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Retrospective Reports of Childhood Misfortune Are Associated With Positive and Negative Affect in Adulthood: Exploring the Moderating Role of Control Beliefs

Nicholas A. Turiano[1], Nicole M. Silva[1], Courtney McDonald[1], and Patrick L. Hill[2]

Abstract

Childhood misfortune refers to nonnormative experiences individuals encounter at younger ages that affect development across the life span. This study examined whether retrospectively reported childhood misfortune was associated with negative and positive affect in adulthood. In addition, we explored whether perceived control beliefs would moderate these associations. We used archival data from 6,067 adults ($M_{age} = 46.86$; range = 20–75) from the Midlife Development in the United States study. Higher levels of misfortune were associated with higher levels of negative affect and lower levels of positive affect in adulthood. However, control beliefs moderated this association such that the combination of higher perceived control and misfortune resulted in less of a decrease in positive affect and less of an increase in negative affect. Overall, early life events were associated with later life emotional

[1]Department of Psychology, West Virginia University, Morgantown, WV, USA
[2]Department of Psychological and Brain Sciences, Washington University, St. Louis, MO, USA

Corresponding Author:
Nicholas A. Turiano, West Virginia University, 53 Campus Drive, 2212 LSB, Morgantown, WV West Virginia 26506–6201, USA.
Email: NATuriano@mail.wvu.edu

health, and control beliefs were an important psychological resource that buffered the negative effects of childhood misfortune.

Keywords
childhood misfortune, adversity, affect, control beliefs

Experiencing misfortunes during childhood can have immediate negative consequences on the development of the child, but there are also long-lasting effects that can linger for decades. For example, misfortunes such as child abuse, neglect, or living in poor socioeconomic conditions can lead to the development of psychopathology (Cicchetti & Lynch, 1995; Cicchetti, Toth, & Lynch, 1995), heart disease (Hamil-Luker & O'Rand, 2007), and reduced longevity (Chen, Turiano, Mroczek, & Miller, 2016). However, not all individuals growing up in suboptimal conditions experience negative outcomes later in life (Ferraro & Shippee, 2009). There is now growing interest in psychological resilience factors that may explain how some individuals lead healthier and more productive lives after experiencing misfortune. One such resilience factor that has emerged in several recent investigations is the construct of perceived control over one's life. Utilizing a large national sample, the current study sought to further explore the impact early life misfortune by examining whether stronger control beliefs would buffer the negative effects misfortune has on negative and positive affect in later adulthood.

Operationalizing Childhood Misfortune

Childhood misfortune is broadly defined as nonnormative life events that occur during one's childhood that may have minor to serious disruptions either in the short or long term. Childhood misfortune encompasses a broad range of factors children may experience at an early age. Traditionally, there has been a focus on childhood sexual abuse as well as parental abuse and neglect, but more recent theoretical and empirical work has supported a much broader inclusion of experiences such as disrupted family structure (i.e., divorce or death of a parent), low socioeconomic status (SES), or low parental education (Felitti et al., 1998; Morton, Turiano, Mroczek, & Ferraro, 2016). There are several established measures that capture misfortune ranging from very brief assessments of whether or not specific types of abuse have occurred, to quantitative or qualitative ratings or descriptions of the perceived adversity of these experiences. Most of this research is retrospective due to the fact that misfortune, especially severe abuse and neglect, often goes unreported, and it is very difficult to conduct long-term longitudinal studies where individuals are followed prospectively after the misfortune occurs. However, researchers have found that

retrospective reports are generally valid, insofar that individuals are able to adequately remember if specific events did occur during their childhood (Hardt & Rutter, 2004). To capture how many different types of childhood misfortune are related to adult functioning, the current study utilizes a widely used retrospective report of five different domains of risk factors (i.e., physical abuse, emotional abuse, socioeconomic disadvantage, poor health as a child, and family structure disadvantage) that are incorporated into a single cumulative measure of misfortune. Utilizing this measure will allow us to examine the cumulative effects of multiple misfortunes but will also allow us to examine specific types of misfortune for more precision of which early life experiences are most detrimental to later life outcomes.

Regardless of the type of measure utilized to assess childhood misfortune, a clear pattern of results has emerged in the field, which highlights the detrimental effects these early life adversities can have on health and development over time. Adverse early life experiences have been linked to poor adult health such as greater chronic health conditions (Schafer, Morton, & Ferraro, 2014), elevated inflammation levels (Slopen, Koenen, & Kubzansky, 2012), greater risk for heart disease (Hamil-Luker & O'Rand, 2007), and incidence of cancer (Morton, Schafer, & Ferraro, 2012). Traumatic events during childhood can also alter the normal development of psychosocial functioning such as a poor attachment to parental figures (Bowlby, 1980) and suboptimal personality development (Jonassaint, Siegler, Barefoot, Edwards, & Williams, 2011; Rogosch & Cicchetti, 2004). In addition, although there are well-established associations between misfortune and mood and anxiety disorders such as major depressive disorder (e.g., Young, Abelson, Curtis, & Nesse, 1997), much less is known about how misfortune is associated with more normative aspects of psychological function that do not cross a specific clinical risk threshold, yet is still important developmentally. Thus, in the current study, we will examine how childhood misfortune is associated with two key markers of psychological function—negative and positive affect.

Psychological Resilience: Control Beliefs

Even with ample evidence that childhood misfortune is associated with poorer outcomes, there are still cases when even in the face of adversity, children grow up to lead successful healthy lives (Fergusson & Horwood, 2003; Rutter, 1985). Thus, in the current study, we also explore one possible resilience factor—control beliefs—to determine if this protective psychological characteristic can improve adult outcomes after the experience of childhood misfortune.

Broadly, resilience refers to the process of adapting to misfortunes and succeeding in the face of extreme life obstacles (Rutter, 1985). Psychological characteristics represent a set of possible resilience factors that can protect an individual from the negative effects of early life experiences. One such resilience

factor that has emerged as a potential protective factor is control beliefs. Sense of control comprises two main dimensions: personal mastery and perceived constraints. Mastery refers to one's sense of efficacy or effectiveness in carrying out life goals while constraints refers to the extent that someone believes there are obstacles or factors beyond one's control that interfere with reaching goals. Together, these constructs represent an individual's perceived ability to exert influence over life circumstances even when there are obstacles and to achieve goals and life outcomes in their surrounding environment (Lachman, Neupert, & Agrigoroaei, 2011). Higher perceived control beliefs have a strong positive association with many important life outcomes such as well-being (Irving & Ferraro, 2006), decreased risk for cardiovascular disease incidence (Surtees et al., 2010), and longevity (Infurna, Ram, & Gerstorf, 2013). Not only do control beliefs correlate strongly with better health, stronger control beliefs have been shown to moderate the associations between risk factors and health outcomes (Lachman & Weaver, 1998; Turiano et al., 2014).

Testing whether control beliefs can mitigate the negative effects of early life misfortune is consistent with the hypothesis that a person may overcome the consequences of their early life misfortunes by having the motivation and persistence to achieve their goals in life regardless of any constraints surrounding them. Such buffering effects of higher control beliefs have been supported in the literature. For example, individuals from lower socioeconomic strata (e.g., low education or low income) tend to have lower self-rated health, more acute health symptoms, and worse physical functioning (Lachman & Weaver, 1998). However, those findings also suggest that the individuals from lower socioeconomic strata that endorsed greater control beliefs did not experience poorer health. Moreover, Turiano et al. (2014) found that the increased risk of mortality associated with low education was nullified if the individuals endorsed greater control beliefs, as compared with those who had lower perceived control. Thus, those with low levels of education but higher control beliefs had a comparable risk of dying to those who were college educated.

The buffering role of control beliefs is not relegated to just the negative effect of SES. Pitzer and Fingerman (2010) utilized the Midlife Development in the U.S. (MIDUS) study data source to test whether one component of control, perceived constraints, moderated the effects of retrospectively reported severe parental physical abuse that occurred during childhood on several health outcomes assessed in adulthood (negative affect, self-rated physical health, and chronic condition count). They found that those with higher control beliefs that experienced severe physical abuse from parents reported better self-rated health and lower levels of negative affect than those with lower control beliefs. The three studies described earlier all provide evidence that various adversities experienced in childhood may not necessarily lead to poor health and development across adulthood, and that this variability may be partly due to the perceived beliefs individuals develop that enable them to achieve the goals in their lives.

In the current study, we sought to further explore the potential moderating role of control beliefs by testing whether control beliefs would moderate the association between childhood misfortune and positive or negative affect in adulthood. We advance prior work by Pitzer and Fingerman (2010) by including a more comprehensive measure of retrospectively reported misfortunes from childhood, as well as a broader measure of control beliefs incorporating both perceived mastery and constraints. In addition, including both positive and negative as outcomes is important because both are uniquely associated with subjective and objective health outcomes such as self-rated health, physiologic arousal, and mortality (Pressman & Cohen, 2005; Watson, 1988). The question remains whether misfortune is associated with only negative outcomes (e.g., high levels of negative affect) or also the lack of positive outcomes (e.g., lower levels of positive affect). Moreover, if these associations are found, will higher control beliefs buffer the increases in negative affect and the decreases in positive affect? Thus, the study was guided by four main aims. First, we tested whether childhood misfortune was associated with both negative and positive affect. We hypothesized that greater levels of misfortune would be associated with higher levels of negative affect and lower levels of positive affect. Second, we tested whether control beliefs moderated the association among misfortune and affect. We hypothesized that higher control beliefs would buffer increases in negative affect and decreases in positive affect at higher levels of misfortune. Third, we tested whether each of the five assessed types of misfortune (emotional, physical, family structure, SES, and childhood health) exhibited differential associations with positive and negative affect. We hypothesized that both emotional and physical abuse would be most strongly associated with negative and positive affect since these two types of misfortune can severely impact development at an early age (Bowlby, 1980). Finally, we also tested whether control beliefs would buffer the effects for certain types of misfortune.

Methods

Study Sample

The first wave of the MIDUS study (MIDUS 1) included 7,108 noninstitutionalized, English-speaking adults living in the coterminous United States, aged 25 to 74. Data were collected in 1995–1996. Of the 7,108 participants, 6,077 successfully completed all measures included in the current study. With regard to sociodemographic characteristics, the gender distribution of MIDUS participants was generally balanced, with 47% male and 53% female. Participants were largely Caucasian (approximately 93%) and more than 67% of participants had more than a high school education. Attrition analyses revealed that respondents who did not complete the measures included in this study were significantly more likely to be male ($\chi^2 = 7.42$, $p = .01$), from a racial minority

group ($\chi^2 = 5.15$, $p = .05$), not married ($\chi^2 = 109.17$, $p = .001$), not retired ($\chi^2 = 14.05$, $p = .001$), younger ($t = 7.74$, $p = .001$), have fewer years of education ($t = 9.32$, $p = .001$), have fewer childhood misfortunes ($t = 18.54$, $p = .001$), and lower perceived control ($t = 4.63$, $p = .001$). There were no significant differences by attrition based on negative or positive affect.

Study Variables

Covariates. All models were adjusted for the following covariates because of their known associations with childhood misfortune and affect: age, gender, education, race, marital status, and retirement status (Felitti et al., 1998; Pressman & Cohen, 2005). Age was treated as a continuous variable ranging from 25 to 74. Education was coded as the highest level of education achieved on a continuous scale from 1 (*no school or some grade school*) to 12 (*profession degree*). Race was coded as 0 for Caucasian and 1 for other minority races (e.g., Black or African American, Asian or Pacific Islander, Multiracial, etc.). Marital status was dichotomized as either 0 (married) or 1 (those separated, divorced, widowed, or never married). Retirement status was dichotomized as either 0 (working) or 1 (retired).

Childhood misfortune. Drawing from previous literature (Felitti et al., 1998; Morton et al., 2016) and available MIDUS questions, 16 different indicators were used to retrospectively measure early life misfortune: (1–4) emotional abuse by mother, father, sibling, or other; (5–8) physical abuse by mother, father, sibling, or other; (9) family receipt of welfare or assistance for dependent children for a period of 6 months or longer; (10) head of household having less than a high school education; (11) perception of being financially worse off than other families; (12) perceiving poor physical health at age 16; (13) perceiving poor mental health at age 16; (14) experiencing parental divorce; (15) lack of father figure in the household; and (16) experiencing parental death during childhood.

For the first set of analyses, all 16 items were coded as 1 for endorsing that specific misfortune or 0 for not endorsing misfortune. A count score was then created by summing all of the yes responses (0–16 range). Physical and emotional abuse categories were modeled after the Conflict Tactics Scale (Straus, 1979) using several different questions from the MIDUS self-administered questionnaire. Respondents were separately asked how frequently their mother, father, siblings, or anybody else insulted or swore at them; sulked or refused to talk to them; did or said something spiteful; threatened to hit them; smashed or kicked something in anger; pushed, grabbed, or shoved them; slapped them; threw something at them; kicked, bit, or hit them with a fist; hit or tried to hit them with something; beat them up; choked them; and burned or scaled them. Physical and emotional response categories ranged in frequency from 1 (*never*) to 4 (*often*). We coded respondents who reported experiencing abuse as *sometimes* or *often* as 1 and those who reported *never* or *rare* as 0. Family being in

receipt of welfare or aid, having the lack of a father figure in the household, and experiencing parental divorce or death during childhood were kept in their original form and coded 0 (*no*) to 1 (*yes*). Participants reported the head of their household's educational level on a 1 (*no school or some grade school*) to 12 (*profession degree*) scale. We constructed a dichotomous variable that indicate whether the head of the household had achieved a high school education (coded 0) or less than a high school education (coded 1). Participants reported whether they were worse off financially than other families on a 1 (*a lot better off*) to 7 (*a lot worse off*) scale. We coded respondents who reported being "better off a lot, somewhat better off, a little better off, or same as the average family" as 0 and those who reported being "worse off a little, somewhat worse off, or a lot worse off" as 1. Finally, participants reported whether they had poor physical or mental health at age 16 on a 1 (*poor*) to 5 (*excellent*) scale. We coded respondents who reported their health as *good*, *very good*, or *excellent* as 0 and those reporting health as *poor* or *fair* as 1.

For the second step of the analyses, we drew from Felitti et al. (1998) to create separate misfortune categories as follows. The 16 misfortune measures were divided into five categories of misfortune: *physical abuse* (physical abuse by father, mother, sibling, and other), *emotional abuse* (emotional abuse by father, mother, sibling, and other), *household SES* (receipt of welfare, financially worse than others, and less than a high school education for head of household), *household composition* (lack of father figure in household, parental divorce, and parental death), and *health at 16* (poor mental and physical health at age 16). We then created a separate count score for each of the five categories based on all of the items each respondent had coded as 1 (*yes*).

Control beliefs. Control beliefs were operationalized by two dimensions: personal mastery and perceived constraints (Lachman & Weaver, 1998). Personal mastery refers to one's sense of efficacy or effectiveness in carrying out goals whereas perceived constraints indicates the extent one believes there are obstacles beyond one's control that interfere with their ability to reach desired goals. Four items assessed personal mastery (e.g., "I can do just about anything I really set my mind to"; "When I really want to do something, I usually find a way to succeed at it"). Perceived constraint was assessed by eight items (e.g., "What happens in my life is often beyond my control," "I sometimes feel I am being pushed around in my life"). Participants responded to each question using a 7-point Likert scale ranging from 1 (*strongly disagree*) to 7 (*strongly agree*). Specific items were reverse coded and a total mean score of control was computed using both the personal mastery and perceived constraints items. Higher scores indicate higher control beliefs ($\alpha = .85$).

Negative affect. Participants responded to six questions using a 1 (*none of the time*) to 5 (*all of the time*) scale. Participants were asked, "During the past

30 days, how much of the time did you feel: so sad nothing could cheer you up, nervous, restless or fidgety, hopeless, that everything was an effort, and worthless''. A mean score was created based on all six responses such that higher scores reflected higher levels of negative affect ($\alpha = .87$).

Positive affect. Participants responded to six questions using a 1 (*none of the time*) to 5 (*all of the time*) scale. Participants were asked, ''During the past 30 days, how much of the time did you feel: cheerful, in good spirits, extremely happy, calm and peaceful, satisfied, full of life.'' A mean score was created based on all six responses such that higher scores reflected higher levels of positive affect ($\alpha = .91$).

Study Analyses

All continuous variables were transformed into standard deviation units for ease of interpretation. First, we estimated a series of multiple regression analyses with negative affect as the outcome. In Model 1, we included all covariates and total childhood misfortune score as predictors. In Model 2, we added control beliefs. In Model 3, we added the misfortune by control interaction. The interaction term was a product of the z-scored misfortune and control variables. For the second set of the analyses, we again estimated a series of multiple linear regression analyses to examine each specific type of misfortune. In Model 1, we included all covariates, and each of the five misfortune variables. In Model 2, we included all 2-way interactions between the misfortune types and control. The same series of models were estimated with positive affect as the outcome. All significant interactions were plotted following modified procedures outlined by Aiken and West (1991).

Results

Correlations and descriptive data can be found in Table 1. Table 2 displays linear regression results for both negative and positive affect. In Model 1, childhood misfortune was a positively associated with negative affect, $F(7, 6059) = 74.09$, $p < .001$. In Model 2, control beliefs were significantly negatively associated with negative affect, $F(8, 6058) = 315.88$, $p < .001$. In Model 3, $F(9, 6057) = 289.22$, $p < .001$, there was a significant interaction between misfortune and control beliefs that is plotted in Figure 1. We plotted all possible misfortune values on the x-axis to provide a more complete interpretation of this interaction. The association between misfortune and negative affect was slightly positive at high levels of control (1 standard deviation above the mean). However, there was a stronger positive association at low levels of control suggesting that higher control beliefs do somewhat buffer the negative effects of misfortune.

Table 1. Descriptive Statistics and Bivariate Correlations.

Variables	*M* (*SD*) or %	1	2	3	4	5	6	7	8	9
1. Age	46.86 (12.91)	–								
2. Gender (Male)	48.00%	−0.01	–							
3. Race (Minority)	9.00%	−0.10***	−0.03**	–						
4. Marital status (Not married)	2.00%	−0.05***	−0.11***	0.11***	–					
5. Education	6.88 (2.47)	−0.10***	0.09***	−0.04***	−0.01	–				
6. Retirement status (Retired)	15.00%	0.58***	0.06***	−0.05***	0.01	−0.07***	–			
7. Misfortune composite	3.22 (2.54)	−0.08***	0.04***	0.05***	0.07***	−0.18***	−0.04**	–		
8. Control beliefs	5.51 (1.02)	−0.09***	0.08***	−0.01	−0.06***	0.18***	−0.04***	−0.14***	–	
9. Negative affect	1.54 (0.62)	−0.10***	−0.09***	0.03*	0.13***	−0.09***	−0.06***	0.22***	−0.49***	–
10. Positive affect	3.39 (0.73)	0.10***	0.04**	0.02	−0.11***	0.02	0.08***	−0.18***	0.47***	−0.63***

***$p < .001$. **$p < .01$. *$p < .05$.

Table 2. Misfortune Composite Score Predicting Negative and Positive Affect.

	Negative affect			Positive affect		
	Model 1	Model 2	Model 3	Model 1	Model 2	Model 3
Predictors	β (SE β)	β (SE β)	β (SE β)	β (SE β)	β (SE β)	β (SE β)
Age	−0.09 (.01)***	−0.14 (.01)***	−0.13 (.01)***	0.07 (0.01)***	0.12 (0.01)***	0.12 (0.01)***
Gender	−0.09 (.01)***	−0.05 (.01)***	−0.05 (.01)***	0.03 (0.02)**	0.01 (0.02)	0.01 (0.02)
Race	−0.01 (.03)	−0.01 (.02)	−0.01 (.02)	0.05 (0.03)***	0.05 (0.03)***	0.05 (0.03)***
Marital status	0.10 (.02)***	0.08 (.01)***	0.08 (.01)***	−0.10 (0.02)***	−0.07 (0.02)***	−0.07 (0.02)***
Education	0.06 (.01)***	0.01 (.01)	0.01 (.01)	−0.01 (0.01)	−0.07 (0.01)***	−0.07 (0.01)***
Retirement	−0.01 (.03)	0.01 (.02)	0.01 (.02)	0.03 (.03)*	0.02 (.03)	0.02 (.03)
Misfortune composite	0.20 (.01)***	0.14 (.01)***	0.13 (.01)***	−0.18 (.01)***	−0.11 (.01)***	−0.11 (.01)***
Control beliefs	–	−0.48 (.01)***	−0.46 (.01)***	–	0.47 (0.01)***	0.47 (0.01)***
Misfortune × Control	–	–	−0.08 (.01)***	–	–	0.03 (0.01)**
R^2	0.08	0.29	0.30	0.05	0.25	0.26

Note. Model 1 includes covariates and total misfortune score; Model 2 adds in Control Beliefs; Model 3 adds in Misfortune × Control Interaction.
***$p < .001$. **$p < .01$. *$p < .05$.

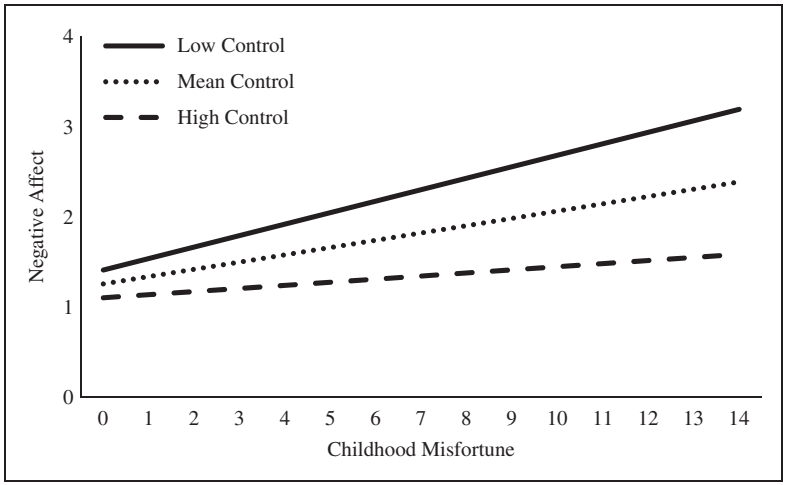

Figure 1. Higher control beliefs moderate the association between childhood misfortune and negative affect. Low control is represented by one standard deviation below the mean, mean control is represented by average levels, and high control is represented by one standard deviation above the mean.

The right side of Table 2 displays results for positive affect. In Model 1, childhood misfortune was significantly negatively associated with positive affect, $F(7, 6059) = 47.77$, $p < .001$. In Model 2, control was significantly positively associated with negative affect, $F(8, 6058) = 269.36$, $p < .001$. In Model 3, $F(9, 6057) = 240.31$, $p < .001$, there was a significant interaction between misfortune and control beliefs that is plotted in Figure 2. The association between misfortune and positive affect was slightly negative at high levels of control (1 standard deviation above the mean). However, there was a stronger negative association at low levels of control suggesting that higher control beliefs do somewhat buffer the decrease in positive affect associated with greater misfortune.[1]

Table 3 displays the results for the specific types of misfortune. For negative affect, in Model 1, emotional, household composition, and health at age 16 were all significantly positively associated with negative affect, $F(12, 6054) = 214.15$, $p < .001$. Control beliefs had a significant negative association with negative affect. In Model 2, interactions between control beliefs and both emotional abuse and health at age 16 emerged as significant, $F(17, 6049) = 156.11$, $p < .001$. Plotting the interactions revealed the same pattern of findings as the composite misfortune score. Higher control beliefs buffered the increases in negative affect associated with greater levels of emotional abuse and health at age 16 misfortunes.

The right columns of Table 3 display the results for positive affect. In Model 1, emotional abuse, household composition, and health at age 16 misfortunes

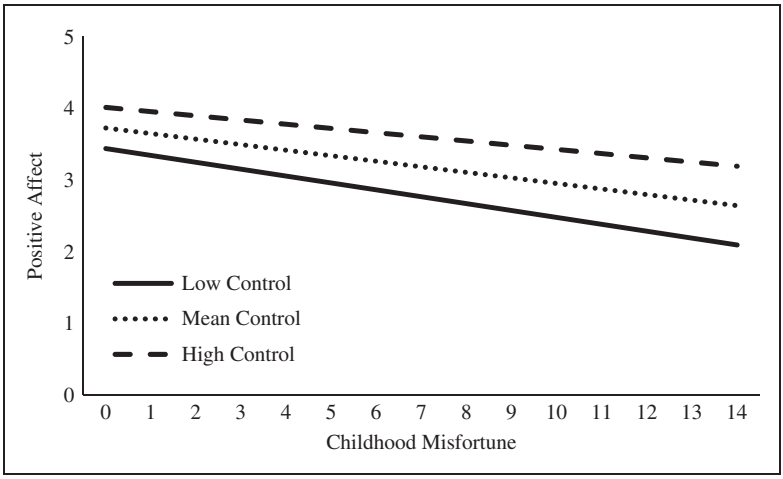

Figure 2. Higher control beliefs moderate the association between childhood misfortune and positive affect. Low control is represented by one standard deviation below the mean, mean control is represented by average levels, and high control is represented by one standard deviation above the mean.

were all significantly negatively associated with positive affect, $F(12, 6054) = 181.40$, $p < .001$. Control beliefs had a significant positive association with positive affect. In Model 2, interactions between control beliefs and both emotional abuse and SES by control interaction emerged as significant, $F(12, 6049) = 130.07.15$, $p < .001$. Plotting the interactions revealed the same pattern of findings as the misfortune composite score. Higher control beliefs buffered the decreases in positive affect associated with greater levels of emotional abuse and household SES misfortune.

Discussion

The current study utilized a national study of over 6,000 adults to examine the long-term effects of retrospective reports of misfortune on affect levels in adulthood. Overall, our hypotheses were supported in that greater childhood misfortune was associated with higher levels of negative affect and lower levels of positive affect. Emotional abuse, family structure disruptions, and having poorer health at the age of 16 emerged as the specific types of misfortune that were significantly related to affect while physical abuse and household SES did not show significant associations. Most importantly, there was individual variability in these effects such that those with higher perceived control beliefs did not experience the heightened negative affectivity and reduced positive affectivity associated with misfortune as much as those scoring lower in control beliefs.

Table 3. Different Types of Misfortune Predicting Negative and Positive Affect.

	Negative affect		Positive affect	
	Model 1	Model 2	Model 1	Model 2
Predictors	β (SE β)	β (SE β)	β (SE β)	β (SE β)
Age	−0.12 (0.01)***	−0.12 (0.01)***	0.11 (0.01)***	0.11 (0.01)***
Gender	−0.05 (0.01)***	−0.05 (0.01)***	−0.01 (0.02)	−0.01 (0.02)
Race	−0.01 (0.02)	−0.01 (0.02)	0.05 (0.03)***	0.05 (0.03)***
Marital status	0.07 (0.01)***	0.07 (0.01)***	−0.07 (0.02)***	−0.07 (0.02)***
Education	−0.01 (0.01)	−0.01 (0.01)	−0.06 (0.01)***	−0.06 (0.01)***
Retirement status	0.01 (.02)	0.01 (.02)	0.02 (.03)	0.02 (.03)
Emotional	0.10 (0.01)***	0.10 (0.01)***	−0.09 (0.01)***	−0.09 (0.01)***
Physical	0.03 (.01)	0.02 (.01)	−0.01 (.01)	−0.01 (.01)
SES	0.01 (.01)	0.01 (.01)	−0.01 (.01)	−0.01 (.01)
Family composition	0.03 (.01)**	0.03 (.01)**	−0.04 (.01)***	−0.04 (.01)***
Health at age 16	0.06 (.01)***	0.05 (.01)***	−0.05 (−.01)***	−0.04 (−.01)***
Control beliefs	−0.48 (.01)***	−0.47 (.01)***	0.47 (.01)***	0.47 (.01)***
Emotion × Control	–	−0.05 (.01)***	–	0.06 (.01)***
Physical × Control.	–	−0.03 (.01)*	–	−0.01 (.01)
SES. × Control	–	0.01 (.01)	–	−0.03 (.01)**
Family × Control	–	−0.01 (.01)	–	−0.01 (.01)
Health × Control	–	−0.03 (.01)**	–	−0.01 (.01)
R^2	0.29	0.31	0.25	0.27

Note. Model 1 includes covariates and all different types of misfortune; Model 2 adds in all Misfortune type × Control interactions. SES = socioeconomic status.
***$p < .001$. **$p < .01$. *$p < .05$.

Our findings parallel previous work (e.g., Lachman & Weaver, 1998; Turiano et al., 2014) demonstrating the protective effects of control beliefs and how this psychological factor can act as a resilience factor (Rutter, 1985).

Similar findings for both negative and positive affect provide confirmation of the importance of considering control beliefs as a resilience factor. Not only did higher control beliefs reduced increases in negative affect, but it also resulted in less decreases in positive affect. This is an important finding because although there is debate whether experiencing less negative affect versus more positive affect is more optimal (Baumeister, Bratslavsky, Finkenauer, & Vohs, 2001), studies have confirmed that both have important consequences in daily life (Watson, 1988). For example, the greater experience of positive emotions enables individuals to recover effectively from the negative impact of daily stress (Ong, Bergeman, Bisconti, & Wallace, 2006). The fact that those high in

control experience greater positive affect even in light of early life misfortunes demonstrates the importance of fostering a strong sense of control in one's life.

The current study also extends prior work that has found aspects of perceived control as protective. Pitzer and Fingerman (2010) found that one aspect of misfortune, physical abuse from parents, was associated with worse self-rated health and greater negative affect. They too found that the perceived constraints aspect of control moderated these associations in the same direction as in the current study. The use of a broader misfortune and control beliefs measures allowed us to extend these findings. Although we did not find an association with physical abuse and our outcomes (our measure incorporated severe and less severe physical abuse from not only parents but also siblings and others), we did find associations with emotional abuse, household composition, and health at 16. These findings are not surprising because children exposed to emotional abuse are likely to not develop the emotion regulation skills, and also model off of the emotions they observe in their own parents (Bandura, 1973; Pears & Capaldi, 2001). Familial disruptions like parental divorce and death are also severe risk factors for children's later mental health and physical functioning (Cherlin, Chase-Lansdale, & McRae, 1998; Shonkoff et al., 2012). Even with all of these risk factors, having a stronger sense of control over one's life seemed to benefit these individuals exposed to a variety of misfortunes. Future research would benefit from truly prospective designs because this would allow investigation of how sense of control develops over time, especially after experiencing adverse experiences early in life. A prospective design would also provide the opportunity to uncover the mechanisms explaining why a strong sense of control is protective such as goal setting, developing a healthy lifestyle, or having some other resource that allows these individuals to have a more positive outlook on life.

The strengths of the current study must be leveraged with certain qualifications. The results of this study can only be generalized to Caucasian individuals with relatively high levels of education. It is unclear whether findings would be different if the sample included more diverse racial minorities as well as individuals in lower socioeconomic strata. Another qualification that is important to consider is the fact that our measures were assessed at the same time point, which is inherent in cross-sectional studies. Thus, it is not possible to confirm temporal ordering of effects without repeated assessments. A fully prospective design where misfortune is measured and then participants are followed longitudinally to assess outcomes is more optimal for establishing cause and effect associations. Although retrospective reports can incorporate error, it is one of the most commonly used methods to assess misfortune and is still a valid and reliable method of assessment (Hardt & Rutter, 2004). We also benefited from utilizing a broad measure of misfortune, but are limited in not knowing exactly when each type of negative event occurred. There may be certain critical time points during childhood where the effects of misfortune are pronounced and such timing should be incorporated

into future studies. Finally, the effects in the current study were small to moderate so strong conclusions should not be made until additional studies replicate the effects from the current study. Specifically, the effects of misfortune were small (as to be expected over such long durations) while the effects of control were quite substantial. However, the change in *R*-square after adding in the interaction between misfortune and control was small (approximately 1% variance explained). Although effects were not large, it is still notable that misfortune that reportedly occurred during childhood predicted negative and positive affect 20 to 60 years later. This suggests that even when someone does experience adverse experiences at a sensitive time developmentally, these experience may not necessarily doom someone to lead unproductive and unhealthy lives both physically and emotionally. There is resilience in the face of adversity and developing a strong sense of control may be just one of those protective factors.

Overall, the current findings add to the growing literature that certain psychological factors such as control beliefs can buffer the negative effects of various types of childhood misfortune. These findings provide a hopeful outlook on individuals that have experienced misfortune during childhood. While it would be impossible to eliminate misfortune from all children's lives, there is still a chance to overcome such experiences. It is not clear whether some individuals who experience misfortune were born with higher perceived control or whether they somehow developed stronger control beliefs after the misfortune occurred. It is also not clear whether control beliefs can be targeted for intervention to improve developmental outcomes. However, this study provides additional evidence that control beliefs can counteract the negative effects of negative early life experiences.

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Note

1. Quadratic and cubic terms for misfortune were created and tested in each model to determine whether the model was better fitting with a curvilinear effect between misfortune and affect included. However, neither the quadratic or cubic terms approached statistical significance for either negative or positive affect, suggesting that experiencing any level of misfortune was associated with poorer affect levels.

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Author Biographies

Nicholas A. Turiano is currently an assistant professor in Life-Span Developmental Psychology at West Virginia University. His research expertise center on identifying why certain personality characteristics influence health and longevity. He also utilizes a life-span perspective to examine health disparities and resilience factors associated with socioeconomic status. Dr. Turiano earned his BS in Human Development and Family Studies from the Pennsylvania State University in 2005 and his PhD from Purdue University in 2012.

Nicole M. Silva is a doctoral candidate in Life-Span Developmental Psychology at West Virginia University. Nicole s research interests include examining personality as a predictor of social behaviors, health-related behaviors, and health outcomes and examining the mechanisms that explain the association between personality, health, and mortality. Nicole earned her BA in Psychology from the University of Massachusetts Dartmouth in 2009 and her MS from West Virginia University in 2015.

Courtney McDonald recently earned her BA in Psychology from West Virginia University. She is a McNair Scholar and while she was attending West Virginia University, she was the Vice President of Psychology Club/Psi Chi. She is currently applying to doctoral graduate programs in Clinical/Counseling Psychology. Her ultimate goal is to obtain a PhD in clinical psychology.

Patrick L. Hill is currently an assistant professor in Social and Personality Psychology at Washington University in St. Louis. His research focuses on how individuals develop and maintain a purpose in life, as well as the benefits associated with having a strong sense of purpose. He also examines the role of individual differences on prominent life and health outcomes, focusing on trait conscientiousness and forgiveness. Dr. Hill received his BA from Indiana University, and his MA and PhD from the University of Notre Dame.