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REVIEW ARTICLE

Dynamics of Parenting Styles on the Development of Dark Personality Traits: A Narrative Review

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Abstract

The main focus of this narrative review is to reveal an explanation of how certain parenting styles impact the development of certain dark personality traits in individuals, as well as identify various forms of undesirable behavior as outcomes of dark personality traits. Researchers agree that in addition to genetic factors, an individual's dark personality is influenced by environmental factors. Based on a review of the literature, the dynamics of the influence of parenting styles on the development of dark personality traits in individuals can be explained through the perspectives of evolutionary psychology theory, life history theory, self-determination theory, and social learning theory. In addition, it can be concluded that some outcomes of dark personality are in the form of various types of undesirable behavior.

Keywords: Dark Personality; Parenting Style; Evolutionary Psychology; Life History Strategy; Self-Determination Theory; Social Learning Theory

INTRODUCTION

During the first two decades of life, the primary socializing agents for most children are their parents (Collins et al., 2002). Researchers generally agree that parenting behaviors can be grouped into three superordinate dimensions: responsiveness (i.e., emotional climate—warmth, acceptance vs. hostility, rejection), demandingness (i.e., structure—rules, monitoring, consistent discipline), and autonomy granting (i.e., support for individuation—low psychological control, encouragement of independence) (Ryan et al., 1995).

Parenting is believed to influence offspring's personality beyond shared genetic inheritance (Atherton & Schofield, 2021). There are three ways to explain the basic relationship between parenting style and offspring personality: socialization, passive gene-environment correlation, and eliciting specific responses from parents (Atherton & Schofield, 2021). One common explanation for the influence of parental behavior on offspring personality is that parents teach children how to behave through explicit and implicit socialization, a socialization process that is most effective when parental behavior is congruent with the child's innate tendencies. In addition to the hypothesized socialization effects of parenting, some correlations between parental behavior and offspring personality are due to shared genetic tendencies between children and their parents. Passive gene-environment correlation further complicates these associations, as parents provide both genes (transmitting specific personality-related genetic predispositions to their children) and an environment (where parental personality traits are expressed through parenting styles) that reinforces these genetic predispositions in offspring. The child's ability to elicit parental responses (Avinun & Knafo, 2013) is another reason why correlations between parental behavior and offspring personality are difficult to interpret. However, studies showing that parenting predicts children's personality development (e.g., Halverson & Deal, 2001; Hipwell et al., 2008; Jaffari-Bimmel et al., 2006) provide more convincing evidence, as neither genetic nor evocative effects tend to account for prospective parenting predictions on children's personality change over time (Atherton & Schofield, 2021).

In general, negative parenting behaviors tend to trigger the development of maladaptive traits in children, and positive parenting behaviors tend to trigger the development of adaptive traits in children (Atherton & Schofield, 2021). For example, research shows that parental hostility and low supervision predict increased exploitativeness in adolescents, a facet of narcissism (Wetzel & Robins, 2016), and parental hostility predicts increased psychopathic personality traits in adolescents (Tuvblad et al., 2013).

Dark personality is characterized by socially offensive traits, falling within the normal or "everyday" range (Paulhus, 2014). One of the constructs of dark

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personality theory is the dark personality quadruple formulated by Paulhus et al. (2021), consisting of sadism, psychopathy, narcissism, and Machiavellianism. Rather than being found in individuals who are incarcerated for committing crimes or in individuals under clinical supervision, dark personality can be found in individuals in the normal population in society.

Understanding how parenting styles shape dark personality traits is critical not only for individual development but also for broader societal well-being. These traits—Machiavellianism, narcissism, psychopathy, and sadism—have been empirically linked to: reduced life satisfaction and positive affect coupled with increased negative affect (Li et al., 2020); heightened aggressive tendencies (Liu et al., 2021); diminished attribution of humanity to both self (self-humanness) and others (other-humanness) (Jiang et al., 2021); impaired prosocial behavior (Ren et al., 2022); and increased propensity for violent behavior (Yendell et al., 2022). These antisocial manifestations represent just a fraction of the potential negative consequences that can undermine community safety, workplace harmony, and romantic relationships. By elucidating these developmental pathways, this review provides actionable insights for parents, educators, and policymakers to mitigate adverse outcomes through early interventions targeting family dynamics.

Bronfenbrenner's ecological systems model (1979) provides an essential framework for understanding how dark personality traits develop through multi-level environmental interactions. The ecological systems model supports a parenting → child personality → child behavior process. In the ecological model, individual-level factors such as personality traits are most proximate to the child and may have the most significant influence on the child's behavior. Distal aspects of the environment (i.e., parents, peers, siblings) may influence the child's development through more proximal factors. Therefore, we might expect a mediation process in which parenting behaviors predict child behavior (partly or whole) because of their influence on the child's personality traits.

Research examining the impact of parenting on personality development provides strong evidence that parenting behaviors do influence personality development, but there is little such research (Atherton & Schofield, 2021). The purpose of this narrative review is to summarize research over the past decade on various models of parenting styles and the dynamics related to their role in triggering the development of dark personality traits in individuals that then cause individuals to engage in undesirable behavior. So, the output of this narrative review is (1) an explanation of how certain parenting styles impact the development of certain dark personality traits in individuals and (2) an identification of various forms of undesirable behavior as outcomes of dark personality traits.

MATERIALS AND METHODS

The method of implementing and compiling a narrative review is based on the guidelines formulated by Ferrari (2015). Narrative review refers to efforts to summarize literature based on specific research questions and comprehensive summaries of all studies (Higgins & Thomas, 2023). Literature searches was conducted using Google Scholar, employing the Boolean search string: ('parenting style' OR 'parenting practice') AND ('dark personality' OR 'dark triad' OR 'dark tetrad').

The initial search yielded 923 records. After removing publications that fell outside the 2014-2024 period, we conducted a manual review to screen 734 articles by title and abstract against our inclusion criteria: (1) empirical studies (quantitative/qualitative); (2) journal materials; (3) examined parenting-dark trait relationships; (4) English/Indonesian language. While we prioritized comprehensiveness, some articles may have been missed due to database limitations. Twelve articles met all criteria and were included in this narrative review (see Figure 1 for the selection process).

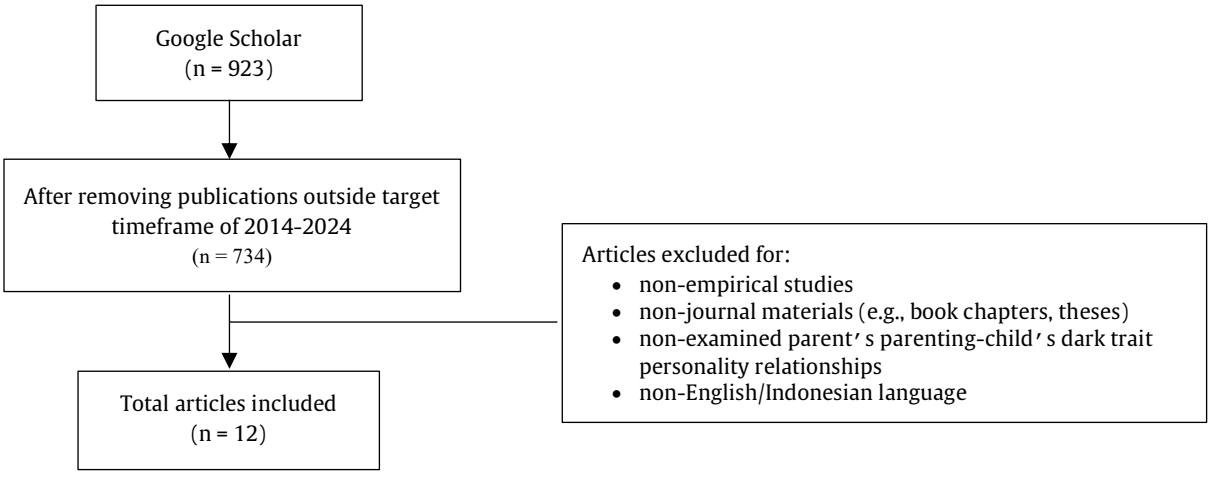


Figure 1. Flow chart of the literature selection process for the present article

RESULTS OF STUDY

This study used 12 journal articles taken from various databases and met the inclusion criteria. All articles used were published in the last 10 years, from 2014 to 2024. Studies were conducted in various regions of the world, with six studies in Asia (Jiang et al., 2021; Li et al., 2020; Liu et al., 2021; Ren et al., 2022; Tajmirriyahi et al., 2021), one in America (Plouffe et al., 2022), and five in Europe (De Clercq et al., 2021; Dubas et al., 2017; Ferencz et al., 2023; Jonason et al., 2014; Yendell et al., 2022). Most of the studies were cross-sectional, while only two were

longitudinal (De Clercq et al., 2021; Dubas et al., 2017), and all were quantitative.

The results of this study, Table 1 provide information on various variables related to parental care and childhood living conditions as predictor variables, while variables related to individual negative behavior are listed as outcomes. Dark personality traits act as mediator or moderator variables, expanding the relationship or strengthening the influence of parenting variables and childhood conditions on individual negative behavior.

Table 1. Journal Article Review Results

Author	Title	Sample	*n*	Variable		
				Antecedent	Mediator/ Moderator	Outcome
Jonason et al. (2014)	The making of Darth Vader: Parent–child care and the Dark Triad	Students and community members (60 males, M = 25.10, SD = 9.80).	352	Quality of parental care Mother Father	Attachment patterns Secure Anxious Avoidant Fearful	Psychopathy Primary psychopathy Secondary psychopathy Narcissism Leadership / Authority Grandiose / Exhibitionism Entitlement / Exploitiveness Machiavellianism
Dubas et al. (2017)	Dark personality traits and impulsivity among adolescents: Differential links to problem behaviors and family relations	Adolescents (M = 13.95, SD = 1.18)	1131	Parent–child relationship quality Satisfaction Conflict		Dark personality traits Callous-unemotional Grandiose manipulative Dysfunctional impulsivity Impulsivity Problem behaviors Substance use Risky sexual behavior Permissive sexual attitudes Compulsive SEIM (sexually explicit Internet material) use
Li et al. (2020)	Parent autonomy support and psychological control, dark triad, and subjective well-being of Chinese adolescents: Synergy of variable-and person-centered approaches	Students (Mean age = 15.29, SD = 1.59; 689 males and 844 females)	1533	Psychological Control - Perceived parental autonomy support - Perceived parental control	Dark triad traits Machiavellianism Narcissism Psychopathy	Life satisfaction Positive and negative affect
Tajmirriyahi et al. (2021)	Dark Triad traits, recalled and current quality of the parent-child relationship: A non-western replication and extension	University students (M_{age} = 23.18, SD_{age} = 3.92, age range:18–38, 92 males, 169 females)	262	Parental bonding Mother care Mother overprotection Father care Father overprotection Quality of relationship Mother support Mother conflict Mother depth Father support Father conflict Father depth	Adult attachment style Secure attachment Avoidant attachment Anxious attachment	Dark triad traits Machiavellianism Narcissism Psychopathy
Guo et al. (2021)	Parental warmth, rejection, and creativity: The mediating roles of openness and dark personality traits	Undergraduates (M = 21.21 years old, SD = 2.46)	559	Perceived parental rearing styles Parental warmth Parental rejection	Openness Dark triad traits Narcissism Machiavellianism Psychopathy	Creativity Originality Creative activities Creative achievements

Author	Title	Sample	*n*	Variable		
				Antecedent	Mediator/ Moderator	Outcome
Jiang et al. (2021)	Childhood maltreatment and the attribution of humanizing traits to self and others: The mediating role of the dark personality traits	Students (M ± SD = 17.32 ± 1.07)	658	Childhood maltreatment	Dark triad traits Narcissism Machiavellianism Psychopathy	Humanness Self-humanness Other-humanness
De Clercq et al. (2021)	Positive and harmful effects of parental disciplinary tactics on dark trait development throughout childhood and adolescence	Child – spanning 10 years of childhood, adolescence and emerging adulthood (54.4% girls, age range Time 1 = 8–14.78 years, M = 10.73, SD = 1.39)	720	Discipline and Harsh punishment Corrective Parental Discipline Harsh Parental Discipline		The developmental dark triad construct, structured in the facets of: Aggressive traits Dominance / Egocentrism Impulsivity Lack of empathy Narcissistic traits Resistance
Liu et al. (2021)	Mediating Effect of Dark Triad Personality Traits on the Relationship Between Parental Emotional Warmth and Aggression	Student (241 adolescents: 78.0% females aged between 15 and 18 years, M = 17.24, SD = 1.00; and 289 young adults: 85.8% females aged between 19 and 23 years, M = 20.12, SD = 1.03)	530	Parental warmth	Dark triad traits Narcissism Machiavellianism Psychopathy	Aggression
Ren et al. (2022)	Childhood Environmental Unpredictability and Prosocial Behavior in Adults: The Effect of Life-History Strategy and Dark Personalities	College students (595 women, Mage = 22.45 ± 2.687 years)	1035	CEU (childhood environmental unpredictability)	Dark tetrad traits Machiavellianism Psychopathy Narcissism Sadism Individuals' life-history strategies	Prosocial tendencies (PSB) Altruistic Compliant Emotional Dire
Plouffe et al. (2022)	Examining the Relationships Between Childhood Exposure to Intimate Partner Violence, the Dark Tetrad of Personality, and Violence Perpetration in Adulthood	Community (M_{age} = 33.50, SD_{age} = 10.26)	399	Childhood exposure to intimate partner violence	Dark tetrad traits Machiavellianism Psychopathy Narcissism Sadism	Intimate partner violence perpetration severity in adulthood
Yendell et al. (2022)	What makes a violent mind? The interplay of parental rearing, dark triad personality traits and propensity for violence in a sample of German	Student (mean age 14.89)	1366	Parental rearing behavior Parental rejection & punishment (father) Parental control & overprotection (father) Parental emotional warmth (father)	Dark triad traits Machiavellianism Psychopathy Narcissism	Propensity for violence

Author	Title	Sample	*n*	Variable		
				Antecedent	Mediator/ Moderator	Outcome
	adolescents			Parental rejection & punishment (mother) Parental control & overprotection (mother) Parental emotional warmth (mother) Observation of fight among juveniles		
Ferencz et al. (2023)	Sibling relationship quality and parental rearing style influence the development of Dark Triad traits	Study 1: adults (mean age: 30.36 years, SD = 10.19)	117	Participants' relation with their siblings Closeness Conflict Parental partiality		Dark triad traits Machiavellianism Narcissism Psychopathy
		Study 2: adolescents (mean age: 15.92, SD = 1.24)	111	Participants' relation with their siblings Closeness Conflict Parental partiality Parental relationship and parenting variables - Paternal rejection - Paternal overprotection - Paternal emotional warmth - Maternal rejection - Maternal overprotection - Maternal emotional warmth		Dark Triad traits Machiavellianism Narcissism Psychopathy Vulnerable dark triad (VDT) personality traits Vulnerable narcissism Primary psychopathy Secondary psychopathy
		Study 3: adults (mean age: 32.62 years, SD = 12.25)	110	Participants' relation with their siblings Closeness Conflict Parental partiality Parental relationship and parenting variables - Paternal rejection - Paternal overprotection - Paternal emotional warmth - Maternal rejection - Maternal overprotection - Maternal emotional warmth		Vulnerable dark triad (VDT) personality traits Vulnerable narcissism Primary psychopathy Secondary psychopathy Borderline personality disorders symptoms

Based on a review of the selected studies, it can be concluded that there are several hypothesized antecedents that function as either risk or protective factors in the development of dark personality traits in individuals (see Figure 2 for the integrated synthesis model). Among the antecedents identified as risk factors are poor parenting

quality by both father and mother (Jonason et al., 2014); parent–child relationships characterized by high levels of conflict (Dubas et al., 2017) —defined as the extent to which an individual anticipates experiencing negative emotions in interactions with another person—with either parent (Tajmirriyahi et al., 2021); parental control manifested through guilt induction, withdrawal of love, and assertion of authority (Li et al., 2020); overprotective parental bonding from both father and mother (Tajmirriyahi et al., 2021; Yendell et al., 2022; Ferencz et al., 2023). Other identified risk factors include parental rejection parenting style (Guo et al., 2021), whether by fathers or mothers (Yendell et al., 2022; Ferencz et al., 2023); childhood maltreatment (Jiang et al., 2021); harsh parental discipline (De Clercq et al., 2021); environmental unpredictability during childhood (Ren et al., 2022); and childhood exposure to intimate partner violence (Plouffe et al., 2022).

The antecedents hypothesized as protective factors include high-quality parenting by both father and mother (Jonason et al., 2014); satisfying parent–child relationships (Dubas et al., 2017); parental autonomy support, such as allowing choice-making and encouraging opinion exchange (Li et al., 2020); parental bonding characterized by care from both father and mother, as well as supportive relationship quality—defined as the extent to which one perceives another person as a source of assistance in various situations—and relational depth—how important the individual perceives the relationship to be—with either parent (Tajmirriyahi et al., 2021). Additional protective factors include emotional warmth parenting styles (Guo et al., 2021; Liu et al., 2021) from both father and mother (Yendell et al., 2022; Ferencz et al., 2023); and corrective parental discipline (De Clercq et al., 2021).

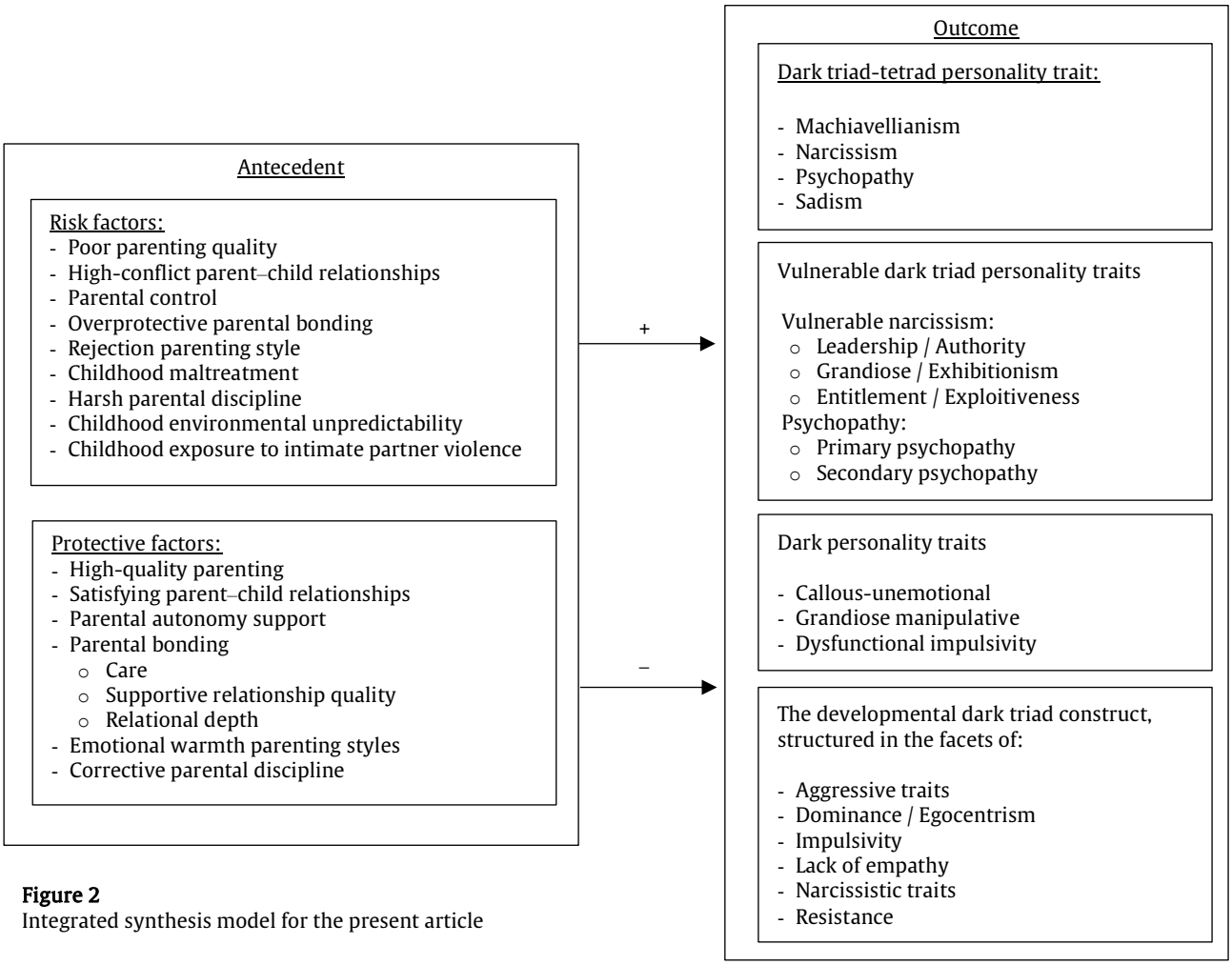


Figure 2
Integrated synthesis model for the present article

While the reviewed articles collectively advance understanding of parenting-dark trait relationships, key limitations warrant consideration. First, despite robust theoretical framing, 83% of studies (10/12) relied on cross-sectional designs, precluding definitive causal claims. Second, predominant use of self-reports (92% of studies) may inflate correlations due to shared method variance. Notably, however, longitudinal studies (Dubas et al., 2017) (De Clercq et al., 2021) and multi-informant designs (De Clercq et al., 2021) addressed these issues by tracking trait development over time and incorporating parent-child dyads. Additionally, the underrepresentation of non-Western samples (42% of studies) highlights a need for culturally comparative research to test the universality of observed effects.

DISCUSSION

Studies conducted over the past 10 years have revealed that variables related to childhood conditions and

experiences, parenting, and parental behavior act as antecedents of dark personality in individuals. Jiang et al. (2021) examined the experience of maltreatment experienced by individuals in childhood as a predictor of dark personality in individuals. In this study, maltreatment was assessed based on the individual's experience as a recipient of violence and neglect, both physically and emotionally. Analysis using a structural equation model revealed that the experience of maltreatment in childhood had a positive effect on the three dark personality traits. Furthermore, the results of the analysis revealed that the traits of Machiavellianism and psychopathy mediated the effect of maltreatment experiences on the tendency of individuals to eliminate the attribution of humanity to themselves (self-humanness) and to others (other humanness). Ren et al. (2022), through analysis using a structural equation model, revealed that unpredictable childhood environmental conditions had a positive effect on the traits of narcissism, psychopathy, and sadism. In contrast, their effect was negative on the trait of Machiavellianism. Furthermore, the four dark personality traits negatively mediate the influence between unpredictable childhood environmental conditions and prosocial behavior. Plouffe et al. (2022), through linear regression analysis, revealed that exposure to partner violence when individuals were in childhood had a significant effect on the high levels of the four dark personality traits in individuals in adulthood.

Jonason et al. (2014) have assessed the quality of parenting based on individual perceptions of their emotional bond with both father and mother, which were assessed separately. Path analysis results revealed that good maternal parenting quality predicted low Machiavellianism trait in individuals, as well as the entitlement/exploitative Ness facet on the narcissism trait and the primary psychopathy facet on the psychopathy trait. These predictions were indirect influences mediated by the secure attachment pattern in individuals. Poor maternal parenting quality also indirectly influenced high Machiavellianism trait through the mediation of the fearful attachment pattern. In addition, good maternal parenting quality directly influenced low leadership/authority and grandiose/exhibitionism facets on the narcissism trait. Meanwhile, no influence of paternal parenting quality was found on the three dark personality traits studied.

Li et al. (2020) examined parental attitudes toward children as an antecedent of the dark personality trait triad. In this study, parental attitudes were assessed through individual perceptions of parental autonomy support and parental control. Analysis using a latent structural equation model revealed that the Machiavellianism trait mediated the relationship between parental control and individual positive affect – where parental control influenced the high Machiavellianism trait, which in turn reduced the individual's positive affect. The narcissism trait mediated the relationship between parental control and parental autonomy support with life satisfaction, positive affect, and negative affect – where parental control and parental autonomy support together influenced the high narcissism trait, which in turn increased the individual's life satisfaction and positive affect, and decreased the individual's negative affect. The psychopathy trait mediated the relationship between parental control and individual life satisfaction and negative affect – where parental control influenced the high psychopathy trait, which in turn decreased life satisfaction but also increased negative affect.

In the study by Tajmirriyahi et al. (2021), parenting styles were examined based on individual perceptions of emotional bonds and the quality of their relationships with both fathers and mothers, which were assessed separately. These emotional bonds consist of aspects of care and overprotection, while relationship quality consists of support, conflict, and depth. Correlation analysis revealed that the quality of relationships with mothers who are supportive and deep and fathers who are supportive are negatively correlated with psychopathy and Machiavellianism traits, the quality of conflict relationships with both mothers and fathers is positively correlated with the three dark personality traits, and the quality of relationships with fathers who are depth is negatively correlated with Machiavellianism traits. Meanwhile, path analysis revealed that high emotional care bonds with both mothers and fathers together actually influence high Machiavellianism and psychopathy traits through a decrease in avoidant attachment style. In addition, low emotional care bonds with mothers and high emotional overprotection bonds with fathers together influence high narcissism traits through an increase in anxious attachment style.

Several other studies have specifically examined various forms of parenting styles as antecedents of dark personality traits. In Guo et al. (2021) study, parenting styles were analyzed based on individuals' perceptions of the warmth and rejection displayed by their parents. Analysis using a structural equation model revealed that rejecting parenting style predicted high levels of all three dark personality traits in individuals. Furthermore, the Machiavellianism trait mediated the effect of rejecting parenting style on individuals' high levels of creative activity, one aspect of creativity ability. Similar to previous studies, Liu et al. (2021) examined parenting styles based on individuals' perceptions of the warmth displayed by their parents. Analysis using a structural equation model revealed that the Machiavellianism and psychopathy traits mediated the effect between warm parenting style and individuals' levels of aggression - where the less warm the parenting style, the higher the Machiavellianism and psychopathy traits, which in turn increased individuals' aggressiveness.

Yendell et al. (2022) examined parenting styles assessed separately based on individual perceptions of rejection, control, and warmth displayed by both fathers and mothers. This study used the average score of the three dark personality traits. Analysis using a structural equation model revealed that a warm father's parenting style negatively affected the individual's dark personality traits, while controlling father and mother parenting styles and rejecting mother parenting styles positively affected the dark personality traits. Furthermore, in this model, dark personality traits positively mediated the influence of parenting styles on individuals' tendencies to commit acts of violence. Another finding in this study was that there was a direct and indirect positive influence from the individual's experience as an observer in a fight that occurred with the individual's tendencies to commit acts of violence - the indirect influence was mediated by the individual's high dark personality traits.

Similar to previous studies, Ferencz et al. (2023) examined parenting styles assessed based on individual perceptions of rejection, control, and warmth displayed by both fathers and mothers, assessed separately. In addition to parenting styles, this study also examined the type of individual relationship with their siblings, assessed based on individual perceptions of closeness, conflict, and parental partiality between themselves and their siblings. Linear regression analysis revealed that a warm paternal parenting style had a positive effect on Machiavellianism

and narcissism traits in individuals, a warm maternal parenting style had a negative effect on Machiavellianism and psychopathy traits in individuals, and a rejecting maternal parenting style had a negative effect on narcissism traits in individuals. The type of closeness relationship between individuals and their siblings had a negative effect on Machiavellianism traits, and the type of conflict had a positive effect on psychopathy traits.

Evolutionary Psychology Perspective

Evolutionary psychologists (Jonason et al., 2012; McDonald et al., 2012) argue that the dark triad of personality traits tends to be sensitive to childhood socio-ecological conditions. Parenting is an environmental factor rather than a genetic factor that influences one's development. Research in recent decades has consistently shown that low-quality parenting (i.e., stressful, harsh, or insensitive parenting) and unstable early relationships with caregivers can contribute to the development of antisocial personality traits, including the dark triad traits of narcissism, Machiavellianism, and psychopathy (Tajmirriyahi et al., 2021). In fact, to fully understand the relationship between parenting style and personality traits, attachment patterns can be considered the most plausible mediating mechanism in this relationship (Craig et al., 2013).

Of the three dark personality traits, Machiavellianism is the most affected by environmental variation (Vernon et al., 2008), suggesting that Machiavellianism should be the part of the dark triad that is most sensitive to differences in attachment and parental caregiving. Attachment is an outcome of the parent-child relationship and, given the relative insensitivity of psychopathy and narcissism to socioecological conditions, some researchers would not expect them to be related to attachment, which is a downstream effect of parental caregiving (Jonason et al., 2014). If so, childhood stress may activate Machiavellianism because it provides a flexible and pragmatic approach to life, whereby individuals are prepared to do "whatever it takes" to achieve their goals (Jonason & Webster, 2012) – in other words, childhood stress may shape individuals to be more manipulative and opportunistic in their life.

Parents have the potential to produce different attachment patterns towards their children (Bartholomew & Horowitz, 1991) – the general consensus is that there are four attachment typologies. Secure attachment is thought to result from a strong, positive bond with one's primary caregiver, whereas when care provided by the primary caregiver is irregular, absent, or erratic, "dysfunctional" attachment patterns emerge, namely insecure, avoidant, and fearful attachment patterns, which in turn, influence the manifestation of the dark triad personality traits in adulthood (Jonason et al., 2014). Although genetically inherited, personality traits such as the dark triad are still susceptible to fluctuations in environmental conditions (Vernon et al., 2008). Still, the effects of limited parental care and attachment dysfunction on each trait within the dark triad may differ (Jonason et al., 2014).

One environmental condition that influences the development of dark triad traits is the insecure attachment pattern – critical information that allows individuals to calibrate their life history strategies to current circumstances (Jonason et al., 2014). A secure attachment pattern with a primary caregiver signals that "life is good", encouraging more prosocial and slow life history strategies (Jonason et al., 2014), with individuals likely to develop a secure attachment type as they grow up knowing that they can rely on their primary caregiver to be accessible and responsive (Santiago et al., 2017). Whereas a dysfunctional parent-child bond signals that "life is bad", encouraging the adoption of self-centered and fast life history strategies – these stressful conditions can fundamentally change an individual's approach to life and broaden their personality traits (Jonason et al., 2014). Furthermore, individuals with caregivers who are insensitive, unpredictable, inconsistent, or abusive are likely to develop insecure attachment patterns, such as anxious or avoidant styles. People with anxious attachment have a negative working model of the self and a belief that they are unworthy of support from their caregivers (Bartholomew & Horowitz, 1991). In contrast, people with avoidant attachment tend to reject intimacy and closeness, as seen in their diminished sense of love and worthiness, as well as their negative attitudes toward others (Sutton, 2019).

Primary and secondary psychopathy have been found to be associated with attachment patterns with dismissive and fearful caregivers – parents who display increased control and decreased attention and warmth (Craig et al., 2013; Gao et al., 2010). Furthermore, retrospective studies have shown that individuals high in psychopathy recall early family environments characterized by parental rejection, neglect, or separation and accompanied by inconsistent or severe punishment and inadequate supervision (Campbell et al., 2004; Gao et al., 2010; Kimbrel et al., 2007; Marshall & Cooke, 1999). Ináncsi et al. (2015) study found associations between Machiavellianism and childhood psychological maltreatment and an insecure attachment style. These results suggest that the combination of stressful environments and neglectful (i.e., rejecting and harsh) parenting may lead to developing an opportunistic interpersonal style, characteristic of individuals high in Machiavellianism. In a recent study, Láng & Abell (2018) reported that Machiavellianism in men was associated with perceptions of intense, unresolved, and burdensome parental conflict.

Comprehensive research has been conducted by Henschel (2014) on the etiological factors that play a role in the development of narcissism characterized by an extreme need for admiration. Therefore, some researchers (Millon, 1990) argue that adults with higher narcissism are actually spoiled children because they are too spoiled by their parents, who provide excessive satisfaction. With this background of spoiling, narcissistic adults tend to expect and demand the same satisfaction as adults (Cramer, 2011). Other researchers (Kernberg, 1985) argue that narcissism arises from a lack of early satisfaction, which causes them to demand excessive admiration from others. This view states that parental coldness and lack of empathy act as triggers for the development of narcissism (Cater et al., 2011).

It is possible that mothers and fathers play different roles in a child's life and that the quality of parental interactions may have different effects on the development of different types of antisocial behavior. Evolutionary psychologists argue that the dark triad traits emerge as adaptive responses to childhood socio-ecological conditions, with distinct parental roles shaping developmental pathways. From an evolutionary perspective, mothers as primary caregivers predominantly influence attachment security - maternal neglect (e.g., emotional unavailability) creates resource uncertainty that may prime Machiavellian manipulation, as seen in longitudinal studies where children of distant mothers develop opportunistic interpersonal styles (Ináncsi et al., 2015; Jonason et al., 2014). Conversely, fathers traditionally functioned as providers and behavior models,

with paternal harshness (e.g., punitive discipline) fostering narcissistic entitlement through dominance displays, while paternal warmth promotes achievement-oriented behaviors (Miklikowska et al., 2011). Concrete evidence shows fathers who conditionally reward success (e.g., offering lavish praise for achievements but withdrawing affection for failures) cultivate narcissistic grandiosity by reinforcing status-seeking (Brummelman et al., 2015). These parental influences manifest through attachment mechanisms, where dismissive father-child relationships correlate with psychopathic callousness as children devalue social bonds (Gao et al., 2010), while inconsistent maternal care predicts anxious attachment and subsequent exploitative behaviors. Such patterns reflect evolutionary trade-offs, with maternal neglect triggering fast life history strategies like manipulation, and paternal inconsistency promoting status competition through narcissism or aggression (Jonason et al., 2012). The combined evidence underscores how evolved parental roles differentially calibrate offspring strategies, with mothers shaping internal working models and fathers modulating external behavioral adaptations.

Life History Theory Perspective

Life history theory (Gadgil & Bossert, 1970), which is a mid-level selectionist theory derived from the general theory of evolution, argues that the life processes and cycles of an organism are the results of natural selection. To win the competition for survival and reproduction, an organism sets its life strategy (fast or slow life strategy) according to the environment to balance its biological energy and material resources. Although researchers initially used life history theory to explain species-level differences, this theory has proven useful in understanding differences within a species across groups of organisms, including humans (Rushton, 2004). In humans, researchers refer to systematic differences within species as personality traits or individual differences (Rushton, 2004).

Life history theory acts as a bridge connecting parenting styles and offspring dark triad traits. Life strategies, a core concept of life history theory, refer to the strategy used by humans or other species to allocate bioenergy and material resources (Chen et al., 2017; Figueredo et al., 2006; Jonason et al., 2012). Parenting styles are related to the development of children's life history strategies (Chen et al., 2017).

Individual personality differences present a recurring and unresolved theoretical problem in evolutionary psychology (Figueredo et al., 2005). From the perspective of life history theory, the formation of personality traits is not random but develops in the process of adaptation to the environment. Therefore, personality traits are consistent with an individual's life history strategy (Figueredo et al., 2005), and research has empirically demonstrated that the dark triad of personality traits is related to life history strategies (Jonason et al., 2010). In particular, life history theory emphasizes the long-term role of the environment in shaping personality; thus, the dark triad of personality traits is no longer a cluster of "maladjustment" and "need for treatment" personality traits but rather the result of an individual's active adaptation to the environment (Qin & Xu, 2013).

Life history theory elucidates how distinct dark triad traits emerge as adaptive fast-life strategies in response to harsh environments, each with unique behavioral manifestations. Machiavellianism evolves as a strategic resource acquisition system, where manipulative tendencies are reinforced in unpredictable environments where long-term cooperation proves unreliable (Jonason et al., 2012), particularly under conditions of parental neglect or inconsistent discipline (Jonason et al., 2014). Narcissism manifests through dual developmental pathways - grandiose traits emerging from parental overvaluation that fosters entitlement and status-seeking behaviors (Hurst & Kavanagh, 2017), while vulnerable narcissism stems from parental coldness creating compensatory self-enhancement (Li et al., 2020). Psychopathy represents the most extreme fast strategy, characterized by impulsive reward-seeking and emotional detachment that develops when parental harshness or unpredictability makes future outcomes uncertain (McDonald et al., 2012; De Clercq et al., 2021). These trait-specific adaptations are further moderated by the family environment, where emotional warmth can buffer against fast-strategy development by providing stable resource expectations (Spera, 2005; Liu et al., 2021).

Research has shown that the dark triad of personality traits may develop at least in part due to environmental causes (Barlett, 2016; Qin & Xu, 2013). The family is the primary environment in which human development occurs and has been shown to influence the dark triad of personality traits. Previous research (Jonason et al., 2014) has shown that the quality of the parent-child relationship influences the development of the dark triad of personality traits in children, and path modelling suggests that the quality of parenting is negatively related to various aspects of the dark triad. Alienation and separation from family can lead to early maladaptive schemas from the "Disconnection and Rejection" schema domain (Young et al., 2006). Children with this schema assume that others will hurt, deceive, lie, and manipulate; they also feel isolated and neglectful of attachment (Láng & Birkás, 2014). Therefore, as an essential environmental factor, emotional warmth from parents can provide a positive emotional climate for parents in raising their children (Spera, 2005). Children with high levels of emotional warmth from parents are more likely to have parents who are more understanding, encouraging, and supportive and are, therefore, less likely to have traits in the dark triad. Conversely, children with low levels of emotional warmth from parents tend to receive less warmth and positive responses from their parents and are, therefore, more likely to have traits in the dark triad (Liu et al., 2021).

Self-Determination Theory Perspective

Machiavellianism, narcissism, and psychopathy are positively correlated with each other; however, the correlation between Machiavellianism and psychopathy is stronger than the others (Furnham et al., 2013; Vize et al., 2018). In addition to genetic factors, traits in the dark triad are also caused by environmental resources and fluctuations (Furnham et al., 2013), especially Machiavellianism (Vernon et al., 2008). Parenting styles, including autonomy support and parental control, are environmental factors that play an essential and irreplaceable role during children's development and, in turn, can influence the dark triad of personality traits. Parental autonomy support refers to seeing problems from the child's perspective and providing opportunities for children to be strong-willed and make their own choices (Ryan & Deci, 2009). In contrast, parental control involves a coercive and pushy parenting style, which stems from parents' failure to consider issues from the child's perspective or to force the child to meet their demands (Grolnick & Pomerantz, 2009).

Self-determination theory provides a framework for understanding how distinct parenting approaches differentially influence specific dark trait manifestations. Autonomy support that fulfills basic psychological needs for autonomy, competence, and relatedness particularly reduces vulnerable narcissism by preventing fragile self-worth development (Li et al., 2020), while simultaneously decreasing callous-unemotional traits in psychopathy through enhanced empathy cultivation (De Clercq et al., 2021). Conversely, coercive parental control tends to increase Machiavellianism by reinforcing manipulative behaviors as adaptive strategies (Guo et al., 2021), while exacerbating psychopathic impulsivity through chronic relatedness frustration (Yendell et al., 2022). These differential mechanisms explain variations in dark trait manifestations despite their intercorrelations.

According to self-determination theory, an autonomy-supportive environment contributes to an individual's personality expression (La Guardia & Ryan, 2007). Based on parental characteristics, autonomy support from parents (Ryan & Deci, 2009) tends to create a stable and safe environment for children; However, parental control creates an unstable and unsafe environment (La Guardia & Ryan, 2007). More specifically, children who are in unstable and unpredictable environments (e.g., characterized by resource fluctuations) provided and shaped by parents tend to adopt a fast life history strategy, which emphasizes the pursuit of short-term rewards, leading to aggressive, impulsive, and risky behaviors; in contrast, children who grow up in stable and predictable environments tend to adopt a slow life history strategy, which facilitates the pursuit of long-term rewards or goals and in turn behaves prosocially, self-controlled, organized, and responsible (Li et al., 2020). Research suggests that lower parental support is associated with a faster life history strategy, and individuals with a faster life history strategy tend to have higher symptoms of psychopathology (Hurst & Kavanagh, 2017). Overall, parental autonomy support versus control makes children feel independent and encourages them to express themselves authentically (La Guardia & Ryan, 2007; Ryan & Deci, 2009); in turn, supportive environments (e.g., highly supportive of individual autonomy) versus controlling environments (e.g., stifling autonomy) are beneficial for children's personality, making them less selfish, aggressive, and materialistic (Ryan & Deci, 2017).

Social Learning Theory Perspective

Childhood maltreatment typically manifests as physical, sexual, or emotional abuse and physical or emotional neglect (Láng & Birkás, 2014; Láng & Lénárd, 2015). Childhood maltreatment is one of the most critical environmental factors in the development of personality disorders (Láng & Birkás, 2014; Láng & Lénárd, 2015; Patch & Figueredo, 2017). For example, children who observe parents using manipulation to resolve conflicts (e.g., guilt-tripping or deceit) may internalize these tactics, leading to Machiavellian traits like strategic exploitation in adulthood (Ryumshina, 2013). Similarly, exposure to parental aggression (e.g., verbal hostility) can model callousness, reinforcing psychopathic traits such as emotional detachment (Jiang et al., 2021).

There is a large body of evidence that dark personality traits are associated with adverse childhood experiences (Jonason et al., 2016; Jonason et al., 2017; Kircaburun et al., 2021; Láng & Birkás, 2014; Láng & Lénárd, 2015; McDonald et al., 2012; Patch & Figueredo, 2017). This association may be partly ascribed to social learning (Jiang et al., 2021). Children will behave similarly to their egocentric, callous, and manipulative parents whose parenting habits contain elements of childhood maltreatment (Láng & Birkás, 2014; Ryumshina, 2013). For instance, narcissistic traits like entitlement may emerge when children are repeatedly rewarded for grandiose self-presentation (e.g., parents excessively praising achievements while dismissing failures; Brummelman et al., 2015). Conversely, neglectful parenting may teach children to adopt manipulative behaviors (e.g., lying to gain attention) as adaptive strategies in resource-scarce environments (Láng & Birkás, 2014).

A study of twins showed that individual differences in the highest levels of moral development have no genetic basis but are entirely due to environmental factors (J. Campbell et al., 2009). The literature points to parenting style as an essential environmental factor in the development of dark traits (Allroggen & Ludolph, 2011). In particular, the relevance of parenting style to narcissism has been highlighted by Brummelman et al. (2015). There are two main hypotheses about the influence of parenting style on the development of narcissistic traits. While social learning theory explains that children develop narcissistic traits due to excessive treatment from parents, which results in the child's belief that they are special and deserve special rights (Yendell et al., 2022), there is other evidence to support social learning theory (Brummelman et al., 2015; Cramer, 2011).

Criminal behavior is learned. A person is more likely to become a delinquent if he or she encounters attitudes that support lawbreaking and if these norms are stronger than attitudes that negatively evaluate violations (Yendell et al., 2022). According to this theory, contact primarily with criminals in a suitable environment leads to criminal behavior by learning criminal behavior as a model. However, it is also conceivable that the experience and observation of violence in the social environment is not exclusively directly related to support for violence but, like hostile parenting, has a negative influence on personality development (Yendell et al., 2022).

In addition, children can perceive poor and unclear family communication as unintentional lying, and their deceptive behavior can be learned through observational social learning (Láng & Birkás, 2014). Therefore, a disconnected and rejecting family context will lead to early maladaptive schemas, attachment rejection, and social learning of deceptive behavior, leading to the development of the dark personality trait triad in children (Liu et al., 2021).

Dark Personality Traits as Antecedents of Undesirable Behavior

A review of the literature identifies several outcomes of dark personality traits, including individual aggressiveness (Liu et al., 2021), the individual's tendency to eliminate the attribution of humanity to themselves (self-humanness) and to others (other humanness) (Jiang et al., 2021), low prosocial behavior (Ren et al., 2022), and the individual's tendency to commit acts of violence (Yendell et al., 2022).

Research conducted by Jones et al. (2017) revealed that moral disengagement mediates the relationship between narcissism traits and antisocial behavior. In addition, research conducted by Nocera et al., (2022) through structural equation modelling revealed that moral disengagement mediates the relationship between sadism traits and psychopathy traits with aggressive behavior in online activities.

Other studies have also tested dark personality as an antecedent of moral disengagement using the dark personality triad construct. Egan et al. (2015) reported that age, education level, intellectual ability, psychopathy trait, and Machiavellianism trait were significant predictors of moral disengagement. Erzi (2020) reported the results of multiple mediation analysis in which moral disengagement as the first mediator and relational aggression as the second mediator played a significant role in the relationship between psychopathy, narcissism, and Machiavellianism traits with schadenfreude expression defined as hatred and feelings of being more deserving than others. These findings revealed that individuals with a "dark" personality tend to be morally disengaged and have a tendency towards relational aggression by expressing more schadenfreude. Kapoor et al. (2021) reported findings showing that moral disengagement significantly mediated the relationship between narcissism and psychopathy personality traits with individuals' tendency to have the intention to exaggerate reviews of buyer experiences in the context of online shopping activities. Navas et al. (2021) used a bifactorial model of the dark personality trait triad (a latent factor that is a shared variant of this construct is called the global dark triad and three specific latent factors, namely psychopathy, Machiavellianism, and narcissism for each component of the dark triad) in testing its effect on moral disengagement. SEM analysis for the bifactorial model of the dark personality trait triad and moral disengagement revealed a direct and significant relationship between the global dark triad and moral disengagement in incarcerated adults. In contrast, the Machiavellianism trait was directly and significantly related to moral disengagement in community adults. Navas et al. (2022) reported findings based on a mediation model, indicating that moral disengagement fully mediated the relationship between the dark personality trait triad and ambivalent sexism, defined as ambiguous or mixed attitudes and beliefs regarding gender, consisting of two main dimensions: hostile sexism and benevolent sexism. More specifically, in a sample of male sexual offenders, it was found that moral disengagement mediated the influence of Machiavellianism and psychopathy traits on sexist behavior, while in a general male sample, it was found that moral disengagement mediated the influence of Machiavellianism and narcissism traits on sexist behavior. In addition to using the dark personality triad construct, a study uses the dark personality quadruple construct as an antecedent of moral disengagement, namely the study conducted by (Gajda et al., 2023). The path analysis revealed that Machiavellianism and sadism traits were significant predictors of moral disengagement.

Previous studies have revealed that individuals with high levels of dark personality traits tend to hold moral perspectives that differ from general social norms—using moral disengagement strategies as part of their established beliefs to eliminate moral barriers and continue engaging in wrongful or harmful actions (Navas et al., 2021). Exploratorily, the behavioral motives characteristic of each dark personality trait are associated with specific moral disengagement strategies.

The Machiavellianism trait may be associated with, though not limited to, moral justification and euphemistic labeling strategies to rationalize manipulative actions. Individuals may believe that personal goals constitute a "nobler" reason, making unethical behavior seem justifiable. They also employ neutral or euphemistic language to mitigate guilt and maintain a sense of affiliation. These two strategies align with the strategic manipulation and covert social control that are hallmarks of the Machiavellianism trait.

The narcissism trait may be associated with, though not limited to, advantageous comparison and attribution of blame strategies to maintain one's superior self-image. Individuals may compare their wrongful behavior to "worse" actions of others to make their own conduct appear more favorable. Additionally, they may blame victims or external circumstances to avoid self-criticism. These two strategies support the pursuit of recognition and social dominance while preserving the illusion of personal exceptionalism.

The psychopathy trait may be associated with, though not limited to, displacement of responsibility and diffusion of responsibility strategies. Individuals may shift accountability for their harmful actions to other parties. Furthermore, they may diminish personal responsibility by claiming that "everyone does it". These two strategies facilitate impulsivity and rejection of authority, enabling individuals to act without moral constraints.

The sadism trait may be associated with, though not limited to, the cognitive strategies of dehumanization and distortion of consequences to justify cruelty. Individuals may diminish the human attributes of victims, thereby legitimizing harmful actions. Additionally, they may downplay the negative impacts of their violent behavior. These two strategies facilitate the individual's interest in deriving satisfaction from violent acts and their propensity to inflict harm.

CONCLUSIONS AND RECOMMENDATIONS

Dark personality—characterized by socially offensive traits that fall within the normal or "everyday" range—is influenced by both genetic and environmental factors. Various forms of environmental factors that have been identified as antecedents of dark personality trait development include childhood conditions and experiences, parenting, and parental behavior. Research findings reveal specific forms of these factors, including childhood maltreatment experiences in the form of violence and neglect, both physical and emotional, unpredictable childhood environmental conditions, exposure to violence between partners (e.g., parents or primary caregivers) when the individual was in childhood, poor parental care quality, overly controlling parental attitudes, and negative perceptions of emotional bonds and the quality of relationships with both the father and the mother, as well as the individual's relationships with siblings.

One concrete example of environmental factors that influence personality development is the parenting style of parents or primary caregivers. Based on a review of the literature, the dynamics of the influence of parenting style on the development of dark personality traits in individuals can be explained through the perspective of evolutionary psychology theory, life history theory, self-determination theory, and social learning theory. These findings significantly contribute to our understanding of personality development by integrating multiple theoretical perspectives. The evolutionary psychology perspective explains how insecure attachment patterns develop as adaptive responses to environmental stressors, while life history theory elucidates the strategic development of dark traits in resource-scarce environments. Self-determination theory provides insight into how parental control undermines basic psychological

needs, and social learning theory demonstrates the intergenerational transmission of maladaptive behaviors. This multi-theoretical integration offers a comprehensive framework for future research on dark personality development. The literature review also reveals the mediating role of moral disengagement in the relationship between dark personality and antisocial behavior. These findings highlight the importance of addressing moral development in interventions targeting dark personality traits, particularly in educational and clinical settings.

The robust association between specific parenting behaviors and dark personality development has important implications for intervention programs – yield specific recommendations for various professional groups working with at-risk populations. Mental health professionals should develop targeted interventions addressing the precise mechanisms connecting parenting styles to dark personality traits, particularly through attachment-based therapies for individuals exhibiting insecure attachment patterns, which could help restructure maladaptive relational schemas. Educational institutions are advised to implement comprehensive school programs that systematically foster emotional regulation and perspective-taking skills, as these competencies may serve as protective factors against the development of callous-unemotional traits in vulnerable students. For professionals involved in parent education, designing evidence-based workshops that teach authoritative parenting strategies is crucial, with particular emphasis on maintaining the delicate balance between emotional warmth and appropriate behavioral structure while consciously avoiding psychologically controlling tactics that undermine child autonomy. At the policy level, legislators and community leaders should prioritize supporting and funding community-based initiatives that provide accessible resources for at-risk families, including culturally sensitive parenting support groups and early childhood intervention programs that can identify and address emerging behavioral issues before they become entrenched. These multi-level recommendations, when implemented in coordination, offer a comprehensive approach to mitigating the development of dark personality traits through early intervention and supportive environmental structuring.

While this review provides valuable insights, several limitations should be noted. The predominance of cross-sectional studies in the literature limits our ability to establish causal relationships between parenting styles and dark personality development. The reliance on self-report measures may introduce recall bias, particularly in studies examining childhood experiences. Additionally, most included studies were conducted in Western contexts, potentially limiting the generalizability of findings to non-Western cultures. Future research would benefit from longitudinal designs, multi-informant approaches, and cross-cultural replications to address these limitations.

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Consent for publication

All authors agree to submit the article to the journal and grant copyright.

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