

Development of Adaptive Coping From Mid to Late Life

A 70-Year Longitudinal Study of Defense Maturity and Its Psychosocial Correlates

John S. Martin-Joy, MD,*† Johanna C. Malone, PhD,*‡ Xing-Jia Cui, MD,§
Pål-Ørjan Johansen, Cand Psychol,|| Kevin P. Hill, MD, MHS,*¶ M. Omar Rahman, MD,#
Robert J. Waldinger, MD,*‡ and George E. Vaillant, MD* **

Abstract: The present study examines changes in defense maturity from mid to late life using data from an over 70-year longitudinal study. A sample of 72 men was followed beginning in late adolescence. Participants' childhoods were coded for emotional warmth. Defense mechanisms were coded by independent raters using the Q-Sort of Defenses (Roston et al., 1992, *Ego mechanisms of defense: A guide for clinicians and researchers* 217–233) based on interview data gathered at approximately ages 52 and 75. We examined psychosocial correlates of defenses at midlife, late life, and changes in defense from mid to late life. Overall, defenses grew more adaptive from midlife to late life. However, results differed on the basis of the emotional warmth experienced in the participants' childhoods. In midlife, men who experienced warm childhoods used more adaptive (mature) defenses; yet by late life, this difference in defensive maturity had disappeared. Men who experienced less childhood warmth were more likely to show an increase in adaptive defenses during the period from mid to late life.

Key Words: Ego mechanisms of defense, defense maturity, childhood warmth, longitudinal study, lifespan development

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The use of adaptive ego mechanisms of defense—also known as adaptive coping styles or involuntary coping mechanisms—has proven to be a key contributor to resilience and to successful long-term life outcomes (Diehl et al., 1996; Malone et al., 2013; Vaillant, 1992, 2012; Vaillant and Mukamal, 2001). First described by Sigmund Freud (1894) and later systematized by Anna Freud (1936), defense mechanisms represent unconscious means of coping with intolerable intrapsychic conflict. Freud (1894) originally observed that in special circumstances, affects could be “dislocated” from ideas (in processes he would identify as repression, dissociation, or isolation of affect) and then “reattached” to other ideas that seemed unrelated (a process he called displacement). This striking initial observation first led to a clinical appreciation of the ingenious ways patients handle or avoid affects and was later developed into a scientific approach that measures empirically a person's use of differentiated defenses in the midst of stress and conflict over the life span (Vaillant, 1977, 1992).

Several lines of empirical evidence derived from longitudinal study now support the role of adaptive (mature) defense mechanisms in promoting healthy development. Although all people rely on defenses that range from problematic (immature) to adaptive, the balance is ideally weighted toward regular use of defenses that enable a person to manage internal conflict while optimizing relationships with others. Researchers have shown that the use of more adaptive defenses facilitates a number of positive outcomes, including psychosocial adjustment in adulthood (Block, 1971; Davidson et al., 2004; Malone et al., 2013; Perry and Cooper, 1989; Vaillant, 1976), long-term resilience in adults who endured early adversity (Felsman and Vaillant, 1987; Nickel and Egle, 2006; Vaillant and Davis, 2000), faster time to recovery from borderline personality disorder (Zanarini et al., 2013), successful aging (Vaillant and Mukamal, 2001), and better physical health in late life (Malone et al., 2013). Cross-cultural studies document similar associations between adaptive defenses and psychological strengths in cultures as diverse as Greece, Pakistan, and Brazil (Hyphantis et al., 2011; Miranda and Louzã, 2015; Waqas et al., 2015).

Although studies of defensive style in psychotherapy are numerous, generally documenting movement in an adaptive direction (e.g., Perry and Bond, 2012), few studies have examined naturalistic changes in defenses over the life span. A cross-sectional study that used self-report measures found that older adults are more likely to use mature defenses (Segal et al., 2007). Diehl et al. (2014), also using a self-report measure, followed an age- and sex-stratified sample of 392 adults for 12 years and found that most individuals developed more adaptive coping until at least early old age. Zanarini et al. (2013) used a self-report measure to follow the defensive functioning of patients with personality disorders for a decade and a half and documented shifts in an adaptive direction. Methodologically more sophisticated longitudinal studies—those using clinical rating methods to assess change in defenses over long periods—are rare. Vaillant (1976), following a group of 95 psychologically healthy men from adolescence to midlife, showed that the use of defenses became more adaptive over time; Haan and Day (1974) documented similar shifts in 136 adolescent men and women followed into midlife. Conditions associated with defensive maturation, although elusive, may include general ego maturation, reduction in external and instinctual danger with maturity, and, in particular, “sustained relationships with individuals” (Vaillant 1976). Warmth of early environment has proven surprisingly weak as a predictor of defense maturity in adulthood (Vaillant, 1974). However, among those who endured greater childhood adversity, reliance on adaptive defenses has special value in facilitating the achievement of good adult mental health (Vaillant et al., 1986). Despite these advances, no study has used clinical rating methods to investigate whether defenses can mature in the second half of life and, if so, in which people and in what life circumstances.

The present study uses data from an over 70-year longitudinal study of adult development to examine defense maturity (adaptive coping) in mid and late life. Our data, obtained using clinical rating

*Harvard Medical School, Boston; †Department of Psychiatry, Mt. Auburn Hospital, Cambridge; ‡Harvard Study of Adult Development, Massachusetts General Hospital, Boston, Massachusetts; §Department of Psychiatry, Canandaigua VA Medical Center, Canandaigua, New York; ||EmmaSofia, Oslo, Norway; ¶Division of Alcohol and Drug Abuse, McLean Hospital, Belmont, Massachusetts; #Centre for Health, Population, and Development, Independent University, Dhaka, Bangladesh; and **Harvard Study of Adult Development, Orange, California. Send reprint requests to John S. Martin-Joy, MD, Department of Psychiatry, Mt. Auburn Hospital, 330 Mt. Auburn Street, Cambridge, MA 02138. E-mail: jmartin1@mah.harvard.edu.

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methods, provide the opportunity to understand how adult defense maturity continues to develop in the latter half of life and what psychosocial variables are correlated with such changes.

This study's primary aim was to identify whether defense maturity changes from mid to late life, and if so, whether emotional warmth of childhood environment predicts such maturation. A further aim was to examine the psychosocial correlates (*e.g.*, quality of relationships, functioning and enjoyment in work and leisure) of defense maturity in midlife and late life, as well as psychosocial variables from earlier in life that may be related to positive late-life growth. On the basis of the existing literature, we hypothesized that defense maturity would become increasingly adaptive from midlife to late life and that early childhood experiences of familial warmth would facilitate greater reliance on adaptive defenses in late life.

METHODS

Participants and Procedures

This study utilizes data from an ongoing longitudinal study of adult development. The original cohort consists of 268 men who were selected as Harvard sophomores (born between 1915 and 1924) for a study of male psychological health. Original selection criteria included absence of physical and mental illness and satisfactory freshman academic record (Heath, 1945). The men were Caucasian and primarily of middle and upper socioeconomic status. On entry into the study, men were assessed by internists, psychiatrists, psychologists, and anthropologists. Over the next 70 years, men completed questionnaires approximately every 2 years, and their medical records were obtained and reviewed every 5 years; men were interviewed by study staff approximately every 10 to 15 years.

In the present study, we utilized data from a subset of 72 men whose coping styles were assessed at both midlife (mean age, 52) and late life (mean age, 75) (26.9% of the overall sample). Initial selection criteria included men with adequate data (*i.e.*, complete interviews) for midlife and late-life defense coding assessments. We only included men who were still living and participating in the study at the time of the defense coding procedure (in 2002; mean age, 81). Next, because of the time-intensive nature of the defense assessment coding procedure, we decided to select men from the two groups we were most interested in: those who had either low or high scores (less than 13 or more than 16) on the Childhood Environmental Strengths (CES) scale (see full description of CES in the next section), a 25-point assessment of the quality of each boy's relationship with his mother, father, and siblings, and of the overall cohesion and quality of the home atmosphere. Finally, men with significant brain disease at the time of selection were also excluded. The final subset of 72 men (44 men with warmer childhoods, 28 men with less warm childhoods) did not differ from the overall study sample on measures of parental social class, childhood physical health, soundness of personality in college, IQ, quality of marriage by midlife, use of alcohol and mood-altering drugs by age 50, or lifetime alcohol use.

Measures

Adaptiveness of defense mechanisms at ages 52 and 75. For the present study, defensive maturity was assessed using the Q-Sort of Defenses (Roston et al., 1992), an empirical scale that represents a modified version of Haan's (1977) Q-Sort of Ego Processes. Defense ratings were performed on the basis of written summaries of 2-hour semi-structured interviews that had been conducted previously at approximately age 52 and age 75, typically in person and whenever possible in the subject's home. The interviews were designed to elicit a subject's work history, relational history, and coping style under stress (Vaillant, 1971, 1977, 1994; Vaillant et al., 1986). A subject might be asked to describe what he enjoyed about his career, the joys or stresses of marriage,

and how he dealt with business setbacks, the death of a parent or child, or other relational crises. The interviewer then created a detailed written summary of the interview, including his or her own impressions of the interview experience. For this study, independent doctoral- or graduate-level clinicians (MD or Cand Psychol) who had been trained in the use of the Q-sort then reviewed the interview summary and performed ratings. Raters were blind to each other's ratings and to the other study ratings reported in this article. To minimize halo effects, no rater assessed the same subject in both midlife and late life. Raters were assigned an equal number of midlife and late-life protocols to account for potential biases toward older or younger participants.

The Q-Sort of Defenses procedure (Roston et al., 1992) required raters to place in rank order a set of 51 statements describing particular defense mechanisms, resulting in a 9-point quasi-normative distribution (pile 1: three cards; pile 2: four cards; pile 3: six cards; pile 4: eight cards; pile 5: nine cards; pile 6: eight cards; pile 7: six cards; pile 8: four cards; and pile 9: three cards; with pile 1 being the most descriptive and pile 9 being least descriptive of the subject's characteristic coping style). As recommended by Block (2008), the Q-sort items describe defenses in plain, jargon-free language rather than identifying the specific defense (*e.g.*, "feels accused and criticized by others" represents projection). This system enabled raters to code the extent to which individuals relied on mature defenses (altruism, anticipation, humor, sublimation, and suppression), intermediate/neurotic defenses (displacement, intellectualization, reaction formation, and repression), or immature defenses (acting out, dissociation, fantasy, hypochondriasis, passive aggression, and projection). There were three cards for each defense with the exception of suppression and intellectualization, each of which had six cards; these cards were half-weighted accordingly.

To calculate defense maturity, the 21 cards from the first four piles (most descriptive items) were further divided into categories of mature, intermediate, and neurotic. On the basis of the number of cards in the mature, intermediate, or immature categories, raters then distributed 8 points across the three domains of defense maturity (mature, intermediate/neurotic, or immature), with each domain ranging from 1 to 5. This procedure resulted in ratios representing the relationship of each of the three defense maturity categories. (For example, the ratio 5:2:1 would indicate a subject who primarily used mature defenses [5 points] and infrequently used immature defenses [1 point].) The score for overall defensive style for each subject was then calculated by subtracting the rating for mature defenses from the rating for immature defenses, resulting in a 9-point range (-4 to 4). This score was then reverse coded and converted to a 1 to 9 scale (1 = very maladaptive/immature; 9 = very adaptive/mature) to provide an overall rating of maturity of defenses.

Interrater reliability was tested pairwise, with each Q-sort rater tested against one other Q-sort rater (*i.e.*, rater A versus rater B; rater C versus rater D). Interrater reliability for defensive maturity in the current study was strong, ranging from 0.79 to 0.88 using Pearson's *r* between independent raters.

Psychosocial Variables

Childhood variables

The CES scale is an overall assessment of the quality of each boy's childhood environment (Vaillant, 1974, 2012). The measure provides an overall rating of the childhood environment based on five facets (*i.e.*, the quality of the boy's relationship with his mother, father, and siblings; the warmth and cohesion of the family; and global impression of the home) on a scale from 1 (poor) to 5 (excellent). These five ratings were summed into a single composite of environmental strengths. The sum score ranged from 5 to 25, with higher scores indicating more warmth (Vaillant, 1974). In this study, subscales of the measure were also utilized (*i.e.*, relationship with mother and relationship with father).

Childhood health, not included in the CES rating, was assessed using a 1 to 5 point scale based on parent interviews, with low scores indicating severe or prolonged illness and higher scores indicating good physical health.

The family's social class at age 18 was rated using the Hollingshead-Redlich rating scale (Hollingshead and Redlich, 1958). We reverse scored the original measure within this study for ease of interpretation with scores ranging from 1 (lower middle class, Hollingshead-Redlich class IV) to 4 (upper class, Hollingshead-Redlich class I).

Childhood scores were assigned in 1970–1972 by raters who had access only to family information gathered in 1940–1944, when the subjects were in late adolescence: history given by the subject, parental questionnaires, and an in-home interview with parents by Grant Study staff. Raters were blind to all later data. Interrater reliability for the composite childhood environment scales was good ($r = 0.71$). These measures have been described in more detail previously (Lee et al., 1995; McLaughlin et al., 2010; Vaillant, 1974; Waldinger et al., 2007).

Midlife variables

Psychosocial adjustment, ages 30 to 47. This rating scale sums seven measurements of midlife adjustment. After reviewing each man's file, including interview data and responses to regular semiannual questionnaires, independent raters blind to other study outcomes rated the participant's enjoyment of work, achievement of steady promotions, absence of excessive sick leave, midlife income, stability of marriage, engagement in recreation with others, and taking and enjoyment of vacations. Scores ranged from 7 to 16, with higher scores indicating better adjustment. The measure has demonstrated good reliability and validity (Lee et al., 1995; Vaillant, 1979; Vaillant and Schnurr, 1988).

Quality of marriage at age 47. To assess quality of marriage from age 20 to age 47, men and their wives were asked to rate multiple aspects of their marriage including stability, harmony, and sexual adjustment on 1 to 4 point scales. Scores were then combined and recoded on a 1-to-3 point scale, with low scores meaning the couple had divorced or was considering divorce and high scores indicating a good marriage that had lasted for at least 15 years (Vaillant, 1978).

Eriksonian stage, ages 30 to 47. Independent coders reviewed each subject's file and then assessed the men's mastery of psychosocial tasks reflecting Erikson's (1963) notion of a "widening social radius" that extends progressively from an individual sense of identity to more complex and more mutual relationships with others and with the world. For example, a man who had a stable career and marriage but never assumed responsibility for others at work or in the community would be considered to have achieved identity and intimacy, but not generativity. Ratings were based on Vaillant's modified version of Erikson's model (see Vaillant and Milofsky, 1980 for a detailed description) and were made on a 5-point scale (1 = less than identity, 2 = identity, 3 = intimacy, 4 = career consolidation, 5 = generativity) indicating the highest stage achieved. Previous research using this scale found that Eriksonian development was largely independent of social class and education but correlated in meaningful ways with expected outcomes of length and satisfaction of marriage, late-life depression and cognitive functioning, success in career, subjective happiness, adaptive defenses, and general positive qualities of their childhood experiences (Malone et al., 2016; Vaillant, 2012; Vaillant and Drake, 1985; Vaillant and Milofsky, 1980).

Late-Life variables

Social supports from age 50 to 70. Independent raters assessed participants' engagement with social supports between ages 50 and 70 using a 16-point composite scale (Vaillant et al., 1998). The raters used data collected from the 11 biennial questionnaires completed by participants during these two decades. Ratings covered multiple dimensions of social support, including marriage, relationship with children,

relationships with adult siblings, the presence of confidants, friends, membership in social clubs, recreation (playing games) with others, and religious affiliation. The summed scale score ranged from 0 (absence of support) through 16 (very strong social support). Reliability for these ratings was strong, with intraclass correlations averaging 0.92 for three raters. Previous studies have found that this measure of social support is significantly correlated in the expected directions with physical health at ages 50, 70, and 80, and indicators of depression at age 50 (Vaillant et al., 1998).

Subjective life satisfaction, age 55 to 75. At age 75, the men completed a self-report questionnaire in which they rated their satisfaction over the last 20 years on five domains: marital satisfaction, work or retirement, relationship with children, friendships, and recreation (e.g., hobbies, sports, community service, and religious participation) (Vaillant, 2012). Each domain was coded on a scale that ranged from 2 (not very satisfying) to 8 (highly satisfying). Scales were then summed with the total possible scores ranging from 10 (not very satisfying) to 40 (highly satisfying). Vaillant and Mukamal (2001) found that the Subjective Life Satisfaction score was associated with previously assessed midlife marriage satisfaction, less depression, and more adaptive defenses.

Psychosocial adjustment, age 65 to 80. Independent raters reviewed questionnaire and interview data between ages 65 and 80 and rated each subject's adjustment in a number of domains. These domains included career or retirement enjoyment, experiences of being successful, contact with younger relatives, marital satisfaction, use of leisure time, games with others, use of mood-altering drugs, use of psychiatry, and global impression of adjustment to aging. Scaled scores were then summed and ranged from 9 (poor adjustment) to 23 (excellent adjustment) out of 29 possible points. Interrater reliability was strong ($r = 0.88$). Previous research using this scale has found that this scale is significantly correlated in the expected directions with marriage stability, adaptive defenses, and absence of depression at age 50 (Vaillant and Mukamal, 2001).

Quality of aging. Independent raters coded the global quality of the participants' aging up until age 75 by reviewing data regarding mortality, physical health, ability to attend to daily activities, social supports, psychosocial adjustment, and subjective well-being. The scale ranges from 1 (prematurely dead by age 75 or near death) to 4 (happy and well at age 75). Vaillant and Mukamal (2001) found that men who had higher scores on this scale at age 75 were less likely to have been depressed at age 50 and were more likely to have had a stable marriage at midlife, were more likely to have used adaptive defenses at midlife, and were more likely to have exercised in midlife.

RESULTS

Psychosocial Correlates of Mid- and Late-Life Defense Maturity

To establish convergent validity of the defense ratings, we examined the extent to which variables in mid and late life correlated with the use of adaptive midlife defenses and late-life defenses. As expected, a range of midlife variables correlated with maturity of midlife defenses, including psychosocial adjustment from age 30 to 47 and Eriksonian stage reached by midlife. Midlife defenses also predicted psychosocial outcomes 20 to 30 years later in late life, including social supports from age 50 to 70, psychosocial adjustment from age 65 to 80, life enjoyment at 75, and quality of marriage at age 75. These findings are broadly congruent with previous research (Vaillant and Mukamal 2001).

As expected, more adaptive defenses in late life were also positively associated with better late-life psychosocial functioning, including psychosocial adjustment from age 65 to 80; social supports from age 50 to 70; quality of marriage at age 75; life enjoyment at 75; and successful aging, suggesting convergent validity. Interestingly, among

our midlife psychosocial variables, only midlife marriage quality significantly predicted late-life maturity of defenses, whereas midlife psychosocial adjustment and Eriksonian stage did not.

Overall, as expected, adaptive defenses at mid and late life as measured by the Q-sort showed correlations in the expected directions with standard psychosocial measures.

Changes in Use of Mechanisms of Defense From Midlife to Late Life

We next examined the change in defense maturity from midlife to late life in our overall sample and examined the psychosocial correlates of this change. Within the overall sample, midlife and late-life defenses were moderately significantly correlated $r(71) = 0.32, p = 0.007$. Scores for change in defensive maturity were calculated by subtracting late-life defense scores from midlife defense scores. A positive change score indicated maturation, that is, a shift of defenses in an adaptive direction.

Traditional early-life predictors of resilience, such as childhood health, childhood social class, IQ at age 19, and years of education, were not associated with maturation of defenses from mid to late life (Table 1). Instead, the maturation of defenses from age 50 to 75 was largely a phenomenon of delayed maturation among those who experienced less childhood warmth. The maturation of defenses from mid to late life correlated strongly with a poor childhood relationship with mother, a poor childhood relationship with father, and overall low scores on the CES scale. Later defensive maturation was also associated with poor overall psychosocial adjustment at ages 30 to 47 and poor Eriksonian stage in midlife. Thus, the maturation of defenses in our study was a late development in men who enjoyed little

emotional warmth in childhood and had less psychosocial success in midlife.

It is noteworthy that, in general, early and midlife difficulties were not associated with late-life defensive maturity per se. Instead, early and midlife struggles were associated with movement in an adaptive direction in the second half of life. Viewed differently, childhood deprivation and midlife psychosocial faltering were associated with use of less adaptive defenses in midlife, but by age 75, these earlier experiences seemed less relevant to defensive maturity.

The Role of Childhood Environment in Defense Maturation From Midlife to Late Life

As seen in Table 1, adaptive midlife defenses, as measured by the Q-sort method, were associated with childhood variables including overall warmth and the quality of the relationship with both the mother and father. No such link was found between childhood environment and maturity of late-life defenses. As noted above, using the CES scale, we categorized participants into two groups: those with relatively warm (CES > 16) and relatively less warm (CES < 13) experiences in early life. Of the 72 men, 44 were in the “warm” group and 28 were in the “less warm” group. In the group with warm childhoods, the correlation between mid- and late-life defenses showed a significant moderate correlation, $r(43) = 0.36, p = 0.02$, but in the group with less warm childhoods, the correlation between mid- and late-life defense maturity was not significant (ns), $r(27) = 0.21$. In looking at the two subgroups separately, we saw that there was a statistically significant effect of time on defense maturity in men from less warm families, $F(1, 27) = 5.29, p = 0.03$, such that defense maturity improved (midlife defense maturity: mean = 6.00, SD = 2.37; late-life defense maturity: mean = 7.21, SD = 2.06). However, in the men from warmer families, defense

TABLE 1. Correlations of Mid- and Late-Life Defense Maturity and Changes in Defense Maturity with Psychosocial Variables across the Life Span (N = 72)

	Mean (SD)	Defensive Maturity in Midlife	Defensive Maturity in Late Life	Change in Defensive Maturity (in Adaptive Direction)
Childhood variables				
Overall childhood warmth (CES)	15.22 (5.53)	0.50***	0.17	-0.33**
Relationship with mother	3.08 (1.47)	0.40***	0.07	-0.32**
Relationship with father	3.15 (1.49)	0.45***	-0.08	-0.36**
Childhood health	2.82 (1.47)	-0.16	0.01	0.15
Childhood social class	2.93 (0.91)	0.16	0.04	-0.11
Young adulthood variables				
IQ	136.06 (11.61)	0.00	0.16	0.13
Years of education	18.22 (1.69)	-0.05	0.09	0.12
Midlife variables				
Psychosocial adjustment, age 30–47	13.57 (1.86)	0.53***	0.18	-0.35**
Quality of marriage, age 47	2.11 (0.77)	0.27*	0.29*	-0.02
Eriksonian stage, age 47	4.38 (0.83)	0.55***	0.15	-0.39**
Late-life variables				
Social supports, age 50–70	9.65 (2.88)	0.42***	0.31**	0.15
Life satisfaction, age 55–75 (n = 66)	33.00 (4.35)	0.36**	0.25*	-0.15
Quality of marriage, age 55–75 (n = 65)	2.46 (0.68)	0.40**	0.27*	-0.17
Psychosocial adjustment, age 65–80 (n = 67)	22.82 (3.30)	0.28*	0.54***	0.13
Quality of aging, age 75	2.89 (0.82)	0.21	0.34**	0.08
Mean (SD)		7.17 (2.13)	7.56 (1.79)	0.39 (2.31)
Range		1 to 9	1 to 8	-7 to 6

Unless otherwise indicated, N = 72 for all variables.

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

maturity stayed fairly consistent, showing only a nonsignificant decline, $F(1, 43) = 2.56, p = 0.002$ (midlife defense maturity: mean = 7.91, SD = 1.58; late-life defense maturity: mean = 7.77, SD = 1.58).

In our final set of analyses, we conducted repeated-measures analysis of variance, with defense mechanisms at ages 52 and 75 as outcomes and group membership as a predictor. Results from the multivariate F-test indicated significant differences in use of defense mechanisms over time (Time: $F[1,70] = 4.0, p < 0.05$) such that overall, men were likely to use less adaptive defense mechanisms at age 52 than at age 75. A significant time-by-group interaction emerged, indicating that men with “less warm” childhoods looked more similar to men with “warm” childhoods when assessed in late life; this was in contrast to midlife, where men with “less warm” childhoods utilized less adaptive defenses than men with “warm” childhoods (time \times group: $F[1,79] = 6.28, p < 0.05$) (Table 1 and Fig. 1).

In examining these differences, the midlife defenses used by survivors of less warm childhoods were strikingly less mature than the defenses of men who enjoyed warm childhoods ($t[70] = -4.10, p < 0.001$). However, by late life, the defense maturity of the two groups (warmer and less-warm childhoods) had converged, and the difference between the groups was no longer significant ($t[70] = -1.30, p = \text{ns}$). The difference between the change scores of defense maturity differed significantly ($t[70] = 2.50, p < 0.05$) based on childhood warmth, with men classified as having less warm childhoods showing a greater shift in defenses than those with warm childhoods.

DISCUSSION

In our sample of well-educated and socioeconomically privileged men, defensive style evolved in a more adaptive direction from ages 52 to 75. That is, we found that, on average, defenses mature over time. This finding supports our primary hypothesis and is consistent with a growing body of literature suggesting that personality functioning and overall psychological health have the potential to improve in the second half of life (Diehl et al., 2014; Field and Millsap, 1991; Jones and Meredith, 2000; Malone et al., 2013; Segal et al., 2007; Vaillant, 2012).

Surprisingly, however, and contrary to our secondary hypothesis, the presence of childhood warmth did not predict late-life defensive maturation. Instead, later maturation was associated with less warm childhood environments. Factors traditionally associated with social

privilege, such as childhood social class, IQ, and years of education, failed to predict defensive maturation. At age 52, defensive maturity was significantly lower in individuals who had less warm childhood families than those from warm families; by age 75, those men's coping was indistinguishable from that of men who had enjoyed warm childhoods. Put differently, men who came from warm childhood families had reached their peak of defense maturity by age 52 and showed only a nonsignificant decline in defense maturity by age 75. However, men from less warm families showed significant continued maturation of defenses well into late life (Fig. 1). Thus, our study has unexpected relevance to the phenomenon of resilience—the achievement of adaptive outcome despite risk (Hauser and Allen, 2006; Hauser et al., 2006).

As expected, defense maturity at both ages 52 and 75 was associated with a number of important psychosocial variables. Use of adaptive defenses was associated with psychosocial functioning at the time of the assessment and was complexly related to earlier and later relational experiences. In particular, childhood psychosocial experiences (such as warmth of childhood and relation to mother and father) predicted poor midlife defenses, but lost their ability to predict use of adaptive defenses in late life. Midlife psychosocial experiences, similarly, were correlates of midlife defenses but not of late-life defenses. We found that one midlife psychosocial variable was associated with use of adaptive defenses in late life: marital quality. Future research should consider whether a more stable and fulfilling relationship with an intimate partner in midlife may foster the use of more adaptive coping mechanisms as people age.

This study has several limitations. These include the study's original selection criteria, which focused on healthy Caucasian men from socioeconomically privileged backgrounds. It is unclear to what extent our findings may generalize to populations that include more ethnic and sex diversity. Second, because of time limitations associated with the laborious coding process, we elected to code only narratives of men with the highest and lowest scores on the CES (a measure of childhood environment). Although this choice allowed us to compare the two groups of men in our a priori hypotheses, including men with the entire spectrum of childhood experiences might have enriched and potentially expanded the correlations reported in Table 1. Third, we cannot rule out the possibility that improved defensive functioning in emotionally deprived men, and the nonsignificant decline in defensive functioning in emotionally privileged men, may reflect a regression to the mean over time or the possibility of ceiling effects. At a more general level, we also acknowledge the subjectivity inherent in any attempt to rate intrapsychic phenomena. It is worth noting that our global outcome measure, although empirically derived, depends on a metaphor—maturity. The limits of the metaphor and its potential to be mistaken for a value judgment should be acknowledged (Vaillant, 1976). Finally, as Erikson (1963) reminds us, the effort to specify positive outcomes at each life stage is best balanced by the recognition that dynamic conflict continues in each stage.

Despite its limitations, our study has significant strengths. First, our methodology for assessing defenses is sophisticated when compared with the cross-sectional and/or self-report methods used in many defense studies. The Q-sort measure of defense mechanisms produced clinical ratings, showed strong interrater reliability, and demonstrated convergent validity through association with expected psychosocial variables. Second, our data set was rich and included summaries of in-depth interviews for each subject. Finally, our use of multiple independent empirical measurements over time and our use of longitudinal data collected prospectively over 7 decades make our study unique in its ability to explore the multilayered relationships between childhood experience and developments later in life.

In summary, our study provides prospectively gathered empirical evidence supporting the hypothesis that ego mechanisms of defense (coping styles) mature from midlife to late life. In this respect, our results provide an empirical basis for countering the still-common belief

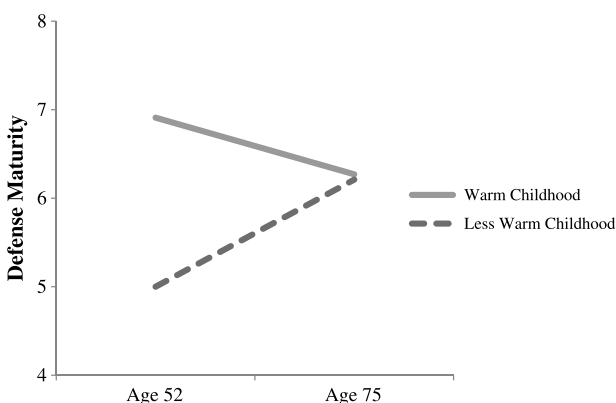


FIGURE 1. Defensive maturity from mid to late life in men with warm and less warm childhoods (Q-sort method). Defensive maturity ranges: 1 (immature) to 9 (mature). $N = 72$ (44 warm, 28 less warm). Note: In men from less warm families, there was a statistically significant effect of time on defense maturity, $F(1, 27) = 5.29, p = 0.03$, with defense maturity improving (midlife defense maturity: mean = 6.00, SD = 2.37; late-life defense maturity: mean = 7.21, SD = 2.06). In men from warmer families, defense maturity showed a nonsignificant decline, $F(1, 43) = 2.56, p = 0.002$ (midlife defense maturity: mean = 7.91, SD = 1.58; late-life defense maturity: mean = 7.77, SD = 1.58).

that late life is exclusively a time of decline. We also found that defensive maturation occurs to a greater degree in men who were emotionally deprived in childhood and whose psychosocial adaptation was relatively poor in midlife. This late-life improvement in coping may be a phenomenon of delayed maturation, of posttraumatic growth (Tedeschi and Calhoun, 2004), or of resilience. Thus, our findings illuminate not only the human capacity for psychological development over the life span but also the potential for growth in late life among those who survived early emotional adversity.

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DISCLOSURES

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