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Understanding the Role of Personality in Linking Childhood Adversity to Adult Well-Being: A Theoretical Integration

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Abstract
Adverse childhood experiences (ACEs) are robustly associated with diminished psychological and physical well-being decades later, yet the mechanisms that carry this influence across the life course remain incompletely specified. This theoretical paper proposes that personality, conceptualized through the Five-Factor Model (FFM), functions as a central psychological pathway linking early adversity to later well-being. Drawing on evidence that ACEs are associated with elevated neuroticism and reduced conscientiousness and openness, and that these same traits are among the strongest known correlates of subjective and psychological well-being, an integrative Dual-Pathway Model is proposed in which personality operates simultaneously as a mediator (adversity shapes trait levels, which in turn shape well-being) and as a moderator (pre-existing trait-linked sensitivity determines how strongly adversity affects development, consistent with differential susceptibility theory). The model generates six testable propositions concerning mediation, moderation, trait malleability, and resilience-related buffering. Implications for prevention science, personality-informed intervention, and future longitudinal and multi-method research designs are discussed. This paper offers a parsimonious, falsifiable framework for organizing a fragmented literature and guiding future empirical validation.
Keywords: adverse childhood experiences, Five-Factor Model, personality, adult well-being, differential susceptibility, resilience.

Introduction
Adverse childhood experiences (ACEs) including abuse, neglect, and household dysfunction such as parental substance use, mental illness, incarceration, or intimate partner violence are common. In the foundational study that introduced the term, Felitti et al. (1998) surveyed more than 17,000 adult members of a health maintenance organization and found that ACEs were not only prevalent but showed a graded, dose-response relationship with numerous leading causes of death in adulthood, including ischemic heart disease, cancer, and chronic lung disease, as well as with depression, substance use, and suicide attempts. Since that landmark study, a substantial body of epidemiological research has confirmed and extended these findings. A systematic review and meta-analysis by Hughes et al. (2017), synthesizing data from dozens of studies, found that individuals exposed to four or more ACEs faced markedly elevated risk for a wide range of adverse health and behavioral outcomes relative to those with no such exposure, with risk increasing systematically as the number of adverse experiences accumulated. Anda et al. (2006) further argued, drawing on a convergence of neurobiological and epidemiological evidence, that the effects of early abuse and related adversity are not confined to childhood but instead become embedded within neurodevelopmental, endocrine, and immune systems in ways that persist across the life span.

What is comparatively less well specified, however, is the psychological architecture through which early adversity is carried forward into adult functioning and, in particular, into subjective and psychological well-being. Biological accounts have offered one influential answer: chronic early stress can produce allostatic-load, a cumulative physiological toll exacted by the body's repeated efforts to adapt to stressors, which in turn predisposes individuals to age-related disease (Danese & McEwen, 2012; McEwen, 1998). This biological embedding perspective is compelling, but it is not, on its own, a complete account of why childhood adversity so often predicts diminished life satisfaction, impaired relationships, and reduced sense of purpose decades later. A parallel

psychological pathway is needed one that specifies how early experience becomes durable individual difference, and how that individual difference in turn shapes the texture of adult life.

Personality is a natural candidate for this psychological pathway, for at least three reasons. First, personality traits particularly as organized within the Five-Factor Model (FFM), comprising Neuroticism, Extraversion, Openness, Agreeableness, and Conscientiousness (Costa & McCrae, 1992) are known to develop across childhood and adolescence and to be shaped, at least in part, by environmental input rather than being fixed at birth (McCrae & Costa, 2003; Roberts & DelVecchio, 2000). Second, a growing body of evidence indicates that ACEs are systematically associated with adult personality trait levels, particularly with elevated neuroticism and, in some studies, reduced conscientiousness and openness (Fletcher & Schurer, 2017; Fortes Maciel, 2023). Third, and critically, these same trait dimensions are among the most consistent and well-replicated correlates of adult well-being, in both its hedonic form subjective well-being, comprising life satisfaction and the balance of positive to negative affect (Diener, 1984) and its eudaimonic form psychological well-being, comprising dimensions such as purpose in life, autonomy, and positive relations with others (Ryff, 1989). A large meta-analysis by DeNeve and Cooper (1998) established that personality traits, and neuroticism and extraversion in particular, are more strongly and consistently associated with subjective well-being than are many demographic and situational variables that historically received greater research attention.

Taken together, this evidence base suggests a coherent, if under articulated, chain: childhood adversity shapes personality; personality shapes adult well-being. Yet the literatures on ACE-personality associations and on personality-well-being associations have developed largely in parallel, with comparatively few attempts to integrate them into a single explanatory framework and fewer still that also incorporate the possibility, suggested by differential susceptibility theory (Belsky & Pluess, 2009), that personality-linked sensitivity may not only be an outcome of adversity but also a pre-existing moderator of how strongly adversity registers in the first place.

The purpose of this paper is to address that integrative gap. Specifically, this paper (a) reviews the literature on ACEs and their long-term consequences, (b) reviews the structure and developmental properties of the Five-Factor Model, (c) reviews conceptualizations of adult well-being and their established personality correlates, (d) synthesizes existing evidence directly linking childhood adversity, personality, and well-being, and (e) proposes an original Dual-Pathway Theoretical Model in which personality functions simultaneously as a mediating mechanism and as a moderating vulnerability/plasticity factor. The paper concludes with a discussion of the model's theoretical and practical implications, its limitations, and directions for future empirical research needed to test it. Consistent with its stated aim, this paper is a theoretical/conceptual contribution: it does not report original data collection, but instead synthesizes existing empirical findings into a novel, falsifiable framework intended to guide subsequent empirical work.

Scope, Definitions, and Approach to Theoretical Synthesis

Before developing the proposed model, it is useful to clarify the scope of the constructs addressed and the approach taken to the present theoretical synthesis. This paper adopts the operational definition of adverse childhood experiences established by Felitti et al. (1998) and extended by subsequent large-scale reviews such as Hughes et al. (2017), encompassing abuse, neglect, and household dysfunction occurring before age 18. It adopts the Five-Factor Model, as operationalized by Costa and McCrae (1992) and elaborated developmentally through Five-Factor Theory (McCrae & Costa, 2003), as the personality framework of interest, in preference to alternative trait taxonomies, on the grounds of its extensive validation, its explicit developmental theory (which is necessary for a model concerned with how adversity becomes personality), and its dominance within the existing ACE-personality literature reviewed below. It adopts a dual-tradition definition of adult well-being, incorporating both the hedonic, subjective well-being tradition (Diener, 1984) and the eudaimonic, psychological well-being tradition (Ryff, 1989), on the grounds that a comprehensive account of well-being as an endpoint should not be limited to either tradition alone, and that the two traditions may plausibly be linked to adversity-shaped personality traits through partially distinct mechanisms, as elaborated in the proposed model.

As a theoretical rather than empirical contribution, this paper does not report an original systematic review or original data collection, consistent with its stated purpose as a conceptual synthesis intended to organize existing findings into a novel, testable framework. The literature reviewed was selected on the basis of its status as foundational or highly cited work within each of the three core domains addressed (childhood adversity, the Five-Factor Model, and adult well-being) and its direct relevance to the intersections among them; it is not intended as an exhaustive systematic review of any one of these three very large literatures, each of which individually spans thousands of published studies. Readers seeking a comprehensive, systematically conducted review of any single component literature are directed to the meta-analyses cited throughout (e.g., Hughes et al., 2017, for ACEs and health outcomes; DeNeve & Cooper, 1998, for personality and subjective well-being; Fortes Maciel, 2023, for ACEs and personality traits), each of which employs formal systematic review or meta-analytic methodology in its own right. The present paper's contribution lies not in review methodology but in the novel theoretical integration performed across these three literatures, and in the specific, falsifiable propositions this integration generates.

Adverse Childhood Experiences: Definition, Prevalence, and Long-Term Impact

Adverse childhood experiences (ACEs) refer to potentially traumatic events and chronic stressors occurring before the age of 18, encompassing three broad categories: abuse (physical, emotional, and sexual), neglect (physical and emotional), and household dysfunction (e.g., exposure to intimate partner violence, parental separation or divorce, household substance misuse, parental mental illness, or the incarceration of a household member; Felitti et al., 1998). The original ACE Study, conducted by Felitti et al. (1998) in collaboration with the Centers for Disease Control and Prevention, surveyed 17,337 adult patients undergoing standardized medical evaluation and found that nearly two-thirds reported at least one ACE, while a substantial minority reported four or more. Crucially, the study documented a graded dose-response relationship between the number of ACEs reported and the prevalence of numerous negative outcomes in adulthood, including alcoholism, drug abuse, depression, suicide attempts, and several of the leading causes of death, such as ischemic heart disease and chronic lung disease. This dose-response pattern in which risk increases incrementally with each additional adverse experience rather than only following a single severe event has become one of the most replicated findings in the ACEs literature and forms the empirical foundation for cumulative-risk models of childhood adversity.

Beyond the original Felitti et al. (1998) sample, subsequent population-based surveillance work has confirmed that ACE exposure is common rather than exceptional across community populations, and that its prevalence is socially patterned, with higher exposure generally observed among groups facing greater socioeconomic disadvantage a pattern that has led public health researchers to characterize ACEs not merely as a marker of individual family pathology but as a population-level indicator of structural and community-level stress exposure. This population framing carries an important implication for the dose-response pattern central to the ACEs literature: because the number of distinct ACE categories reported (for example, out of the ten categories

originally assessed by Felitti et al., 1998) is used as a simple cumulative count, the dose-response relationship documented across this literature reflects the accumulation of qualitatively different stressors abuse, neglect, and household dysfunction alike rather than repeated exposure to a single stressor type. This has motivated debate, addressed further in the Limitations and Directions for Future Research section below, over whether an undifferentiated cumulative-risk approach adequately captures the developmental significance of adversity, or whether the specific type, timing, chronicity, and severity of adversity carry additional explanatory value beyond a simple count a question of direct relevance to the personality-mediated model proposed later in this paper, given evidence, reviewed below, that different ACE subtypes appear to be associated with different personality outcomes.

Subsequent research has both confirmed and substantially extended the original findings of Felitti et al. (1998). Hughes et al. (2017) conducted a systematic review and meta-analysis of studies examining the health effects of multiple ACEs, concluding that individuals with four or more ACEs were at significantly elevated risk, relative to those with no ACEs, across a wide range of outcomes spanning problematic alcohol use, illicit drug use, poor self-rated health, and mental illness, with the strength of association again increasing systematically with ACE count. This body of evidence indicates that the consequences of childhood adversity are not limited to a narrow set of psychiatric outcomes but instead extend broadly across physical health, health behavior, and psychosocial functioning a pattern more consistent with a general, systemic developmental disruption than with any single, outcome-specific causal pathway.

A key question raised by this literature is how experiences confined to the first two decades of life come to influence health and functioning many decades later, often across the entire life span. One influential answer, offered by Anda et al. (2006), is that early abuse and related adversity produce convergent neurobiological and epidemiological effects: exposure during sensitive developmental periods appears to alter the functioning of stress-response systems, including the hypothalamic-pituitary-adrenal axis, in ways that persist well beyond the period of exposure itself. This neurobiological embedding is closely related to the construct of allostatic-load, introduced by McEwen (1998), which describes the cumulative physiological wear exacted on the body by chronic or repeated activation of stress-response systems. Whereas allostasis refers to the adaptive process by which the body maintains stability through physiological change in response to a stressor, allostatic-load refers to the cost of that adaptation when stressors are chronic, frequent, or unpredictable a state that produces measurable dysregulation across cardiovascular, metabolic, immune, and neuroendocrine systems. Danese and McEwen (2012) applied this framework directly to ACEs, arguing that early adversity elevates allostatic-load across the life course and thereby contributes to accelerated aging and age-related disease risk in adulthood, providing a physiological account of precisely the kind of long-latency effect first documented by Felitti et al. (1998).

This biological embedding literature is valuable, and it is not in tension with the psychological framework proposed in this paper indeed, allostatic-load and personality development are plausibly interdependent processes, insofar as chronic early stress may shape temperament-linked physiological reactivity that later consolidates into stable trait-like tendencies such as neuroticism. However, a purely biological account leaves an important explanatory gap. Physiological dysregulation alone does not fully explain why ACEs predict specifically psychological outcomes reduced life satisfaction, impaired sense of purpose, strained relationships, and diminished self-acceptance that are not obviously reducible to cardiovascular or metabolic dysfunction. Nor does it explain the substantial heterogeneity in outcomes observed among individuals with similar ACE exposure: some individuals exposed to considerable childhood adversity nonetheless report high levels of adult well-being, while others with comparatively modest exposure report substantial impairment. A psychological account is needed to complement the biological one, and personality as a system of relatively stable individual differences that is itself responsive to environmental input during development offers a promising candidate. The following section reviews the structure and developmental properties of the Five-Factor Model as the personality framework adopted in this paper.

The Five-Factor Model of Personality

The Five-Factor Model (FFM), also referred to as the Big Five, is among the most extensively validated frameworks in personality psychology, organizing the broad landscape of individual differences in thought, feeling, and behavior into five superordinate domains: Neuroticism (the tendency toward negative affect, anxiety, and emotional instability), Extraversion (the tendency toward sociability, positive affect, and assertiveness), Openness to Experience (the tendency toward intellectual curiosity, imagination, and receptivity to novel ideas and experiences), Agreeableness (the tendency toward interpersonal trust, cooperation, and compassion), and Conscientiousness (the tendency toward self-discipline, orderliness, and goal-directed persistence; Costa & McCrae, 1992). Each domain in turn subsumes a set of narrower facets, allowing the model to describe personality at multiple levels of specificity while retaining a parsimonious overall structure. Empirically, the FFM's five-domain structure has been derived through decades of lexical and questionnaire-based research and has been operationalized through numerous validated self-report instruments; it has also been shown to replicate, with reasonable structural fidelity, across a wide range of languages and cultural contexts, lending the model a degree of cross-cultural generalizability that is valuable for a theoretical account intended to apply beyond a single cultural setting (though, as discussed in the Limitations section, the specific ACE-personality and personality-well-being associations reviewed here have themselves been studied predominantly in Western samples).

Beyond its descriptive utility, the FFM has been elaborated into an explicitly developmental account through Five-Factor Theory (FFT; McCrae & Costa, 2003). FFT distinguishes between basic tendencies the underlying, biologically influenced dispositions that constitute the core of personality and characteristic adaptations, which are the concrete, learned patterns of behavior, skill, attitude, and self-concept that emerge from the interaction between basic tendencies and the external environment, including culture, relationships, and life events. This distinction is theoretically important for the present paper: it allows for the possibility that childhood adversity, understood as a class of especially formative environmental input, could shape characteristic adaptations in ways that, over time and repeated activation, come to influence the observed expression of basic tendencies themselves, particularly during the plastic developmental windows of childhood and adolescence.

The question of how stable personality traits actually across development is therefore central to any model in which childhood experience is proposed to shape adult personality. The evidence indicates that personality traits are neither perfectly fixed nor infinitely malleable, but instead show a pattern of increasing, though incomplete, consistency across the life span. In an influential quantitative review of longitudinal studies, Roberts and DelVecchio (2000) found that rank-order consistency of personality traits the degree to which individuals maintain their relative standing on a trait over time is relatively modest in childhood, rises across adolescence and young adulthood, and reaches a plateau, though not perfect stability, around midlife. This developmental trajectory implies that childhood and adolescence constitute a period of comparatively greater openness to environmental shaping of personality than later adulthood, which is precisely the period during which most ACEs, by definition, occur.

Complementing this evidence for consistency, other research demonstrates that personality retains some capacity for change well into adulthood, particularly in response to major life events. Specht, Egloff, and Schmukle (2011), analyzing large-scale longitudinal panel data, found that both mean levels and rank-order stability of the Big Five traits were associated with age and with the occurrence of major life events, such as beginning a first job, entering a romantic partnership, or experiencing bereavement indicating that personality functions as what might be termed a soft rather than hard individual difference, responsive to significant environmental input across, not merely before, adulthood. Considered alongside Roberts and DelVecchio's (2000) developmental findings, this literature supports a view of personality as a semi-plastic system: substantially heritable and biologically anchored (in keeping with the basic tendencies construct in FFT), yet demonstrably responsive to environmental input, with particularly pronounced plasticity during childhood and adolescence and residual, event-linked plasticity thereafter.

This developmental profile positions the FFM as a plausible carrier of the long-term effects of childhood adversity. If personality were entirely fixed from birth, it could not plausibly serve as a pathway by which early environmental experience comes to influence later outcomes; if personality were entirely fluid throughout life, its long-term predictive stability including its well-documented associations with adult well-being, reviewed in the next section would be difficult to reconcile with a specifically childhood-adversity account, since any such imprint could in principle be readily overwritten by later experience. The empirically supported middle position meaningful plasticity concentrated in early development, giving way to greater, though not absolute, stability thereafter is exactly the developmental profile required for personality to function as a mechanism that both absorbs the impact of early adversity and then carries that impact forward with reasonable fidelity into adulthood.

Conceptualizing Adult Well-Being

Adult well-being has been conceptualized within psychology through two broad, historically distinct but empirically related traditions: the hedonic tradition, which defines well-being in terms of subjective evaluations of one's own life and emotional experience, and the eudaimonic tradition, which defines well-being in terms of psychological functioning, growth, and the realization of one's potential. The hedonic tradition is most closely associated with the construct of subjective well-being (SWB), formalized by Diener (1984), who defined SWB as comprising three components: life satisfaction (a global cognitive evaluation of one's life as a whole), the presence of positive affect, and the relative absence of negative affect. Diener's (1984) formulation established SWB as a scientifically tractable, self-report-based construct amenable to systematic measurement and cross-national comparison, and it remains the dominant operationalization of hedonic well-being in contemporary psychological research.

The eudaimonic tradition, by contrast, holds that well-being cannot be reduced to the presence of pleasant affect and life satisfaction alone, but instead reflects the degree to which a person is functioning well in a fuller psychological sense. Ryff (1989) operationalized this tradition through a six-dimensional model of psychological well-being (PWB), comprising self-acceptance (a positive attitude toward oneself and one's past life), positive relations with others (warm, trusting interpersonal relationships), autonomy (self-determination and independence from social pressure), environmental mastery (a sense of competence in managing one's life and surroundings), purpose in life (a sense of directedness and meaning), and personal growth (a sense of continued development and openness to new experience). Ryff's (1989) model has been highly influential precisely because it disaggregates well-being into distinct, theoretically motivated components rather than treating it as a single undifferentiated construct, allowing researchers to examine whether particular predictors such as personality traits, or, as proposed in this paper, childhood adversity as mediated through personality are associated with some dimensions of well-being more strongly than others.

Although SWB and PWB emerged from distinct theoretical traditions, they are typically only moderately to moderately-strongly correlated empirically reflecting genuine, non-redundant variance rather than two labels for an identical underlying construct and both are considered legitimate and complementary indicators of adult flourishing within contemporary well-being science, with major theoretical treatments increasingly advocating integrating rather than choosing between them. For the purposes of the present model, this distinction is theoretically productive rather than merely definitional: because Ryff's (1989) PWB dimensions of environmental mastery and purpose in life are conceptually and empirically linked to effective goal pursuit, planning, and self-regulation, they are plausibly more proximally related to trait conscientiousness than is global life satisfaction as captured by SWB; conversely, because SWB's affective components are conceptually and empirically closest to the core definitional content of trait neuroticism, they are plausibly more proximally related to neuroticism. This differentiated mapping elaborated formally in Propositions 1 and 2 of the models presented below would be unavailable if adult well-being were treated as a single undifferentiated construct, illustrating why this paper deliberately retains both well-being traditions rather than collapsing them into one.

The relationship between personality and well-being, in either tradition, is among the most extensively documented findings in personality psychology. In a comprehensive meta-analysis synthesizing findings across 137 distinct personality traits, DeNeve and Cooper (1998) found that personality was a more consistent predictor of subjective well-being than many of the demographic and objective life-circumstance variables such as income, age, and education that had historically dominated well-being research. Among the Big Five domains specifically, low neuroticism and high extraversion emerged as the most robust and consistent correlates of subjective well-being, a finding that has been broadly replicated in subsequent research; conscientiousness has also been implicated, particularly through its association with goal attainment and effective self-regulation, both of which plausibly support the sense of environmental mastery and purpose central to Ryff's (1989) eudaimonic framework. Neuroticism's association with well-being is theoretically intuitive: because neuroticism reflects a disposition toward negative affect, anxiety, and emotional volatility, individuals high in neuroticism are, almost by construction, more likely to report lower life satisfaction and more frequent negative affect, the very components that define SWB. Extraversion's association is somewhat less definitionally direct but is thought to operate through greater engagement in rewarding social activity, more frequent positive affect, and more effective use of social support resources.

Taken together, this literature establishes two facts that are jointly necessary for the theoretical model proposed later in this paper. First, personality and neuroticism and conscientiousness in particular is one of the most robust known predictors of adult well-being across both its hedonic and eudaimonic forms. Second, because well-being is assessed through validated, multidimensional instruments (SWB and PWB) rather than a single global item, it is possible to generate specific, differentiated hypotheses about which well-being dimensions should be most strongly affected by adversity-linked personality change a possibility this paper exploits in the propositions developed below.

Existing Evidence Linking Childhood Adversity, Personality, and Well-Being

Having established, first, that childhood adversity has robust and long-lasting consequences for adult functioning, and second, that personality traits organized within the Five-Factor Model are both developmentally responsive to environmental input and

strong predictors of adult well-being, this section turns to the more direct evidence linking all three constructs: childhood adversity, personality, and well-being.

Direct evidence for the first link in this chain that childhood adversity shapes adult personality has grown substantially in recent years. Fletcher and Schurer (2017), using longitudinal cohort data and sibling fixed-effects models designed to control for shared genetic and family-environment confounds, found that specific types of childhood maltreatment were associated with specific personality outcomes at age 30: sexual abuse was robustly associated with heightened neuroticism, while parental neglect was associated with elevated neuroticism alongside reduced conscientiousness and reduced openness to experience. Notably, agreeableness and extraversion showed no consistent association with maltreatment exposure in this study, suggesting that the personality-linked effects of childhood adversity are not diffuse across all five domains but are instead concentrated in neuroticism and, to a lesser extent, conscientiousness and openness precisely the domains identified above as among the strongest predictors of adult well-being. Fletcher and Schurer (2017) further found that adolescent mental health difficulties partially mediated the relationship between maltreatment and adult personality, and, strikingly, that childhood maltreatment accounted for a substantial share of conscientiousness's well-documented association with adult economic outcomes such as earnings and educational attainment an early empirical demonstration of exactly the kind of adversity-personality-outcome mediation chain proposed more generally in this paper.

This pattern has been corroborated at a broader, meta-analytic level. Fortes Maciel (2023) conducted a preregistered meta-analytic synthesis drawing on 228 effect sizes from 32 independent samples, encompassing more than 48,000 individuals, examining the association between ACEs and non-clinical personality trait variation. Consistent with Fletcher and Schurer (2017), this synthesis identified conscientiousness, alongside broader indicators of emotional instability, as among the personality dimensions most consistently associated with childhood adversity exposure. The convergence of an individual-level, confound-controlled study (Fletcher & Schurer, 2017) and an independent, sample-aggregating meta-analysis (Fortes Maciel, 2023) on a similar pattern adversity associated with higher neuroticism-related instability and lower conscientiousness provides reasonably strong cumulative evidence for the first link in the proposed model.

The second link that these same adversity-linked personality changes carry forward into adult well-being draws on the personality-well-being literature reviewed above (DeNeve & Cooper, 1998; Ryff, 1989), but a full theoretical account also requires attention to why some individuals appear more affected by early adversity than others, independent of the personality-mediation pathway itself. Belsky and Pluess's (2009) differential susceptibility theory offers an influential answer. Departing from the traditional diathesis-stress model, in which certain individuals are simply more vulnerable to adverse environments and otherwise unremarkable in supportive ones, differential susceptibility theory proposes that some individuals possess heightened developmental plasticity such that they are disproportionately affected by environmental quality in both directions faring worse than average under adversity but also faring better than average under support and enrichment, a pattern Belsky and Pluess (2009) describe as operating "for better and for worse." Critically, the markers of this heightened plasticity identified by Belsky and Pluess (2009) include temperamental and personality-linked characteristics, such as difficult or reactive temperament, which map conceptually onto the neuroticism domain of the FFM. This suggests that personality may operate not only as an outcome shaped by adversity (the mediating pathway) but also as a pre-existing characteristic that determines the intensity with which adversity or, protectively, supportive environments register developmentally in the first place (a moderating pathway).

Two further literatures bear on how this moderating pathway might operate protectively. Cohen and Wills's (1985) classic formulation of the stress-buffering hypothesis proposed that psychosocial resources most directly social support, but by extension other stable personal resources can attenuate the impact of stressful experience on health and adjustment by intervening at the point of appraisal or coping, rather than by preventing exposure to stress itself. Personality traits associated with effective self-regulation and emotional stability, such as low neuroticism and high conscientiousness, plausibly function as one such class of buffering resource, insofar as they shape how stressful or adverse experiences are appraised, coped with, and ultimately incorporated into the developing self-concept. Relatedly, Connor and Davidson (2003), in developing the widely used Connor-Davidson Resilience Scale, operationalized resilience as a measurable, trait-like capacity to maintain adaptive functioning in the face of adversity a construct that overlaps conceptually, though is not identical, with emotional stability and conscientiousness as defined within the FFM. Together, this evidence suggests that trait-like individual differences can function protectively, buffering the developmental impact of adversity, in addition to being shaped by it an insight that motivates the dual mediator/moderator structure of the theoretical model proposed in the next section.

The biological and psychological literatures reviewed in this paper are also mutually reinforcing at the level of individual differences. Because allostatic-load reflects the cumulative physiological cost of repeated stress-response activation (Bruce McEwen, 1998), and because trait neuroticism is itself associated with heightened physiological reactivity to stressors, it is plausible that the same constitutional reactivity implicated in differential susceptibility theory (Belsky & Pluess, 2009) also partly governs individual variation in allostatic-load accumulation under comparable adversity exposure (Danese & McEwen, 2012). This suggests that the psychological, personality-mediated pathway proposed in this paper and the biological, allostatic-load pathway documented elsewhere are unlikely to be fully independent, but may instead represent partially overlapping expressions of a shared underlying sensitivity to environmental stress a possibility noted here as a direction for integrative future research rather than a claim advanced as part of the present model's core propositions.

A Dual-Pathway Theoretical Model

The review above establishes three empirically grounded premises: (a) childhood adversity is systematically associated with adult personality, particularly through elevated neuroticism and reduced conscientiousness and openness (Fletcher & Schurer, 2017; Fortes Maciel, 2023); (b) personality, and these same trait dimensions in particular, is among the most robust predictors of adult well-being in both its hedonic and eudaimonic forms (DeNeve & Cooper, 1998); and (c) individual differences in plasticity or sensitivity themselves partly temperamental or personality-linked determine how strongly environmental quality, whether adverse or supportive, registers developmentally (Belsky & Pluess, 2009). No existing model, to this author's knowledge, integrates all three premises into a single explanatory framework. This section proposes such an integration: the Dual-Pathway Model of Personality in Adversity-to-Well-Being Transmission (hereafter, the Dual-Pathway Model).

The Dual-Pathway Model advanced here is intended as a parsimonious synthesis rather than an exhaustive causal map of every possible pathway from childhood adversity to adult well-being; its explanatory ambition is deliberately bounded to the specific, evidence-supported role of Five-Factor personality traits as both a mediating and a moderating mechanism, leaving open, and

explicitly acknowledging, the contribution of biological, social, and economic pathways documented elsewhere in the broader ACEs literature (e.g., Anda et al., 2006; Danese & McEwen, 2012; Hughes et al., 2017). This bounded ambition is a deliberate theoretical choice: a model that attempted to specify every plausible mechanism simultaneously would sacrifice the parsimony and falsifiability that make a theoretical contribution useful for guiding subsequent empirical work.

Overview of the Model

The Dual-Pathway Model proposes that the Five-Factor Model of personality with particular emphasis on Neuroticism and Conscientiousness, and a secondary role for Openness functions as the principal psychological mechanism linking childhood adversity to adult well-being, and that this mechanism operates through two conceptually distinct but interacting pathways.

The first is a mediating pathway: exposure to ACEs during the developmentally plastic window identified by Roberts and DelVecchio (2000), particularly when adversity is chronic and involves neglect or abuse, shapes the characteristic adaptations described by Five-Factor Theory (McCrae & Costa, 2003), which over time consolidate into elevated trait neuroticism and reduced trait conscientiousness and openness. These adversity-shaped trait levels then causally contribute to reduced adult well-being, operating through well-documented and largely distinct sub-pathways: neuroticism reduces well-being primarily through its direct definitional and dispositional link to negative affect and life dissatisfaction (Diener, 1984; DeNeve & Cooper, 1998), while low conscientiousness reduces well-being primarily through impaired goal pursuit, occupational and relational attainment, and diminished environmental mastery and sense of purpose (Ryff, 1989) the mechanism suggested by Fletcher and Schurer's (2017) finding that personality substantially mediates the relationship between maltreatment and adult educational and occupational outcomes.

The second is a moderating pathway, grounded in differential susceptibility theory (Belsky & Pluess, 2009): individual differences in temperamental reactivity present prior to, or independent of, the adversity itself, and conceptually related to the FFM's neuroticism and, at low levels, emotional-stability facets determine the degree to which a given quantum of adversity is developmentally impactful. Under this pathway, individuals high in constitutional reactivity are not simply "damaged" more by adversity in a linear sense; rather, consistent with the for-better-and-for-worse pattern documented by Belsky and Pluess (2009), the same reactivity that renders them more strongly affected by adversity would also render them more strongly benefited by early supportive or enriching environments. This moderating pathway therefore predicts that the strength, though not necessarily the direction, of the mediating pathway described above will vary systematically across individuals as a function of constitutional reactivity.

Formal Propositions

Proposition 1 (Mediation via Neuroticism). The association between cumulative ACE exposure and reduced adult subjective well-being will be partially mediated by trait neuroticism, such that higher ACE exposure predicts higher adult neuroticism, which in turn predicts lower life satisfaction and a less favorable balance of positive to negative affect.

Proposition 2 (Mediation via Conscientiousness). The association between cumulative ACE exposure, particularly neglect-type adversity, and reduced adult psychological well-being specifically the environmental mastery and purpose in life dimensions identified by Ryff (1989) will be partially mediated by trait conscientiousness, such that higher ACE exposure predicts lower adult conscientiousness, which in turn predicts reduced environmental mastery and purpose.

Proposition 3 (Differential Domain Specificity). Because ACEs are hypothesized to be concentrated in their association with neuroticism, conscientiousness, and openness, rather than distributed evenly across all five FFM domains (consistent with Fletcher & Schurer, 2017), the mediating effects specified in Propositions 1 and 2 should substantially exceed any comparable mediating effect operating through extraversion or agreeableness.

Proposition 4 (Moderation by Constitutional Reactivity). Consistent with differential susceptibility theory (Belsky & Pluess, 2009), the magnitude of the mediating pathway from ACEs to personality (specified in Propositions 1 and 2) will be moderated by early-measured temperamental reactivity, such that the ACE-to-personality association is stronger among individuals high in constitutional reactivity than among those low in constitutional reactivity.

Proposition 5 (Buffering by Trait-Linked Resources). Consistent with the stress-buffering hypothesis (Cohen & Wills, 1985) and the resilience literature (Connor & Davidson, 2003), trait-like personal resources present concurrently with adversity exposure operationalized, for example, through resilience or trait emotional-stability measures will attenuate (buffer) the strength of the association between ACE exposure and adult neuroticism, independent of the moderation effect specified in Proposition 4, which concerns pre-existing reactivity rather than concurrent buffering resources.

Proposition 6 (Developmental Timing). Given the evidence that personality plasticity is greatest earlier in development and declines, though does not disappear, across adolescence into adulthood (Roberts & DelVecchio, 2000; Specht et al., 2011), the strength of the mediating pathway from ACEs to adult personality will be greater for adversity concentrated in early-to-middle childhood than for comparable adversity concentrated in adolescence.

Conceptual Diagram

Figure 1 depicts the Dual-Pathway Model schematically. Cumulative childhood adversity is shown exerting a direct path to adult personality (the mediating pathway, Path a), which in turn predicts adult well-being, disaggregated into its subjective and psychological components (Path b). A residual direct path from childhood adversity to adult well-being (Path c′) is retained to reflect the well-documented biological embedding and allostatic-load pathway (Danese & McEwen, 2012; McEwen, 1998) and other non-personality mechanisms not addressed by this model; the model does not claim that personality is the sole mechanism linking adversity to well-being, only that it constitutes a substantial and previously under-integrated one. Constitutional reactivity is shown moderating Path a, consistent with differential susceptibility theory, while concurrent trait-linked resilience resources are shown buffering the same path, consistent with the stress-buffering hypothesis.

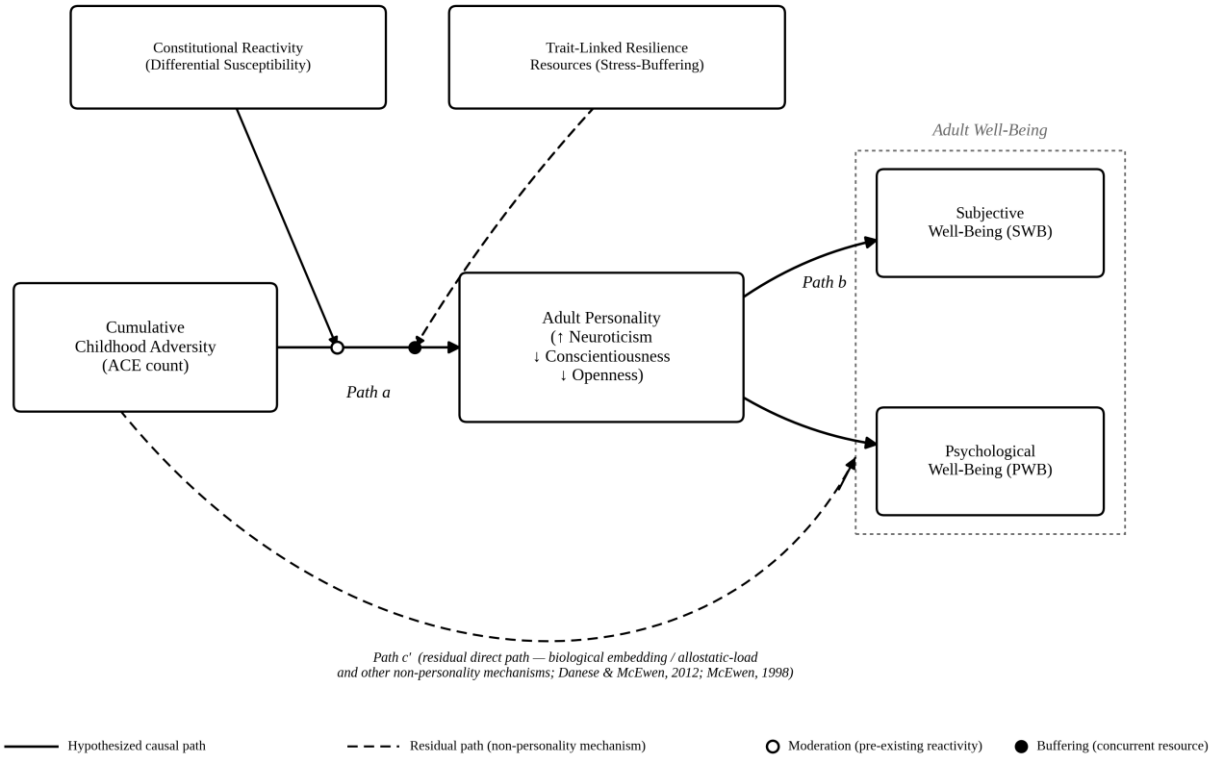

figure 1. the dual-pathway model of personality in adversity-to-well-being transmission

Note. Solid arrows denote the two hypothesized causal paths (Path a: adversity → personality; Path b: personality → well-being). The dashed arrow (Path c') denotes the residual direct path attributable to biological embedding and other non-personality mechanisms. The open circle marks the point at which constitutional reactivity moderates Path a; the filled circle marks the point at which concurrent trait-linked resilience resources buffer Path a.

Distinguishing the Model from Prior Frameworks

The Dual-Pathway Model is distinguished from prior frameworks in three respects. First, relative to purely biological embedding models (Danese & McEwen, 2012), it specifies a parallel, psychologically mediated route that is more directly actionable through personality-informed psychological intervention than through biomedical means alone. Second, relative to differential susceptibility theory in its original, general form (Belsky & Pluess, 2009), which was developed primarily to explain heterogeneous responses to parenting quality in early childhood, the Dual-Pathway Model extends the same logic specifically to the FFM as the outcome variable and to adult well-being, disaggregated into SWB and PWB, as the ultimate endpoint and it does so by explicitly separating the moderating role of pre-existing reactivity (Proposition 4) from the buffering role of concurrently available trait-linked resources (Proposition 5), a distinction that is often collapsed in prior applications of differential susceptibility theory. Third, relative to purely descriptive meta-analytic work documenting ACE-personality associations (Fletcher & Schurer, 2017; Fortes Maciel, 2023), the model extends these associations forward to well-being outcomes and specifies the mechanism (goal pursuit and environmental mastery for conscientiousness; direct affective dysregulation for neuroticism) by which each trait is theorized to carry adversity's effects into adulthood, rather than treating personality as a terminal outcome.

Boundary Conditions and Alternative Explanations

Several boundary conditions qualify the scope of the Dual-Pathway Model. First, the model is proposed as applicable primarily to non-extreme, sub-clinical ranges of ACE exposure and personality variation; it is not intended as an account of diagnosable personality pathology, which likely involves additional genetic, neurodevelopmental, and clinical mechanisms beyond the scope of a normal-range trait model such as the FFM. Second, the model assumes, consistent with behavior genetic research on personality more broadly, that adult personality reflects a combination of heritable basic tendencies and environmentally shaped characteristic adaptations (McCrae & Costa, 2003); it does not assume that ACEs are the sole, or even primary, determinant of adult personality, only that they constitute one systematic environmental input among several. Gene-environment correlation is therefore an important alternative explanation that any empirical test of the model must address: because parents who create adverse household environments also transmit heritable temperamental dispositions to their children, a purely correlational association between ACEs and adult neuroticism could reflect passive gene-environment correlation rather than an environmentally caused shift in trait levels. This is precisely the reason Fletcher and Schurer (2017) employed sibling fixed-effects models, which difference out shared genetic and family-environment confounds; future tests of the Dual-Pathway Model should adopt comparable genetically informed or quasi-experimental designs (see Limitations and Directions for Future Research, below) rather than relying on standard between-family correlational designs alone.

A further alternative explanation concerns reverse or reciprocal causation: rather than adversity shaping personality, which then shapes well-being, it is conceivable that pre-existing child temperament shapes the likelihood of experiencing certain forms of adversity in the first place (for example, a highly reactive, difficult-temperament child may elicit more conflictual or punitive parenting), which would imply a reciprocal, rather than strictly unidirectional, causal structure. The Dual-Pathway Model accommodates this possibility directly through Proposition 4, which explicitly incorporates pre-existing constitutional reactivity as a moderator rather than assuming that all personality-adversity association is unidirectional; nonetheless, disentangling child-driven

and environment-driven components of this association empirically will require prospective, temperament-assessed-at-birth longitudinal designs of the kind discussed in the final section of this paper.

Theoretical and Practical Implications

If supported empirically, the Dual-Pathway Model would carry several implications for theory, prevention, and clinical practice. Theoretically, the model would help resolve a persistent tension in the ACEs literature between biological embedding accounts (Danese & McEwen, 2012; McEwen, 1998) and purely psychosocial accounts of adversity's long-term effects, by proposing that these are not competing but complementary pathways one operating through allostatic physiological wear, the other through the consolidation of characteristic adaptations into stable personality traits (McCrae & Costa, 2003). The model would also extend differential susceptibility theory (Belsky & Pluess, 2009), which has primarily been tested with reference to parenting quality and early childhood outcomes, into the domain of long-term adult well-being, and would do so while explicitly formalizing the FFM as the mediating trait structure a specification that, to date, has been more often assumed informally than tested directly.

Practically, the model suggests that interventions targeting trait-linked characteristic adaptations for example, interventions that build self-regulatory and goal-pursuit skills associated with conscientiousness, or that target maladaptive emotion-regulation patterns associated with neuroticism could plausibly interrupt the adversity-to-well-being pathway even among individuals for whom the original adverse exposure cannot be undone. This reframes personality not merely as a stable individual difference to be measured and controlled for, but as a potential point of clinical and preventive leverage: if elevated neuroticism and reduced conscientiousness are, in part, environmentally shaped characteristic adaptations rather than immutable basic tendencies, then evidence-based interventions known to modestly shift these traits such as cognitive-behavioral interventions targeting emotion regulation, or coaching and habit-formation interventions targeting conscientiousness-relevant behaviors may represent an underused resource in trauma-informed care and adult mental health promotion.

From a measurement standpoint, the model implies that clinicians and researchers working with adults who report significant childhood adversity may benefit from routinely incorporating brief, validated FFM measures alongside standard well-being assessments, not merely as covariates to be statistically controlled, but as potential intervention targets and explanatory mechanisms in their own right. Where elevated neuroticism or reduced conscientiousness is identified alongside a documented history of childhood adversity, this framework would predict that well-being interventions addressing these trait-linked characteristic adaptations directly rather than addressing global well-being or the original adverse experience alone may yield more targeted and mechanistically grounded improvement. This does not imply that processing or addressing the original traumatic experience is unimportant; rather, it suggests that trait-linked characteristic adaptations may represent an additional, complementary point of intervention that operates somewhat independently of direct trauma processing, consistent with the partial, rather than complete, mediation specified in Propositions 1 and 2.

The model's moderation and buffering components (Propositions 4 and 5) further suggest that prevention and intervention efforts need not be uniform across individuals. Consistent with differential susceptibility theory's implication that highly reactive individuals benefit disproportionately from supportive environments (Belsky & Pluess, 2009), the model implies that identifying constitutionally reactive children early for instance, through validated temperament screening could allow prevention resources to be allocated toward those most likely to benefit, both by protecting them disproportionately from adversity and by providing them disproportionate benefit from enrichment and support, consistent with a for-better-and-for-worse resource-allocation logic rather than a uniform, one-size-fits-all approach. Similarly, Proposition 5's emphasis on concurrently available trait-linked resilience resources (Connor & Davidson, 2003) suggests that resilience-building programming implemented during or shortly after adversity exposure, rather than only in adulthood, may be especially well-positioned to interrupt the mediating pathway before adversity-linked characteristic adaptations fully consolidate into stable adult trait levels.

Finally, because the model disaggregates well-being into its hedonic (SWB) and eudaimonic (PWB) components (Diener, 1984; Ryff, 1989) and links each to a somewhat distinct personality mechanism (neuroticism to affective components of SWB; conscientiousness to purpose and mastery components of PWB), it offers clinicians and program evaluators a more differentiated set of outcome targets than a single global well-being measure would provide, potentially allowing intervention effectiveness to be assessed with greater precision regarding which specific facet of adult flourishing is, or is not, being restored.

At the population level, the model is also compatible with, and complementary to, public health approaches to ACEs prevention that focus on reducing exposure at its source for example, through home-visiting programs, parenting support, and poverty-reduction policy, all of which remain the most direct means of preventing the personality-mediated pathway from being activated in the first place (Hughes et al., 2017). The present model does not suggest that personality-informed intervention should substitute for primary prevention of childhood adversity; rather, it identifies a secondary, individual-level point of leverage for the substantial proportion of adults who have already experienced ACEs and for whom primary prevention is, by definition, no longer possible.

Limitations and Directions for Future Research

As a theoretical contribution, this paper has several limitations that also define an agenda for future empirical research.

First, and most fundamentally, the Dual-Pathway Model has not itself been empirically tested; it is a synthesis of independently established findings (ACEs predict personality; personality predicts well-being; differential susceptibility moderates environmental effects) into a novel integrative structure, and the validity of that integration as opposed to the validity of its individual component findings remains an open empirical question. Direct tests will require prospective longitudinal designs that measure ACEs, personality, and well-being at multiple time points across development, ideally beginning before or near the period of adversity exposure and extending well into adulthood, in order to establish appropriate temporal precedence for the proposed mediational chain.

Second, as discussed above, correlational designs cannot adequately distinguish environmentally caused personality change from gene-environment correlation or from reverse/reciprocal causation in which pre-existing child temperament partly elicits adverse parenting. Future tests should, where possible, employ genetically informed designs such as sibling-comparison or adoption designs (in the tradition of Fletcher & Schurer, 2017), or should incorporate molecular genetic or polygenic-score covariates, to more confidently isolate the environmentally mediated component of the ACE-personality association proposed in Propositions 1 through 3.

Third, the model's moderation component (Proposition 4) requires measurement of constitutional reactivity or temperament prior to, or independent of, the adversity exposure itself, which is methodologically demanding and rarely available in existing

retrospective ACEs datasets; birth-cohort studies with early temperament assessment represent the most promising, if resource-intensive, design for testing this proposition rigorously.

Fourth, this paper has focused on the FFM as operationalized through its five broad domains; it has not addressed whether effects are better explained at the narrower facet level (for example, whether specific facets of neuroticism, such as anxiety versus depressiveness, differentially mediate specific ACE subtypes), nor has it addressed alternative or complementary trait taxonomies, such as the HEXACO model or clinically oriented personality pathology frameworks, which may capture adversity-relevant variance not well represented within the FFM's normal-range structure.

Fifth, the ACEs construct itself, as originally operationalized by Felitti et al. (1998), has been criticized in subsequent literature for treating heterogeneous adverse experiences as an undifferentiated cumulative count, potentially obscuring differences in timing, severity, chronicity, and type of adversity that this paper's own review (e.g., Fletcher & Schurer's, 2017, finding of trait-specific effects for sexual abuse versus neglect) suggests may matter considerably. Future empirical tests of the Dual-Pathway Model should therefore consider disaggregated adversity measures rather than relying solely on a summary ACE count, and should examine whether the model's propositions hold, and hold to similar degrees, across different ACE subtypes.

A further limitation concerns the reliance, in several of the component literatures synthesized here, on meta-analytic effect sizes that may themselves be subject to publication bias or to heterogeneity across the included primary studies in how ACEs, personality, and well-being were operationalized and measured. Fortes Maciel (2023), for example, aggregated effect sizes across 32 samples that likely varied in ACE measurement instrument, personality inventory, and population characteristics; while meta-analytic aggregation strengthens confidence in the general direction of an association, it can also obscure boundary conditions under which the association is weaker, absent, or reversed. Future empirical tests of the Dual-Pathway Model should therefore examine measurement invariance across instruments and populations directly, rather than assuming that associations established through heterogeneous meta-analytic synthesis will generalize uniformly to any given applied or clinical context in which the model might be deployed.

Finally, because the underlying evidence base draws substantially on Western, largely North American and European samples, the generalizability of both the component findings and the integrative model to other cultural contexts including contexts in which the expression, salience, or well-being consequences of specific FFM traits may differ remains to be established, and cross-cultural replication should be considered a priority for future work.

An additional methodological consideration concerns shared-method variance: because ACEs, personality, and well-being have most often been measured through retrospective, adult self-report within the same study, associations among all three constructs may be inflated by common reporting tendencies for example, individuals higher in trait neuroticism may also recall and report more childhood adversity, independent of any true difference in exposure, a possibility that self-report-only designs cannot fully rule out. Future tests of the Dual-Pathway Model would therefore benefit from incorporating prospectively documented ACEs (e.g., from child-welfare or medical records) alongside adult self-report personality and well-being measures, in order to reduce the risk that the model's proposed associations are, in whole or in part, an artifact of shared retrospective reporting bias rather than genuine developmental transmission.

Conclusion

This paper has argued that personality, organized within the Five-Factor Model, constitutes an important and previously under-integrated psychological pathway linking childhood adversity to adult well-being. Building on well-established evidence that adverse childhood experiences are associated with elevated neuroticism and reduced conscientiousness and openness (Fletcher & Schurer, 2017; Fortes Maciel, 2023), and that these same trait dimensions are among the strongest known predictors of both subjective and psychological well-being in adulthood (DeNeve & Cooper, 1998; Diener, 1984; Ryff, 1989), the proposed Dual-Pathway Model integrates a mediating pathway, in which adversity shapes personality which in turn shapes well-being, with a moderating pathway grounded in differential susceptibility theory, in which pre-existing constitutional reactivity governs the strength of adversity's developmental impact (Belsky & Pluess, 2009). Six specific, falsifiable propositions were advanced to render this integration empirically testable.

While the model requires direct empirical validation through prospective, genetically informed, and cross-culturally replicated research designs, it offers, in the interim, a parsimonious theoretical framework capable of organizing a currently fragmented literature and of generating specific, differentiated hypotheses regarding which traits, which well-being dimensions, and which individuals are most affected that neither purely biological embedding accounts nor purely descriptive personality-adversity correlational studies have, to date, been positioned to generate on their own. Ultimately, understanding personality not merely as an outcome of early adversity, nor merely as a predictor of adult flourishing, but as the connective mechanism linking the two, may open new avenues for both theory and intervention aimed at improving well-being across the life course for individuals who have experienced childhood adversity.

References

Anda, R. F., Felitti, V. J., Bremner, J. D., Walker, J. D., Whitfield, C., Perry, B. D., Dube, S. R., & Giles, W. H. (2006). The enduring effects of abuse and related adverse experiences in childhood: A convergence of evidence from neurobiology and epidemiology. European Archives of Psychiatry and Clinical Neuroscience, 256(3), 174-186. https://doi.org/10.1007/s00406-005-0624-4

Belsky, J., & Pluess, M. (2009). Beyond diathesis stress: Differential susceptibility to environmental influences. Psychological Bulletin, 135(6), 885–908. https://doi.org/10.1037/a0017376

Cohen, S., & Wills, T. A. (1985). Stress, social support, and the buffering hypothesis. Psychological Bulletin, 98(2), 310-357. https://doi.org/10.1037/0033-2909.98.2.310

Connor, K. M., & Davidson, J. R. T. (2003). Development of a new resilience scale: The Connor-Davidson Resilience Scale (CD-RISC). Depression and Anxiety, 18(2), 76-82. https://doi.org/10.1002/da.10113

Costa, P. T., Jr., & McCrae, R. R. (1992). Revised NEO Personality Inventory (NEO-PI-R) and NEO Five-Factor Inventory (NEO-FFI) professional manual. Psychological Assessment Resources.

Danese, A., & McEwen, B. S. (2012). Adverse childhood experiences, allostasis, allostatic load, and age-related disease. Physiology & Behavior, 106(1), 29–39. https://doi.org/10.1016/j.physbeh.2011.08.019

DeNeve, K. M., & Cooper, H. (1998). The happy personality: A meta-analysis of 137 personality traits and subjective well-being. Psychological Bulletin, 124(2), 197-229. https://doi.org/10.1037/0033-2909.124.2.197

Diener, E. (1984). Subjective well-being. Psychological Bulletin, 95(3), 542-575. https://doi.org/10.1037/0033-2909.95.3.542

Felitti, V. J., Anda, R. F., Nordenberg, D., Williamson, D. F., Spitz, A. M., Edwards, V., Koss, M. P., & Marks, J. S. (1998). Relationship of childhood abuse and household dysfunction to many of the leading causes of death in adults: The Adverse Childhood Experiences (ACE) Stu-y. American Journal of Preventive Medicine, 14(4), 245-258. https://doi.org/10.1016/S0749-3797(98)00017-8

Fletcher, J. M., & Schurer, S. (2017). Origins of adulthood personality: The role of adverse childhood experiences. The B.E. Journal of Economic Analysis & Policy, 17(2), Article 20150212. https://doi.org/10.1515/bejeap-2015-0212

Fortes Maciel, N. (2023). The relationship between adverse childhood experiences and non-clinical personality traits: A meta-analytic synthesis. Personality and Individual Differences, 200, Article 111868. https://doi.org/10.1016/j.paid.2022.111868

Hughes, K., Bellis, M. A., Hardcastle, K. A., Sethi, D., Butchart, A., Mikton, C., Jones, L., & Dunne, M. P. (2017). The effect of multiple adverse childhood experiences on health: A systematic review and meta-analysis. The Lancet Public Health, 2(8), e356–e366. https://doi.org/10.1016/S2468-2667(17)30118-4

McCrae, R. R., & Costa, P. T., Jr. (2003). Personality in adulthood: A five-factor theory perspective (2nd ed.). Guilford Press.

McEwen, B. S. (1998). Stress, adaptation, and disease: Allostasis and allostatic load. Annals of the New York Academy of Sciences, 840(1), 33-44. https://doi.org/10.1111/j.1749-6632.1998.tb09546.x

Roberts, B. W., & DelVecchio, W. F. (2000). The rank-order consistency of personality traits from childhood to old age: A quantitative review of longitudinal studies. Psychological Bulletin, 126(1), 3–25. https://doi.org/10.1037/0033-2909.126.1.3

Ryff, C. D. (1989). Happiness is everything, or is it? Explorations on the meaning of psychological well-being. Journal of Personality and Social Psychology, 57(6), 1069-1081. https://doi.org/10.1037/0022-3514.57.6.1069

Specht, J., Egloff, B., & Schmukle, S. C. (2011). Stability and change of personality across the life course: The impact of age and major life events on mean-level and rank-order stability of the Big Five. Journal of Personality and Social Psychology, 101(4), 862–882. https://doi.org/10.1037/a0024950