0.03	0.08
Father alive 2008	−0.04	0.04	−0.02	−0.88	0.38	−0.12	0.04
Mother passed away 2008–2012	0.02	0.04	0.01	0.43	0.67	−0.06	0.09
Father passed away 2008–2012	0.02	0.06	0.01	0.32	0.75	−0.09	0.13
Has children 2008	0.01	0.03	0.01	0.34	0.74	−0.05	0.07
Self-rated health 2008	0.02	0.02	0.02	0.75	0.46	−0.03	0.06
Chronic illness 2008	−0.00	0.02	−0.00	−0.09	0.93	−0.03	0.03
Depression 2008	0.02	0.01	0.03	1.49	0.14	−0.01	0.04
Depression 2012	−0.03	0.01	−0.05	−2.19	0.03	−0.05	−0.00
Self-rated memory 2008	−0.01	0.02	−0.01	−0.36	0.72	−0.05	0.03
Cognitive functioning 2008	<0.00	0.01	< .00	−.02	0.98	−0.00	0.01

Note: χ^2 (19) = 148.78, $p < .001$; CFI = .935; RMSEA = .052 [.044, .060]; SRMR = .055.

number of participants' impressions becoming more positive or negative over time. If impressions changed at all, they did moderately so—with most people migrating only a scale point or two.

Paired sample *t*-tests for each of the impressions revealed that, on average, the impressions regarding having a good relationship with mothers ($p = .804$), fathers ($p = .065$), and the composite of maternal impressions ($p = .622$) were not significantly different from each other at time 1 compared to time 2. However, equal numbers of people's impressions became more positive and negative (see Figure 1), so this was not particularly surprising. Rather, we next examined predictors of individual differences in impression changes in the next section.

4.1 | What predicts changes in childhood impressions over time?

Results from these analyses can be found in Tables 2 (for maternal impressions), 3 (for paternal impressions), and 4 (for the composite of maternal time/effort/teaching).

For maternal impressions, women and those with higher levels of education reported more negative impressions of their relationships with their mothers over time. For paternal impressions, people of color reported more positive impressions of their relationships with their fathers over time. Those who became divorced/separated between waves and those with higher

TABLE 4 Childhood impressions of maternal effort/time/teaching.

	b	SE	*b*std	*t*	*p*	LB	UB
Age 2008	0.00	0.00	0.03	1.07	0.29	−0.00	0.00
Gender 2008	−0.01	0.01	−0.02	−0.98	0.33	−0.03	0.01
Race 2008	0.03	0.01	0.05	2.32	0.02	0.00	0.05
Education 2008	−0.00	0.00	−0.01	−0.36	0.72	−0.01	0.01
Wealth 2008	−0.00	0.01	−0.01	−0.31	0.76	−0.01	0.01
Partnered 2008	−0.01	0.01	−0.02	−0.73	0.47	−0.03	0.01
Became divorced/separated 2008–2012	−0.03	0.04	−0.02	−0.90	0.37	−0.11	0.04
Became widowed 2008–2012	−0.00	0.02	−0.00	−0.13	0.89	−0.04	0.04
Mother Alive 2008	−0.01	0.01	−0.03	−1.07	0.28	−0.04	0.01
Father alive 2008	0.03	0.02	0.04	1.56	0.12	−0.01	0.07
Mother passed away 2008–2012	0.04	0.02	0.05	2.04	0.04	0.00	0.08
Father Passed Away 2008–2012	−0.01	0.03	−0.01	−0.33	0.74	−0.06	0.04
Has children 2008	−0.02	0.02	−0.03	−1.27	0.21	−0.05	0.01
Self-rated health 2008	−0.01	0.01	−0.02	−0.90	.37	−0.03	0.01
Chronic Illness 2008	−0.01	0.01	−0.02	−1.03	0.30	−0.02	0.01
Depression 2008	0.00	0.01	0.01	0.55	0.58	−0.01	0.01
Depression 2012	−0.01	0.01	−0.05	−2.35	0.02	−0.03	−0.00
Self-rated memory 2008	−0.00	0.01	−0.00	−0.05	0.96	−0.02	0.02
Cognitive functioning 2008	−0.00	0.00	−0.01	−0.46	0.65	−0.01	0.00

Note: χ^2 (19) = 155.16, $p < .001$; CFI = .947; RMSEA = .053 [.046, .061]; SRMR = .062.

levels of depressive symptoms at wave 2 reported impressions of their fathers becoming more negative over time. For our composite measure of maternal impressions, people of color and those whose mothers passed away between waves reported more positive maternal impressions over time. Finally, those with depression at wave 2 reported impressions of mothers becoming more negative over time.

In sum, there were relatively few consistent predictors of changes in childhood impressions among older adults. There was the most consistent evidence for depression at wave 2 predicting more negative impressions of caregiving relationships over time. There was also some evidence that people of color's impressions of their parents became more positive over time. Finally, there was some suggestive evidence that current relationship transitions affected childhood impressions—having a mother pass away was associated with more positive maternal impressions, and becoming divorced or separated was associated with more negative paternal impressions.[3]

5 | DISCUSSION

The current study examined changes in childhood caregiver impressions among middle-aged and older adults to assess how people's impressions of their parents changed over time. There



FIGURE 1 Change scores in childhood impressions over time for maternal relationship quality (a), paternal relationship quality (b), and a composite measure of maternal time, effort, and teaching (c).

were only a few reliable predictors of changes in impressions. Importantly, health and cognition—often reliable predictors of consistency of recall and autobiographical memories (Ayalon, 2015; Vuolo et al., 2014)—were largely unrelated to how impressions of childhood caregiving experiences changed, suggesting that how people frame and think about the past may differ whether they are (a) trying to remember if something happened or not or (b) construct an impression about the qualitative characteristics of the past. The current study is one of the larger investigations of changes in childhood impressions, one of the few to examine how caregiver impressions change over time, and rare in that it examined these processes in a population that had experienced these interactions so long ago. The results suggest that impressions about one's childhood continue to change—even years after the experiences they are based on happened—and that some of these changes are attributable to demographic and relational characteristics in adulthood.

5.1 | Childhood impressions and how they change over time

Having more positive impressions of caregiving is associated with better health and well-being, even if those impressions are not entirely accurate representations of how people's lives were like as children (Chopik & Edelstein, 2019; Newcomb & Bentler, 1988; Nivison et al., 2021; Reuben et al., 2016; Richman & Flaherty, 1986; Russek & Schwartz, 1997; Shaw, 2006; Shaw et al., 2004; Shaw & Krause, 2002; Wills & Cleary, 1996). Impressions of past relationships are considered core parts of people's identities and to at least partially guide relational behavior across the life span (Collins et al., 2006; Collins & Feeney, 2004; Fraley, 2007). Indeed, thanks to the reminiscence bump and other life span developmental processes (e.g., identity

development), impressions during this period are particularly salient in people's minds and may be more influential for people's life outcomes (Berntsen & Rubin, 2002; Demiray et al., 2009; Glück et al., 2005; Jansari & Parkin, 1996; Janssen & Murre, 2008; Rathbone et al., 2008; Romaniuk, 1981; Rubin et al., 1986).

The importance of impressions of childhood experiences is likely undisputed. However, most studies that quantify their influence on adult outcomes have historically only looked at impressions assessed at one static point in time. Of course, because the events they are based on are in the past, the experiences themselves do not change. To date, many researchers have relied on the assumption that having a single assessment of childhood impressions might be sufficient if people are largely consistent in how they think about their caregiving environments. Our study showed this might be unwise, as anywhere from 35% to 46.5% of middle-aged and older adults' impressions about their caregiving environments changed over a short (4 years) period. Despite some research suggesting that people's attention to and recall of positive stimuli might increase in middle age and older adulthood (Mather & Carstensen, 2005; Reed & Carstensen, 2012), there was no consistent direction in which these memories tended to change. Among that 35%–46.5% of people whose impressions changed, about half the people's impressions became more positive; half the people's impressions became more negative.

These results provide a reasonable estimate of how much childhood impressions change. The most surprising result is that the impressions were still malleable among middle-aged and older adults (the mean age of the current study was 66.67 years old). Participants often reported on impressions of events that happened a long time ago (for our eldest participant, a 95-year old, they were recalling interactions with their parents that occurred at least 77 years ago). The fact that we controlled for health and cognition adds some reasonable certainty that impression changes could not be entirely attributable to individual differences in cognition. Rather, variation in impressions was associated with demographics, relational circumstances, and mental states that were occurring at the time that they were assessed.

More broadly, it is worth noting that it is highly unlikely that any impression that researchers assess would have 100% test–retest stability (let alone an impression as integral for people as caregiving experiences). There are likely many sources of instability in people's impressions about the past, including inattentive responding, substantive psychological or contextual contributors (as we tried to examine here), or even properties of the measures used. So what do our current findings say about using retrospective and impression-based methods? Echoing criticisms regarding the use of such reports (Nivison et al., 2021), it is reasonable to recommend that researchers stop uncritically using these impression measures as though they accurately reflect caregiving experiences in the past. Rather, because people's impressions of these experiences change, objective or in situ measures of caregiving experiences are likely still the gold standard if the goal is to examine early life antecedents of future behavior and outcomes. However, these impression measures may reflect some information about how people make sense of their caregiving experiences, which should not be dismissed entirely, even if these impressions do change over time.

5.2 | Predictors of childhood impressions over time

There were only a few predictors of how impressions changed over time. Previous research suggested that poorer mental, physical, and cognitive health were associated with reporting more negative impressions and adverse experiences over time (i.e., "remembering" a negative

event, including being sicker as a child, that was not previously reported; Ayalon, 2015; Colman et al., 2016; Vuolo et al., 2014). However, there were inconsistencies across even these studies regarding the explanatory variables they included, what they controlled for, and what they found. We took an exploratory approach by including the variables from these previous studies and a more complete set of demographic and social relationship variables. Unlike previous research, we found that poor mental, physical, and cognitive health were not associated with the consistency of impressions about childhood caregiving in the same ways they are associated with recalling more discrete memories and events. On the surface, individual differences in cognition would have been the most likely factor affecting impressions of events from the past. However, cognitive ability may be more closely linked to the ability to recall whether or not discrete events happened rather than consistency in people's impressions of their interpersonal and caregiving environments. These latter judgments may be more influenced by an individual's current emotional standing or interpersonal environment.

Indeed, across the many associations tested, depressed individuals reported more negative impressions of caregivers over time. A few demographic variables were associated with changes in some impressions to be more negative (e.g., being White, women, or highly educated), but even these were not consistent across outcomes. It is unclear why these demographic characteristics were associated with impressions becoming more negative, although some previous research provides some potential explanations. For example, middle-aged women occasionally have ambivalent relationships with their parents as adults, primarily because they feel parents can be too prescriptive in their advice about career and childrearing decisions (Baruch & Barnett, 1983; Bojczyk et al., 2011; Miller, 1995).

Ultimately, discussing these particular findings (which were often isolated to one particular memory and one demographic characteristic, but not others) can lead to an overinterpretation and "missing the forest for the trees": the vast majority of predictors—demographic and health-related ones in particular—were not significantly associated with changes in childhood impressions over time. Further, even among the significant predictors we did find, the effect sizes were relatively small. This suggests that impressions may be relatively resilient to the factors we tested in the current study, at least over such a short interval in mid- and late-life. The fact that these impressions did change over time (albeit modestly) and that several predictors were not associated with impression changes raises more questions than can reasonably be answered in one paper.

Nevertheless, some theoretically consistent findings related to current relationship transitions were found, and these patterns provide some preliminary understanding of how people construct impressions about the past. Becoming divorced/separated was associated with more negative impressions about relationships with fathers (and marginally more negative impressions of mothers). The loss of a mother over time (e.g., maternal bereavement) was associated with more positive impressions about the effort, time, and teaching they put into raising the participant. People's mental representations of relationships are often organized in a hierarchical network, where some relationships share similarities, or at least comparable strategies for how to navigate them—akin to a network of associations and memories (Brumbaugh & Fraley, 2007; Collins, 1996; Collins et al., 2004; Collins & Allard, 2004; Collins & Feeney, 2004; Fraley, 2007; Heffernan et al., 2012; Leahy & Chopik, 2021). In asking how people approach any one relationship, people often draw on a generalized "gist" informed by a life span's worth of relationship experiences (Fraley et al., 2011; Hudson et al., 2015). In this way, people's thoughts, feelings, and behavior in one relationship share at least some overlap with their thoughts, feelings, and behavior in another relationship (i.e., their dispositions—such that if

someone is anxious about their current romantic relationship, they may also be anxious about their friendships and family relationships; Fraley et al., 2011).

Thus, when a negative relationship transition happens in one domain (e.g., divorce/separation), it may be overextended and bring up negative cognitions and impressions in another domain (e.g., a person's history of negative interactions in other relationships, like with parents). In this way, current relationship circumstances might affect what we remember about past relationships (e.g., a recent breakup or deteriorating relationship might lead people to think of previous [good and bad] relationships; Spielmann et al., 2013). In the context of impressions of different relationships sharing some common affective representations, it is unsurprising that ostensibly negative events in one domain (romance) are associated with negative impressions in another domain (interactions with one's parents being framed in a negative light).

5.3 | Limitations and future directions

The current study had many strengths. Retrospective impressions, particularly about experiences so far into the past, are rarely measured longitudinally because they are often assumed to be static. We examined how they changed (and predictors of these changes) over a 4-year period in a large sample of older adults followed longitudinally over time. Nevertheless, there are limitations that are worth acknowledging.

First, we assessed if impressions of caregiving experiences changed, but we did not have objective information on people's childhoods and their relationships with their parents. However, when assessing subjective impressions, we were ultimately agnostic to what factually happened in these people's pasts. In other words, regardless of what happened in their childhood and how their parents treated them, people's impressions of their childhood caregivers *changed*. Of course, it would be useful to know if changes in impressions depended on the initial valence of objectively measured circumstances in childhood (Fraley & Roisman, 2015; Raby et al., 2015; Roisman & Fraley, 2012; Steele et al., 2014). An ideal way to study this question would be to prospectively follow people from childhood into older adulthood, with measures of caregiving when participants were young and assessments of impressions across the life span. Having multiple assessments—and an understanding of what objectively happened—would provide some additional context for the shape of how impressions change across the entirety of the lifespan. Informant reports (e.g., from parents, siblings) would also be informative in triangulating accuracy and bias surrounding these impressions.

Second, although our set of predictors provided some insight into why childhood impressions might change over time, we did not formally model any mechanisms for why the impressions changed. For example, we proposed a number of possibilities for why impressions might change over time (e.g., events and interactions subsequently lead people to reflect on how they were raised). However, we did not formally measure these reflection opportunities or current changes in relationship quality with caregivers. Having additional context, like whether or not adult children are now caregivers for their parents, would be useful in asking these questions. Likewise, we assumed that becoming divorced/separated might lead to more negative cognitions about other relationships (extending to impressions of caregivers), but we did not formally model these processes. Finally, the absence of parents in adulthood suggests that people may only appreciate their parents and the caregiving experiences they had with them after they are

gone (choosing to focus on positive memories about them). However, again, we did not model gratitude or appreciation as an explanatory process following parental bereavement.

Importantly, there were a number of methodological and design factors that limited our ability to effectively assess changes in childhood impressions over time. For example, having only two waves prevented us from plotting more complex patterns of change in childhood impressions. Our measure of impressions was also limited in that there were relatively few and mostly superficial items assessing people's impressions about their caregiving experiences. Further, most of these items centered on experiences with mothers, and only one item about fathers was asked. A more balanced measurement approach across caregivers would be ideal for future research. In assessing how people form impressions of their childhood experiences, qualitative approaches might be more appropriate to provide a richer understanding of how people construct impressions of experiences and the conditions under which they are malleable and can change over time (Nelson & Fivush, 2004; Pasupathi et al., 2020; Reese et al., 1993). Finally, attrition-related processes (i.e., those lost to follow-up) may affect the interpretations one can draw from these data. This is particularly important given that it is an older adult sample, and our research question involved reflecting on childhood impressions many years ago. Declines in physical and cognitive health are often cited as reasons for increased attrition in these studies. A more detailed understanding of why participants did not respond to the second wave could have helped us better contextualize our findings. Thus, we hope that future research will be able to track change in childhood impressions across a wider swath of the lifespan (e.g., childhood through older adulthood), with multiple assessments and detailed information about nonresponding.

6 | CONCLUSION

The current study examined changes in impressions people have about their parents during childhood that were reported on when participants were adults—many years after these experiences happened. This was a notable departure from previous research that often assumes that these impressions can be treated as static predictors of important outcomes in adulthood. Nearly 35%–46.5% of middle-aged and older adults experienced changes in these impressions, although they were often relatively small in magnitude and not consistently explained by the many factors we examined. Based on our study and others, it is safe to conclude that how we remember and construct the past at least partially depends on our current circumstances. However, our exhaustive examination of predictors of these changes suggests that there is still much to learn about how people organize and reflect on their past relationship experiences.

AUTHOR CONTRIBUTIONS

William J. Chopik conceptualized the idea, analyzed the data, interpreted the results, and drafted portions of the manuscript; Jeewon Oh analyzed the data; Sneha R. Challa, Hannah L. Hua, and Julia M. Maahs drafted the manuscript; William J. Chopik, Jeewon Oh, and Jacqui Smith provided critical feedback. All authors approve the content of this paper. We thank Mary Beth Ofstedal for her comments on a previous version of this manuscript and Kim Fenn for her helpful feedback on the data presentation.

DATA AVAILABILITY STATEMENT

The data can be obtained by emailing: chopikwi@msu.edu. The materials (i.e., syntax, output) used in the research can be obtained at: https://osf.io/zsfbq/. Data and materials are all publicly available and accessible via the HRS website (https://hrs.isr.umich.edu/).

ORCID

William J. Chopik https://orcid.org/0000-0003-1748-8738
Jeewon Oh https://orcid.org/0000-0001-8103-906X

ENDNOTES

[1] Because some of the predictors were highly correlated, we were concerned that multicollinearity might affect the results, particularly when so many predictors were included in the latent change models. To address this, we examined the results in two ways: testing every predictor individually and testing all the predictors simultaneously (which we presented in the main text). However, comparisons of these two approaches can be found in Table S1 (for maternal impressions), S2 (for paternal impressions), and S3 (for the composite measure of maternal time/effort/teaching). Across the three outcomes, the vast majority of effects retained their substantive interpretation found in the main text, and all effects were in the same direction and of comparable magnitude. However, there were three small exceptions of effects that changed significance that are expanded upon in the supplementary materials (i.e., after controlling for all predictors simultaneously, one effect went from significance to marginal significance, one from marginal significance to significant, and one from non-significance to significance).

[2] We used sum scores for chronic conditions, depressive symptoms, and cognitive functioning. In collaboration with RAND, HRS ensures that there is no missingness on these variables through reconciling reports of chronic illnesses in previous waves and imputing missing values on the cognition and depression assessments.

[3] Previous investigations of changes in retrospective reports of life events typically adopt a different analytic approach to predict change (i.e., multinomial logistic regression models predicting increases in quality, decreases in quality, and consistency in quality; see Smith & Zhang, 2009; Vuolo et al., 2014, for a similar approach). One disadvantage of this approach is that it can inflate the magnitude of changes by characterizing any change, no matter how small (e.g., one scale point) or big, as constituting change. To make our results comparable with previous reports of changes in retrospective accounts, we conducted multinomial logistic regression models for each question individually. In sum, there were few consistent predictors of changes in childhood impressions. Some predictors (e.g., depression, presence of a parent, poor memory) predicted greater changes, often in the negative direction such that impressions became more negative. Some other predictors (e.g., better health, education, age) were associated with greater consistency (i.e., a lower likelihood of impressions changing). A full summary of the results can be found in the supplementary materials.

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