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Childhood Adversity And The Millon Clinical Multiaxial Inventory, Fourth Edition (MCMI-IV)

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Childhood Adversity and the Millon Clinical Multiaxial Inventory, Fourth Edition (MCMI-IV)

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ABSTRACT

The Millon Clinical Multiaxial Inventory, 4th edition (MCMI-IV; Millon et al., 2015) is a reliable and valid personality assessment based on Theodore Millon's biosocial learning theory of personality. Millon's theory evolved to include 15 personality constructs that vary in adaptive and maladaptive response patterns. In his most recent book (Millon, 2011), he presented hypotheses about biological and environmental factors that contribute to development of each personality construct. Many of these hypotheses specify particular adversities in childhood that differentially contribute to each construct. This study is the first to evaluate Millon's hypotheses about how childhood adversities may contribute to development of personality traits evaluated by the MCMI-IV.

Introduction

Theodore Millon introduced his biosocial learning theory of personality in 1969 with the publication of his book *Modern Psychopathology* (Millon, 1969). He proposed most personalities were mixtures of several basic personality types, reflecting the true complex nature of personality. In the 1970s and 1980s, Millon was a prominent figure in psychology with a seat on the American Psychiatric Association (APA) Task Force for developing the DSM-III (APA, 1980) and the publication of the first edition of *Disorders of Personality* (Millon, 1981). In 2011, Millon published his third edition of *Disorders of Personality* (Millon, 2011), revising his personality theory to include personality spectrums from normal to abnormal typologies. Before this death in 2014, Millon's final theory of personality included a detailed biological, evolutionary, social-learning, and psychodynamic model with greater emphasis on a dimensional nature of personality that is compatible with the current DSM-V (APA, 2013).

In constructing his theory, Millon opposed the method of inductive reasoning to define personality constructs. Instead, Millon preferred a deductive approach, as he believed it linked clinical practice directly to an overarching system of principles that explained normal and abnormal personality dimensions. Millon explained in detail his deductive approach, beginning with universal principles, which serve as the philosophical explanatory foundation of any clinical science theory; for Millon, evolutionary science was the basis for personality theory. Next was theory, or the subject domain of clinical science. Millon coined the term "personology" to describe the subject domain for the science of personality. Third, he identified taxonomic classification to provide a cohesive framework to describe his theory, resulting in 15 personality prototype classifications. Fourth, Millon asserted instrument and assessment were necessary to quantify the prototypes in a reliable and valid manner. Last, he specified intervention and

treatment should be derived from theory and assessment to modify potentially problematic traits and symptoms (Millon, 2011, p. 255).

Millon's Evolutionary Framework for Personality

Millon proposed an evolutionary framework for personality theory based on four motivating aims: the existence aim, the adaptation aim, the replication aim, and abstraction. The existence aim states an organism must exist and survive by avoiding environmental threats and acquiring resources and fulfillment, like food and other reinforcements. The existence aim is a polarity with pain (e.g., avoiding threats to safety) and pleasure (i.e., obtaining food or resources) on opposite ends of the spectrum. The adaptation aim states that an organism must interact with the environment by both accommodating to the existing system and modifying the environment to suit the organism's needs. The adaptation aim is a polarity with active (i.e., modification) and passive (i.e., accommodating) adaptation to the environment on opposite ends of the spectrum. The replication aim states that organisms must reproduce, which requires interactive skills with other organisms. Organisms can either orient toward the self or others for reinforcement depending on the environment and situation, which he termed the self versus other polarity. The fourth aim, abstraction, is not a polarity. Abstraction is a product of the previous three polarities with higher order mental processes, such as decision making, executive functioning, and insight. A well-functioning individual is flexible in moving across these polarities – pleasure versus pain, active versus passive, and self versus other – in various environments and situations. An individual may experience distress or dysfunction if they orient toward one polarity across many situations and contexts and have difficulty adjusting on these polarities appropriately (Millon, 2011; Grossman, 2015).

Within these motivating aims are four functional and four structural domains of personality. The functional domains are processes, like coping strategies, between the individual and the environment. The functional domains include expressive emotion, cognitive style, intrapsychic dynamics, and interpersonal conduct. Expressive emotion includes outward behaviors that arise from emotion, while interpersonal conduct includes interactions and relationships with others. Cognitive style consists of the quality and content of attention and organization and processing of information from the environment. Intrapsychic dynamics are internal processes, like psychodynamic defense mechanisms, which influence an individual's processing for conflict resolution, search for reinforcement, or self-preservation (Millon, 2011; Grossman, 2015).

The four structural domains are not observable behaviors, but rather internal constructs within the personality, including self-image, intrapsychic content, intrapsychic architecture, and mood/temperament. Self-image consists of the perceived similarities or differences between the self and others and reflection of self as interacting with the environment. Intrapsychic content, previously called object representation, is an individual's set of expectations of others learned from very early experiences as a child. Intrapsychic architecture is the internal organizing structures of personality. Mood/temperament is the biological and physical relationship to personality, including neurological functioning, affective characteristics, and other biophysical aspects of personality (Millon, 2011; Grossman, 2015).

Each of Millon's personality prototypes are identifiable by its unique position on the three polarities and differences across the eight structural and functional domains. Because each personality is identified by polarity orientation and domain descriptions, personality prototypes may be directly compared to each other and combined for a mixture of prototypes. The ability to

mix and compare these prototypes is essential, since most individuals do not fall strictly into one prototype, but rather a combination of various prototypes into a unique personality for that individual. There are 960 identifiable personality combinations from Millon's 15 prototypes across eight domains (Millon, 2011; Grossman, 2015).

Development of the MCMI

Millon proposed personality exists on an adaptive to maladaptive continuum. Each personality prototype has three levels of severity (see Table 1). At the most adaptive end of each prototype are personality styles. Styles describe individuals who have identifiable traits of specific prototypes but may occasionally experience distress or impairment due to difficulty navigating and adjusting their motivating aim polarities across contexts. At the middle level of each prototype are personality types. Types describe individuals who likely experience distress and impairment during interpersonal interactions, self-reflection, temperament, and self-regulation due to more rigid and inflexible navigation across the motivating aim polarities. At the highest level of each prototype are personality disorders. Individuals who fall into this category likely experience considerable distress and impairment due to strict rigidity and lack of adaptability across the three polarities; they may experience frequent inner conflicts, interpersonal conflicts, and psychological distress that affects daily functioning (Millon, 2011; Grossman, 2015). Each spectrum is represented with a three-letter acronym to reflect the three-level conceptualization of each prototype.

Table 1

Personality Spectrum Levels

Spectrum Acronym	Style	Type	Disorder
AAS	Apathetic	Asocial	Schizoid

SRA	Shy	Reticent	Avoidant
DFM	Dejected	Forlorn	Melancholic
DAD	Deferential	Attached	Dependent
SPH	Sociable	Pleasuring	Histrionic
EET	Ebullient	Exuberant	Turbulent
CEN	Confident	Egotistical	Narcissistic
ADA	Aggrandizing	Devious	Antisocial
ADS	Assertive	Denigrating	Sadistic
RCC	Reliable	Constricted	Compulsive
DRN	Discontented	Resentful	Negativistic
AAM	Abused	Aggrieved	Masochistic
ESS	Eccentric	Schizotypal	Schizophrenic
UBC	Unstable	Borderline	Cyclophrenic
MPP	Mistrustful	Paranoid	Paraphrenic

Note. Millon (2011)

To quantify these prototypes, Millon developed the first MCMI in the 1970s with corresponding descriptions for each personality style, type, and disorder. This assessment included 150 items measuring 8 personality styles and 3 personality disorders. Millon soon discovered the assessment would be more clinically useful if he included scales measuring mental illnesses and disorders. He included validity scales to identify individuals who may be malingering or presenting in a socially desirable manner on the test. Millon also developed the Base Rate (BR) scoring method rather than standard T score methods (M = 50, SD = 10). The BR scoring method considers the prevalence rate (or base rate) of the disorder or trait, while T score methods assume the prevalence rate for a disorder or trait is the same across the entire assessment. BR scoring allows for interpretation of characteristics that are not uniformly

distributed on a normal curve. Because of this unique scoring method, the first MCMI became very popular with clinical psychologists (Choca & Grossman, 2015; Millon et al., 2015).

The MCMI-II was published in 1987, reflecting new developments in Millon's theory and compatibility with the DSM-III-R (APA, 1987). The MCMI-II introduced weighted raw points to account for how strongly item content reflected a particular personality style. Millon also added three validity scales, which he called modifying indices to make appropriate BR score adjustments for positive and negative profile distortion (Choca & Grossman, 2015).

The MCMI-III was published in 1994 with new consideration of the three polarities and eight domains. Millon added a new validity scale to evaluate random responding. BR scores were renormed according to gender. He also added a new personality prototype, the Turbulent personality. Millon began to apply his idea that personality falls on a continuum with two categories for each personality prototype: basic, which reflected mild to moderate impairment in social or occupational functioning, and severe, which reflected impairment in various aspects of daily life (Choca & Grossman, 2015).

Millon focused application of the MCMI-IV to intervention, leading to development of three subscales for each personality prototype from the eight domains, called facet scales. By breaking down each prototype into three subscales (i.e., cognitive, affective, and behavioral), the clinician could better understand which specific personality characters were most salient for the client. The final version of the MCMI-IV consists of two validity scales, three modifying indices, 15 personality scales with 45 Grossman Facet Scales (GFS) and 10 clinical syndrome scales (Millon et al., 2015).

MCMI-IV Personality Prototypes

The distinction between styles, types, and disorders is operationalized by MCMI-IV BR score thresholds based on a clinical norming sample. See Table 2 for each prototype's polarity orientation (Millon, 2011; Millon et al., 2015).

Table 2

Polarity Orientations of the Personality Prototypes

Prototype	Pleasure – Pain	Passive – Active	Self – Other
Schizoid (AAS)	Weak – Weak	Strong – Weak	Average – Weak
Avoidant (SRA)	Weak – Strong	Weak – Strong	Average – Average
Melancholic (DFM)	Weak – Strong	Strong – Average	Average – Average
Dependent (DAD)	Average – Average	Strong – Weak	Weak – Strong
Histrionic (SPH)	Average – Average	Weak – Strong	Average – Strong
Turbulent (EET)	Strong – Weak	Weak – Strong	Average – Average
Narcissistic (CEN)	Average – Average	Strong – Weak	Strong – Weak
Antisocial (ADA)	Average – Weak	Weak – Strong	Strong – Weak
Sadistic (ADS)	Average – Strong^{R}	Weak – Strong	Average – Weak
Compulsive (RCC)	Weak – Average	Strong – Weak	Weak – Average^{C}
Negativistic (DRN)	Weak – Average	Average – Strong	Average – Weak
Masochistic (AAM)	Weak – Strong^{R}	Strong – Average	Weak – Average
Schizotypal (EES)	Weak – Weak^{W}	Weak – Weak^{W}	Weak – Weak^{W}
Borderline (UBC)	Average – Average^{C}	Average – Average^{C}	Average – Average^{C}
Paranoid (MPP)	Average – Average^{U}	Average – Average^{U}	Average – Average^{U}

Note. Adapted from Millon et al. (2015). ^{R} Polarity is reversed. ^{C} Polarity is conflicted. ^{W} Polarity is wavering. ^{U} Polarity is unalterable.

Apathetic-Asocial-Schizoid (AAS). The Apathetic-Asocial-Schizoid prototype is characterized by a lack of desire to form social relationships and generally flat affect. Individuals with an apathetic style may be exceptionally self-sufficient and prefer to be on their own rather

than interact with others. Individuals who fall into the asocial type may be considerably more secluded because they strongly prefer isolation over social interaction or even forming romantic relationships. Asocial types may also be preoccupied with specific topics, subjects, or hobbies that others may consider odd. A schizoid personality may be typical of an individual who strongly prefers to live alone and remain detached from others. They may be very withdrawn and distant, indifferent to praise or criticism, and rarely express strong emotions. To others, a schizoid personality may appear "spacy" or strange, as these individuals may communicate in a vague and unfocused manner (Millon, 2011; Groth-Marnat & Wright, 2016).

Shy-Reticent-Avoidant (SRA). The Shy-Reticent-Avoidant prototype is characterized by a strong orientation toward active avoidance of threats and pain. The SRA prototype is typical of individuals who prioritize avoidance of possible rejection or humiliation from others and may feel nervous or anxious in social situations. Individuals who fall into the shy style are generally sensitive to others' judgments about them and hesitant to interact in social situations. They may have low self-esteem, but can easily socialize in a comfortable environment. An individual who falls into the reticent type is more nervous and anxious about social interaction and more socially disengaged compared to the shy style. They may have low self-esteem and self-deprecate themselves with negative self-talk and actions. They may experience intense and cycling moods but appear apathetic to others. The avoidant personality in the disorder range may describe individuals who live isolated lives, preferring to avoid all interpersonal interactions if possible. They may want relationships and intimacy, but fear of rejection and humiliation overpower their interpersonal desires. They may be in a constant state of hypervigilance and unease, reacting intensely to minor events. Those with avoidant personalities may perceive the self as inferior and

inadequate and rely on fantasy and their imagination for reinforcement and pleasure (Millon, 2011; Groth-Marnat & Wright, 2016).

Dejected-Forlorn-Melancholic (DFM). The Dejected-Forlorn-Melancholic prototype is characterized by a generally pessimistic, helpless, and hopeless outlook toward the future with strong orientation toward passive accommodation and pain. Individuals who fall into the dejected style range may have a generally pessimistic view of life, a self-deprecating attitude, and feelings of hopelessness and discouragement. These individuals may present in a manner to elicit sympathy and support from others. A forlorn type is like the dejected style, but more severe in their negative outlook. Others who offer support and sympathy may grow tired and withhold support from the forlorn individual, which reinforces negative feelings, worsening their gloom, irritability, and self-pity. A melancholic personality in the disorder range may experience recurrent depressive symptoms, such as cognitive distortions and lack of energy. They may perceive themselves as worthless, inadequate, or guilty, eliciting support from some and distancing others. Although they express their negative view on life, they feel powerless to change external forces (Millon, 2011; Groth-Marnat & Wright, 2016).

Deferential-Attached-Dependent (DAD). The Deferential-Attached-Dependent prototype is characterized by passive dependence on others. The deferential style reflects low self-esteem, but this style is likely overly agreeable and accommodating to others. They may be particularly good at empathizing with others, but sacrifice their own needs for the sake of pleasing others. Individuals who fall into the attached type range are excessively accommodating to others and may become so attached they lose their own identity. The dependent personality in the disorder range likely relies on others to make decisions and complete tasks, because they feel inadequate and incompetent to do things for themselves. They may hide negative emotions to

keep their relationships conflict-free and maintain a status of being well-liked (Millon, 2011; Groth-Marnat & Wright, 2016).

Sociable-Pleasuring-Histrionic (SPH). The Sociable-Pleasuring-Histrionic prototype is characterized by actively manipulating the environment and seeking reinforcement from others, often in the form of attention-seeking. Individuals who fit into the SPH prototype may experience rapidly changing emotions and an intolerance for boredom. A sociable style typically reflects an outgoing, charming individual who seeks positive feedback; however, they may appear to change identities across situations and lack a strong sense of self. A pleasuring type reflects an individual who may be perceived as false or manipulative to others because their methods of seeking attention may be dramatic, sexual, or scattered. They likely shift personalities to fit the situation, experience rapid mood shifts, and appear confident; however, some pleasuring type individuals may feel anxious and exhibit demanding behavior towards others. The histrionic personality in the disorder range reflects a dramatic, emotional, thrill-seeking individual who may be perceived as shallow. They have an extremely low tolerance for boredom and may quickly jump to conclusions. They may describe themselves as active, outgoing, flighty, flirtatious, and attention-getters. However, behind these dramatic behaviors may be strong needs for others' approval and reinforcement. They may engage in excessive behaviors to avoid experiencing painful emotions (Millon, 2011; Groth-Marnat & Wright, 2016).

Ebullient-Exuberant-Turbulent (EET). The Ebullient-Exuberant-Turbulent prototype is characterized by an overly positive outlook with high-spirited social interactions. The ebullient style describes a charming, energetic, witty, thrill-seeking individual who enjoys immediate gratification. Individuals who fall into the ebullient style range typically do not consider negative consequences of their actions but are likely creative and innovative thinkers. The exuberant type

is characterized by such high energy levels that may be socially intrusive and be perceived as overenthusiastic. Individuals who fall into the exuberant type range may become frustrated when they feel their positive energy is not being reciprocated by others, and their thinking may become more disorganized and scattered as their energy increases. These individuals may continually seek pleasurable activities and desert tasks that require delayed gratification. Turbulent personalities in the disorder range typically have such high energy levels they may engage in reckless, erratic behaviors and experience rapidly changing, intense moods. Over time, individuals who fall in the turbulent range may push themselves beyond their limits of energy and abilities and crash with episodes of exhaustion and depression. The turbulent personality differs from the histrionic personality, because the turbulent individual tends to feel emotions deeply and frequently, while the histrionic individual tends to avoid negative emotions and remain on the surface of their feelings (Millon, 2011; Groth-Marnat & Wright, 2016).

Confident-Egotistic-Narcissistic (CEN). The Confident-Egotistic-Narcissistic prototype is characterized by passive orientation toward the self. This prototype reflects the degree to which individuals see themselves as worthy of praise and admiration. The confident style is characteristic of a socially bold, optimistic, self-assured, assertive, and driven individual. Individuals who fall into the confident style range likely expect others to understand their importance and follow them as leaders. Individuals who fall into the egotistic type range may compensate for feelings of inadequacy with exaggerated confidence and entitlement. They may exploit others to meet their needs, especially friends and romantic relationships. They may be described by others as callous and unempathetic. Narcissistic personality in the disorder range is characterized by an exaggerated sense of self-importance and competence. While narcissistic individuals may present as intelligent, outgoing, and charming, they can be insensitive and

manipulative to enhance their own image. They may create grandiose fantasies about themselves and feel they deserve favors without reciprocation. They may become aggressive if they are criticized, which can devolve into depression and substance abuse (Millon, 2011; Groth-Marnat & Wright, 2016).

Aggrandizing-Devious-Antisocial (ADA). The Aggrandizing-Devious-Antisocial prototype is characterized by independence and active excitement-seeking regardless of negative consequences. Individuals who score in the aggrandizing style range are typically very independent; while they prioritize their own needs and dislike following social norms, they fulfill their needs in a socially acceptable manner. While they may be confrontational and assertive, they can be effective leaders. The devious type builds upon the aggrandizing style with greater emphasis on self-serving actions accompanied by more impulsive and irresponsible behaviors. Individuals with a devious style may resort to manipulation, lying, and conflict for self-enhancement. They value their reputation for being strong and independent but may be described as a risk-taker and foolish. The antisocial personality is distinguished by excessively competitive, impulsive, and dominant traits. Individuals who fall into the antisocial range may disregard safety and legal consequences and overtly express frustration with social norms. They enjoy feeling free and unconfined but lack empathy and view life in terms of a “dog eat dog” world. However, antisocial individuals can also be charming and outgoing to meet their needs. Millon’s conceptualization of antisocial personalities differs from the DSM-V operationalization of antisocial personality disorder, since Millon’s antisocial personality emphasizes independence and does not require a history of physical aggression or conduct disorder (Millon, 2011; Groth-Marnat & Wright, 2016).

Assertive-Denigrating-Sadistic (ADS). The Assertive-Denigrating-Sadistic prototype is unique because pleasure and pain are reversed on the pleasure versus pain polarity. The ADS prototype is characterized by obtaining reinforcement and feeling pleasure by inflicting harm on others. Individuals with an assertive style are typically good leaders who are competitive, communicate directly, and do not fear failure. Some individuals with an assertive style find socially acceptable ways to humiliate, intimidate, or degrade others, such as employment in politics or high-status businesses. Individuals with a denigrating type may be rigid and hostile and may attack others out of fear of being attacked themselves. They may righteously inflict punishment they deem appropriate, including physical violence. Like the assertive style, individuals with a denigrating type personality may also seek socially acceptable ways to enforce their own justice, such as joining the military or working as a police officer. Individuals with a sadistic personality may be explosive, violent, intolerant, and aggressive. They typically see other people as objects to manipulate and control, and they enjoy intimidating others. These individuals are generally unaffected by pain and punishment and disregard negative consequences of their behavior (Millon, 2011; Groth-Marnat & Wright, 2016).

Reliable-Constricted-Compulsive (RCC). The Reliable-Constricted-Compulsive prototype is characterized by rigidity, perfectionism, conscientiousness, and a desire to meet expectations. The RCC prototype is unique because there is conflict between meeting needs for the self versus others, which leads to feelings of anxiety in RCC personalities. Individuals with a reliable style are generally conscientious, reliable, disciplined, and strategic. They typically do not make impulsive decisions and aim to perform tasks completely and correctly. They follow the rules, and mistakes motivate them to improve for the future. However, these individuals may feel anxious about performing up to their own standards. Individuals with a constricted type

likely fear mistakes greatly and attempt to control their environment as much as possible. They constrict their emotions, which may result in somatic complaints, such as headaches or muscle pain. Individuals with a compulsive personality practice discipline and self-restraint. Their perfectionistic mindset may interfere with completion of tasks. They are easily distressed by change and prefer a highly controlled schedule and environment. Interpersonally, they are respectful and formal, but may have righteous and moralistic attitudes (Millon, 2011; Groth-Marnat & Wright, 2016).

Discontented-Resentful-Negativistic (DRN). The Discontented-Resentful-Negativistic prototype is characterized by vacillation between the self and other polarity, resulting in uncertainty about satisfying one's own needs versus others' needs in different contexts. This uncertainty may make individuals feel bitter and irritable toward others, while simultaneously feeling unappreciated and misunderstood. Individuals with a discontented style are typically pessimistic and feel resentful toward others. They switch between building stronger relationships and pushing relationships away. The resentful type reflects more erratic behavior compared to the discontented style because of greater conflict between desire to fulfill others' needs or one's own needs. Mood can also change rapidly. Individuals with a resentful type typically dislike when others place expectations on them. The negativistic personality builds upon the resentful type with more erratic behaviors and severe conflict between self and others. However, negativistic personalities feel they should not experience this inner dissatisfaction of choosing between one's own needs and others' needs, leading to guilt and exacerbation of interpersonal conflicts. They may indirectly express their resentment through procrastination and behaviors inconsistent with their goals (Millon, 2011; Groth-Marnat & Wright, 2016).

Abused-Aggrieved-Masochistic (AAM). The Abused-Aggrieved-Masochistic prototype is similar to the Assertive-Denigrating-Sadistic prototype, as they both reverse the pleasure versus pain polarity. However, individuals who fall on the AAM spectrum prefer to feel pain themselves over pleasure, rather than inflicting pain on others for pleasure. This prototype is characterized by self-defeating thoughts and behaviors in order to exhibit control over situations in a self-sacrificing manner. Individuals with an abused style are generally self-sacrificing and selfless; they may feel deserving of love only when they are helpful to others. They may be unsure of their own opinions and lack hope for lasting relationships. Individuals with an aggrieved type are likely to self-sacrifice to the extent it becomes their identity and reinforces negative emotions. However, they expect to be appreciated by others and react negatively when others are not appreciative of their selflessness. Individuals with a masochistic personality often put them themselves in situations in which they are the victim; they may present as inferior and humble. They are likely hesitant to experience positive emotions, since they typically believe conflict is likely to follow positive emotions. They may allow, or even encourage, others to mistreat them, but refuse help from others, typically eliciting guilt rather than aggression (Millon, 2011; Groth-Marnat & Wright, 2016).

Eccentric-Schizotypal-Schizophrenic (ESS). The Eccentric-Schizotypal-Schizophrenic spectrum is characterized by odd and disorganized thinking and behavior, alienation from others, and bizarre emotional expression. The ESS prototype is unique because all polarities are wavering and weak on both extremes, reflecting confusion and disorganization on each polarity. Individuals with an eccentric style can function adequately on a daily basis but are extremely shy and socially odd. Emotional expression can appear disengaged or inappropriate. They may feel somewhat different or alienated from others, but they are often self-sufficient. The schizotypal

type is characterized by thinking and behaviors that are less in touch with reality compared to the eccentric style. Individuals with a schizotypal type may be particularly secretive and may experience derealization or depersonalization. Some individuals with a schizotypal type may present with flat affect, sometimes reporting they feel "dead" or "lifeless." They prefer an escape into fantasy rather than interacting with others in the real world. The schizophrenic personality is not to be confused with the DSM-V definition of schizophrenia, because the schizophrenic personality is conceptualized as long-term enduring traits, such as odd thinking and behaviors and strange expression of emotion rather than psychotic symptoms. Individuals with a schizophrenic personality may appear apathetic, and communication is often tangential and disorganized. They may engage in magical behavior to "try to neutralize 'evil' thoughts or omens." They are likely to experience depersonalization or derealization and pay great attention to irrelevant stimuli in their environment. They may feel deep emptiness and meaninglessness, which can sometimes lead to psychotic episodes (Millon, 2011; Groth-Marnat & Wright, 2016).

Unstable-Borderline-Cyclophrenic (UBC). The Unstable-Borderline-Cyclophrenic prototype is characterized by strong internal conflict, uncertain sense of identity, and unpredictable behavior and moods. The UBC spectrum is unique because there is conflict on each polarity, vacillating between pleasure and pain, passive and active modification, and self versus others. Individuals with an unstable style may function well in daily life, but they may be highly reactive and inconsistent in social relationships. They may shift between manipulating others and sabotaging oneself to maintain relationships. Because they may lack a strong sense of identity, they typically emphasize connection to others as a form of identity. The borderline type is characterized by severe labile moods, erratic behaviors, interpersonal problems, strong fear of abandonment, and impulsiveness. Individuals with a borderline type likely feel ambivalent about

having close relationships, expressing suspiciousness, anger, irritability, and secretiveness toward others. They may occasionally experience brief psychotic episodes under severe stress. Cyclophrenic personalities are characterized by heightened instability and unpredictability compared to the borderline personality type. Mood may shift rapidly from joy to anger to self-destructiveness and other extreme emotions. Individuals with cyclophrenic personalities generally do not have a strong sense of identity, which may lead to feelings of emptiness and disorganized thoughts. They likely experience frequent interpersonal conflicts, since they care deeply about maintaining relationships with others while also fearing abandonment. Unstable and unpredictable behavior appear to be driven by internal, not external stimuli. They may experience periods of depression and generalized anxiety. Under stress, they may experience brief psychotic episodes or engage in self-harm behaviors (Millon, 2011; Groth-Marnat & Wright, 2016).

Mistrustful-Paranoid-Paraphrenic (MPP). The Mistrustful-Paranoid Paraphrenic prototype is characterized by inflexibility and rigidity on each of the polarities. Individuals with an MPP prototype typically have a fixed view of the world, resulting in suspiciousness, anger, hostility, and even aggression. They likely expect to be manipulated and deceived by others, believing people are generally self-serving and deceitful. Individuals with a mistrustful style typically function well in daily life, but they may be hypervigilant of potential threats. They may appear self-righteous, stubborn, or humorless, but they are largely self-sufficient and avoid relying on others. Individuals with a paranoid type are overtly mistrustful and paranoid, sometimes guided by erroneous rationale. They often align evidence to overlap with their beliefs to the point of delusion, and communicate in a tangential, hostile manner. They often isolate themselves because of paranoia. The paraphrenic personality is distinguished by heightened

suspiciousness, defensiveness, and sense of superiority. Individuals with a paraphrenic personality are likely hypervigilant and ready to defend themselves if they perceive criticism or deception. They may believe the world is trying to manipulate, harm, or control them. Their view of the world is likely distorted, as they align evidence to fit into their belief system. They may be described as abrasive, aggressive, irritable, and hostile. They are likely unaware of their own weaknesses and feel bitter toward others who are successful; they may believe successful individuals achieved success through corrupt means. They may verbally attack others if they believe someone is trying to control or deceive them. Paraphrenic personalities may experience delusions, ideas of reference, and fear potential plots or conspiracies, which largely impact daily functioning (Millon, 2011; Groth-Marnat & Wright, 2016).

Sources of Personological and Psychopathologic Development

In the third edition of his book *Disorders of Personality* (2011), Millon questioned whether etiological analysis is feasible for personality and psychopathological development. Millon preferred to call potential factors contributing to etiology or personality development "sources of personological and psychopathologic development." Millon acknowledged the current lack of data regarding causative factors in his theory of personality development and strongly recommended this research be conducted. He explained sources of development are interactive, complex, and extremely difficult to disentangle, but encouraged researchers to test his hypotheses and apply these results for better application of the MCMI-IV (Millon, 2011).

For each of the personality prototypes, Millon provides a brief literature review and set of hypotheses about personality development. He includes pathogenic biological factors (i.e., heredity, biophysical individuality, and temperament dispositions) sensitive developmental and neuropsychological periods (e.g., sensory-attachment, sensorimotor-autonomy, pubertal-gender

identity, and intracortical integration; Millon, 1969), sources of learning (e.g., learned attitudes and beliefs), enduring and pervasive experiences (e.g., parental feelings and attitudes, parents' teachings, family structure, sibling rivalry), traumatic experiences, self-perpetuation processes, and sociocultural influences. While each of these factors are important and interact to produce a unique constellation of personality, Millon argued that early experience plays a relatively large role in personality development, particularly during childhood (Millon, 2011, pp. 68-118)

Childhood Adversity and Personality Disorders

The literature on childhood adversity and personality disorders suggests high rates of childhood maltreatment in those later diagnosed with personality disorders. Battle and colleagues (2004) compared 600 patients who had a personality disorder diagnosis or Major Depressive Disorder (MDD). Rates of childhood maltreatment in the group with personality disorders were significantly higher compared to the MDD group, with 73% of the personality disorder group reporting childhood abuse and 82% reporting childhood neglect. They also found that borderline personality disorder (BPD) was most strongly associated with childhood abuse and neglect. Obsessive-compulsive personality disorder was most strongly associated with non-caretaker abuse and neglect. Antisocial personality disorder was most strongly associated with caretaker sexual abuse and verbal abuse (Battle et al., 2004).

Other researchers have focused on specific forms of childhood maltreatment as predictors of personality disorders. There is a vast amount of research on the relationship between childhood sexual abuse (CSA) and BPD (Gibb et al., 2001; Johnson et al., 1999; Widom et al., 2009). Two metanalyses found moderate effect sizes in the literature on relationships between CSA and BPD (Fossati et al., 1999; Klonsky & Moyer, 2008). Widom and colleagues (2009) examined 500 individuals with documented cases of childhood physical abuse (CPA), CSA, and

neglect. Individuals with a history of CSA, CPA, and neglect were at higher risk for developing BPD in adulthood compared to the control group. Additionally, having a parent with substance use problems or not being employed full-time, not graduating high school, having a drug use disorder, having Major Depressive Disorder, or having post-traumatic stress disorder (PTSD) were significant predictors of BPD (Widom et al., 2009). Zanarini et al. (2006) and Soloff et al. (2002) also found that childhood abuse and self-injury in childhood predict suicidal behavior in BPD.

While the relationship between CSA and BPD may be the most studied topic in the literature on childhood abuse and personality disorders, Rettew and colleagues (2003) examined adults with avoidant personality disorder compared to a group with Major Depressive Disorder and groups with other personality disorders. Adults with avoidant personality disorder reported poorer athletic performance in childhood and adolescence, less participation in hobbies during adolescence, and less popularity during adolescence compared to the other groups. Reported rates of CPA and childhood emotional abuse (CEA) were also significantly higher than the MDD group. Another study (Johnson et al., 2006) examined parenting behaviors related to personality disorders. In a prospective longitudinal design including almost 600 families, low parental affection and nurturing was associated with higher risk for antisocial, avoidant, borderline, depressive, paranoid, schizoid, and schizotypal personality disorders. Aversive parental behavior, such as harsh punishment or strict rule enforcement, was associated with higher risk for borderline, paranoid, passive-aggressive, and schizotypal personality disorders (Johnson et al., 2006).

Other research has taken a broader approach to evaluate different types of childhood abuse, maltreatment, and adversities in relation to personality disorders. Gibb and colleagues

(2001) examined the relationship between DSM-III-R personality disorders and childhood sexual, physical, and emotional abuse in a sample of undergraduate students. Reported levels of CSA were related to paranoid, borderline, histrionic, narcissistic, dependent, and passive-aggressive personality disorders, while reported levels of CEA during adolescence was uniquely related to schizotypal, borderline, and avoidant personality disorders. Reported physical abuse during adolescence was related to antisocial personality during adulthood. Interestingly, reported levels of childhood emotional abuse, childhood physical abuse, and childhood sexual abuse were not related to any personality disorders. Johnson and colleagues (1999) reviewed data from a longitudinal study of a community sample to investigate whether childhood abuse and neglect increased risk of developing a personality disorder during early adulthood. Adults with a documented history of childhood abuse or neglected were four times more likely to have a personality disorder diagnosis during early adulthood compared to those without a history of childhood abuse or neglect after controlling for age, parent education, and parental psychiatric disorders. CPA was associated with more symptoms of antisocial, borderline, dependent, depressive, passive-aggressive, and schizoid personality disorders. CSA was associated with borderline personality symptoms. Childhood neglect was associated with more symptoms of antisocial, avoidant, borderline, dependent, narcissistic, paranoid, passive-aggressive, and schizotypal personality disorders. Six years later, Johnson and colleagues (2005) published a similar study to investigate independent effects of other types of childhood maltreatment. They found CPA predicted antisocial, borderline, and schizotypal personality disorders independent of other childhood maltreatment effects, while CSA predicted every personality disorder except dependent. CEA predicted borderline personality independent of other childhood maltreatment effects, while childhood neglect predicted avoidant, borderline, passive-aggressive, antisocial,

and schizotypal personality disorders independent of other maltreatment effects. While current research investigates the relationship of CEA, CPA, CSA, and neglect, other types of trauma and adversities are rarely investigated.

Afifi and colleagues (2011) attempted to address this concern by including CSA, CPA, CEA, physical and emotional neglect, witnessing domestic violence, parent substance use problems, parental incarceration, parental mental illness, parental suicide attempt, and parental death by suicide in their analysis. After gathering information from a nationally representative sample of over 34,000 adults, they conducted logistic regressions to examine the association between each type of adverse childhood event and all personality disorders in the DSM-IV while controlling for Axis I disorders (e.g., mood disorders, stress-related disorders, eating disorders). Many types of childhood adversity were highly prevalent in adults with personality disorders. Overall childhood adversity was most consistently associated with schizotypal, antisocial, borderline, and narcissistic personality disorders. Childhood adversity in the form of household dysfunction (i.e., "battered mother," parental substance use, parental incarceration, parental mental illness, and parental suicide attempts) was associated with increased likelihood of personality disorders, suggesting future research should evaluate other forms of childhood adversity and trauma beyond abuse and neglect (Afifi et al., 2011).

Afifi et al. (2011) also emphasized that many individuals who experience childhood adversity do not develop personality disorders. Potential mediators and moderators must be investigated to better understand potential resiliency factors, such as adaptive personality characteristics and social support systems. Additionally, Millon (2011) explains from an evolutionary standpoint that personality disorders may have served an adaptive purpose in an individual's past. For example, a person who experienced severe bullying or developmental

delays as a child may have benefitted from avoidant personality traits, such as avoiding behaviors that may lead to conflict or bullying. Adaptive traits have been overlooked in personality disorder research, particularly Millon's personality prototypes.

Current Study

The current research is a conceptual replication and extension of Afifi and colleagues (2011) study on childhood adversity and personality disorders. The purpose of this study is to conduct basic research evaluating validity of the MCMI-IV and Millon's theory by testing Millon's hypotheses about childhood adversity as sources of personality development in relation to personality scores on the MCMI-IV. Findings of this study may lay the foundation for future research on the relationship between childhood adversity and MCMI-IV scores.

Hypotheses. Millon (2011) hypothesized biological and environmental sources of development for each personality prototype. While similar hypotheses about personality disorder etiology have been tested in the literature, Millon's hypotheses regarding childhood adversities as sources of development have not been tested with MCMI-IV assessment. There are 15 hypotheses regarding childhood adversities as predictors of each personality prototype.

1. A history of childhood emotional neglect and parental mental illness are likely predictors of a schizoid personality (Millon, 2011, pp. 700-702).
2. A history of childhood emotional abuse and emotional neglect, childhood illness or injury that slowed development, peer bullying, and parental abandonment are likely predictors of an avoidant personality (Millon, 2011, pp. 743-746).
3. A history of childhood emotional abuse and emotional neglect, specifically criticism and devaluation from parents, are likely predictors of a melancholic personality (Millon, 2011, pp. 788-789).

4. A history of childhood illness or injury (i.e., “frailty”), sibling rivalry or an aggressive sibling, and peer bullying are likely predictors of a dependent personality (Millon, 2011, pp. 319-321).
5. A history of sibling rivalry in childhood, which may include sibling aggression or abuse, is a likely predictor for a histrionic personality (Millon, 2011, p. 366).
6. Loss of a parent in childhood, whether through divorce, abandonment, or death, or “an underlying painful experience” during childhood are likely predictors for a turbulent personality (Millon, 2011, p. 826).
7. Because likely predictors of a narcissistic personality include being an only or first-born child and parental overvaluation and indulgence, childhood adversity is not a hypothesized predictor according to Millon (Millon, 2011, pp. 412-414).
8. A history of parental physical and emotional neglect or a parental absence, especially “broken families with a father absence,” and childhood delinquency (i.e., drug use, truancy, illegal activities) are likely predictors of an antisocial personality (Millon, 2011, p. 447, 466).
9. A history of childhood physical abuse, childhood emotional abuse, significant parent-child conflict, conduct disorder during adolescence, and bullying behaviors toward peers are likely predictors of a sadistic personality (Millon, 2011, pp. 651-652).
10. A history of childhood physical abuse, childhood emotional abuse and emotional neglect are likely predictors of a compulsive personality (Millon, 2011, p. 516).
11. A history of sibling rivalry in childhood, oppositional defiant disorder and anti-authority attitudes in childhood, and witnessing parental violence or arguments as a child are likely predictors of a negativistic personality (Millon, 2011, pp. 541-564).

12. A history of childhood emotional or physical neglect, illness or injury during childhood including self-harm behaviors, or gender-specific experiences of dysfunctional parental roles (e.g., for girls, the mother was unhappy in the marriage and expressed irritability and anger with the absent father; for boys, the mother was dominating of the father through verbal or physical means) are likely predictors for a masochistic personality (Millon, 2011, pp. 605-606).
13. A history of emotional abuse from the child's parents, peers, or siblings, emotional neglect from parents, peer bullying (i.e., alienation, humiliation, and rejection), and parental mental illness involving affective or cognitive deficits are likely predictors of a schizophrenic personality (Millon, 2011, pp. 876-878).
14. Childhood physical, emotional, and sexual abuse, emotional and physical neglect, a history of death or loss, extreme parental discord and inconsistency, and feelings of betrayal, shame, and guilt during childhood are likely predictors of a cyclophrenic personality (Millon, 2011, pp. 938-939).
15. Childhood physical, emotional, and sexual abuse, emotional and physical neglect, and bullying peers are likely predictors for a paraphrenic personality (Millon, 2011, pp. 996-998).

Method

Participants

Participants (N = 1141) were recruited through SonaSystems, social media, email, and flyers. Approximately 20 percent of participants (n = 234) qualified to complete the MCMI-IV. After eliminating duplicates and invalid profiles, 196 valid profiles remained for analysis, including 150 women and 46 men. Participants ranged in age (M = 28.24, SD = 11.54) from 18

to 80 with a median age of 25. Most participants identified as White or Caucasian (67%) with others identifying as Hispanic, Latino/a, or Spanish (4%), American Indian or Alaska Native (5.6%), Asian (9.2%), Black or African American (4.6%), Native Hawaiian or other Pacific Islander (3%), multiracial (5.6%), and other (0.5%). Religious affiliations included Protestant (20.9%), Catholic (20.4%), Agnostic (14.3%), Atheist (13.8%), Jewish (4.6%), Scientologist (2%), Mormon (1.5%), Buddhist (1.5%), Muslim (0.5%), and nonreligious (16.3%). Nearly half of participants (51.5%) were enrolled at a university or college at the time of participation. Median household income was between $50,000 and $74,000 with 34.5% of participants reporting less than $49,0000 and 25% of participants reporting more than $100,000.

Materials and Procedure

The University of North Dakota Institutional Review Board approved this study. After completing informed consent and a demographics questionnaire, participants completed a series of online surveys, including a survey about mental health history, childhood adversity survey, and the MCMI-IV. The MCMI-IV was administered via Qualtrics with approval of Pearson Clinical Assessments. MCMI-IV data from Qualtrics was entered into Pearson's QGlobal software for MCMI-IV scoring. Completion of the study required approximately 30 to 60 minutes.

Demographics and mental health history. Participants completed a demographics questionnaire and mental health history survey. Because the MCMI-IV was normed on a clinical sample, MCMI-IV scores are best interpreted when compared to participants with current or past mental health difficulties. The mental health history survey consists of seven items including whether the participant has met with a mental health professional, been diagnosed with a mental illness or psychological disorder, experienced mental health difficulties without an official

diagnosis, been encouraged by family or friends to see a mental health professional or expressed concern about alcohol or drug use, experienced suicidal thoughts, or attempted suicide. A participant was included in the clinical sample if the participant reported 1) meeting with a mental health professional for mental health difficulties or drug and alcohol use; 2) being diagnosed with a mental illness or psychological disorder by a doctor or mental health professional; 3) experiencing mental health difficulties but not being diagnosed by a professional; 4) belief they have a drug or alcohol problem; and 5) suicidal ideation or a history of attempted suicide.

MCMI-IV. The Millon Clinical Multiaxial Inventory, 4th Edition (MCMI-IV; Millon et al., 2015) is a standardized, self-report questionnaire for adults aged 18 and older who have undergone, or may be undergoing, psychological or psychiatric treatment or assessment. The MCMI-IV was designed to assess constructs related to personality adjustment and various clinical syndromes to assist clinicians in evaluating personality and psychopathology. Participants typically complete the MCMI-IV in approximately 30 minutes, responding true or false to 195 items. The MCMI-IV was normed on 1,547 inpatient or outpatient adults aged 18 or older living in the United States (Millon et al., 2015).

The MCMI-IV includes two validity scales, three modifying indices, 15 personality scales, and 10 clinical syndrome scales. Each personality scale consists of three subscales, called Grossman Facet Scales (GFS), which allow for more focalized interpretation of thoughts, feelings, and behaviors the client may experience; facet scales are only interpreted if their parent scale is elevated above BR 60 (Millon et al., 2015).

MCMI-IV raw scores are converted to base rate (BR) scores to allow for interpretation of characteristics that are not normally distributed on a curve, and to better reflect prevalence in the

clinical population. BR scores are anchored at 0, 60, 75, 85, and 115, which correspond with threshold ranges of reported symptom severity and salience. A BR score of 0 corresponds with a raw score of 0, while a BR score of 60 corresponds with the median of a given scale. A BR score of 75 is considered the cutoff for clinical significance, suggesting greater likelihood the characteristics or symptoms reflected in that scale are present in the examinee. A BR score of 85 is considered a markedly high elevation, suggesting likely predominance of characteristics or symptoms that may be impairing or distressing to the examinee (Grossman & Amendolace, 2017; Millon et al., 2015).

Internal reliabilities for the personality scales were deemed acceptable ($.67 \leq \alpha \leq .92$) with a median of $\alpha = .84$. Twelve out of the 15 personality scales obtained a reliability of $\alpha \geq .80$. Internal reliabilities for Grossman Facet Scales were deemed satisfactory by test developers ($.63 \leq \alpha \leq .88$) with a median of $\alpha = .80$. Internal reliabilities for the clinical syndrome scales were deemed acceptable ($.65 \leq \alpha \leq .93$) with a median of $\alpha = .83$. Eight out of the 10 clinical scales obtained a reliability of $\alpha \geq .80$. Test-retest reliability across personality, clinical, and facet scales were generally at or above .80, suggesting stable performance across testing intervals (Millon, et al., 2015).

Regarding test validity, MCMI items were theoretically generated based on Millon's personality theory rather than empirically produced from sampling techniques. To develop the MCMI-IV, researchers generated 245 novel items, retained 106 items after review, and added these 106 items to the existing MCMI-III for a total of 281 items. These 281 items, collateral tests, and clinician ratings were administered to a group of over 200 clinical participants. Based on these results, items were revised for final item selection and scale development to ensure each scale's sensitivity and reliability. Test developers assigned items to scales based on item content,

conducted reliability analyses, and ran a confirmatory factor analysis. After the factor analysis, some items were removed due to low factor loadings or high overlap with other scales. The Grossman Facet Scales were generated from the existing scale items, and empirically validated with another confirmatory factor analysis (Millon et al., 2015).

Childhood adversity. Items regarding childhood adversity, such as abuse, maltreatment, family dysfunction, bullying, and other stressful experiences were adapted from Afifi and colleagues' (2011) study on a broad range of childhood adversity and personality disorders in over 34,000 adults. Afifi et al. (2011) acknowledged the narrow definition of "childhood adversity" in the literature on childhood abuse and adversity, and combined items from the Adverse Child Experience (ACE) study (Felitti et al., 1998), Childhood Trauma Questionnaire (Bernstein et al., 1994), and Conflict Tactics Scale (Straus et al., 1996) to account for a wider range of childhood experiences that could potentially have negative effects later in life. Afifi et al. (2011) included items on physical abuse, emotional abuse, sexual abuse, physical neglect, emotional neglect, and household dysfunction (i.e., battered mother, parental substance abuse, parental incarceration, parental mental illness, and attempted or completed suicides in the home). Nonetheless, this expanded definition of childhood adversity maintained a limited scope, as perpetrators of abuse, neglect, and trauma were limited to a "parent or other adult living in the home."

The current study adapted items from Afifi et al. (2011) to include additional adverse experiences and perpetrators. The revised questionnaire included 70 items in 13 categories: child physical abuse (CPA) and violence, child emotional abuse (CEA), child sexual abuse (CSA), physical neglect, emotional neglect, loss and death, mental illness in the home, witnessing domestic violence, sibling abuse, victim of bullying, bullying behaviors, childhood delinquency,

and serious illness or injury. At the end of the survey, participants could provide a qualitative response to share additional information that was not included in previous items about their childhood. Like the study by Afifi et al. (2011), categories were recoded to indicate history of adversity.

Child physical abuse (CPA) and violence. Responses were recoded as child physical abuse if participants endorsed at least one of the following: 1) at least one incident of being hit, beat, kick, slapped, shoved, or physically harmed by a parent or legal guardian, adult other than a parent or legal guardian, or person they were dating; 2) at least one incident of being hit so hard by a parent or legal guardian, adult other than a parent or legal guardian, or person they were dating that it left bruises; 3) being hit beat, kick, slapped, shoved, or physically harmed by a sibling at least "fairly often"; 4) "sometimes," "fairly often," or "very often" being hit so hard by a sibling it left marks; or 5) at least one incident of violence from a stranger, such as being mugged or physically assaulted.

Child emotional abuse (CEA). Responses were recoded for parental emotional abuse if the participant indicated "sometimes," "fairly often," or "often" to any item when asked how often a parent 1) ever swore at, insulted, or said hurtful things to the respondent; 2) threatened to hit or throw something at the respondent; and 3) made the respondent feel afraid he or she would be physically hurt or injured. Responses were recoded for nonparental emotional abuse if the respondent indicated "sometimes" or greater to any of the above items regarding an adult other than a parent. Responses were recoded for sibling emotional abuse if the respondent indicated "sometimes" or greater to any of the above items regarding a sibling. Responses were recoded for dating emotional abuse if the respondent indicated "sometimes" or greater when asked how often a person the participant was dating ever swore at, insulted, said hurtful things, or threatened

the respondent. A response of "sometimes" or greater on any of these variables were recoded into a composite variable of overall emotional abuse.

Child sexual abuse (CSA). Responses were recoded as child sexual abuse if the participant endorsed unwanted sexual touching or fondling or attempted or actual sexual intercourse from a parent or legal guardian, adult other than a parent or legal guardian, sibling, or person the participant was dating.

Child physical neglect. Responses were recoded as physical neglect if the participant responded "sometimes," "fairly often," or "very often" to two or more of the following: 1) being left unsupervised when they were too young to care for themselves; 2) went without necessary clothes or school supplies; 3) went without food or went hungry; and 4) went without necessary medical treatment.

Child emotional neglect. Responses were recoded for child emotional neglect if participants scored a total of 12 or less out of 20 on emotional neglect items, including how often the participant felt 1) emotionally close to the family or people in the home; 2) felt someone in their family made the participant feel special; 3) felt someone in their family believed in the participant; and 4) felt their family provided strength and support. Participants were also categorized as emotionally neglected if they responded "yes" to feeling emotionally neglected as a child.

Loss and death. Participants who endorsed major upheaval between parents (e.g., divorce or separation), death of a parent or legal guardian, death of a close friend or family member, loss of a parent or legal guardian for another reason (e.g., incarceration or foster placement), or feeling abandoned during childhood were recoded as experiencing death or loss during childhood. Participants met criteria for parental loss in childhood if they endorsed major

upheaval between parents (e.g., divorce or separation), death of a parent or legal guardian, loss of a parent or legal guardian for another reason (e.g., incarceration or foster placement), or feeling abandoned by a parent or legal guardian during childhood.

Mental illness in the home. Responses were coded as parental mental illness if the participant indicated 1) living with a parent or legal guardian who had difficulties with mental health, such as depression or anxiety; 2) a parent or legal guardian was treated or hospitalized for mental illness; 3) a parent or legal guardian attempted suicide; or 4) a parent or legal guardian died from suicide. Nonparental mental illness will be coded if the respondent indicated 1) living with anyone other than a parent who had difficulties with mental health, such as depression or anxiety; 2) a sibling was treated or hospitalized for a mental illness; or 3) a sibling died from suicide. A composite variable, mental illness in the home, was generated if a participant endorsed any of these items.

Witnessing domestic violence. Participants were considered to have witnessed domestic violence if they endorsed any of the following: 1) at least one incident of a parent, legal guardian, or caregiver physically assaulting (i.e., hitting, punching, beating, kicking, slapping, throwing something, or threatening to physically harm) another parent, legal guardian, or caregiver; 2) witnessing a parent, legal guardian, or caregiver threaten to use a weapon on the other parent, legal guardian, or caregiver; or 3) at least "sometimes" hearing a parent, legal guardian, or caregiver verbally abuse (i.e., swearing at, insulting, threatening, or saying hurtful things) to the other parent, legal guardian, or caregiver.

Because Millon hypothesized witnessing a maternal figure rather than a paternal figure and vice versa may differentially influence personality development, variables were created for witnessing domestic violence primarily from a maternal figure or primarily from a paternal

figure. Participants who endorsed at least "sometimes" witnessing a maternal figure or caregiver physically assault or verbally abuse the other parent, legal guardian, or caregiver were recoded as witnessing domestic violence from a maternal figure. The same criteria were used for witnessing domestic violence from primarily a paternal figure.

Sibling abuse. Participants were considered to have experienced abuse from siblings if they met any of the following criteria: 1) scored seven or greater on items assessing emotional abuse from siblings (i.e., swearing at, insulting, threatening, or saying hurtful things); 2) scored seven or greater on items assessing physical abuse from siblings (i.e., hitting, punching, beating, kicking, slapping, throwing something, or threatening to physically harm); or 3) sexual touching or fondling or attempted or actual sexual intercourse initiated by a sibling.

Victim of bullying. Responses were recoded for bullying victimization if the participant indicated "sometimes," "fairly often," or "very often" when asked how often the participant experienced physical bullying (e.g., being punched, shoved, slapped, or other forms of physical harm) or relational bullying (e.g., hearing rumors about themselves, being excluded from activities or groups, or being called offensive names)

Bullying behaviors. Responses were recoded for bullying behaviors if the participant indicated "sometimes," "fairly often," or "very often" when asked how often the participant physically harmed their peers (e.g., punching, beating, shoving, slapping, etc.) or participated in relational bullying (e.g., spreading rumors about others, excluding others from activities or groups, calling others offensive names, or threatening others).

Childhood delinquency. Responses were recoded as a composite variable, childhood delinquency, if the participant reported drinking alcohol at least fairly often, using drugs at least once, or getting in trouble with the law or being arrested at least once before turning 18.

Responses were recoded as a composite variable, conduct disorder, if participants reported physically and relationally bullying peers at least sometimes, and getting in trouble with the law or being arrested at least once before turning 18.

Serious injury or illness. When asked whether the participant was extremely ill or seriously injured before age 18, a response of "yes" was recoded as childhood injury or illness. The respondent may also indicate whether the illness or injury required hospitalization and additional information regarding the illness or injury.

Results

Commented [TH1]: Consider data prep/descriptives table(s)

Commented [JW2R1]: For each personality scale - M, SD, min/max, median, alpha, + frequencies of each category

Descriptive Statistics

Descriptive statistics for modifying indices and personality scales are presented in Tables 3, 4, and 5.

Table 3

Modifying Indices

Scale	Mean	Standard Deviation	Median	Minimum	Maximum
X	69.64	19.27	73	5	100
V	58.71	19.93	63	15	100
W	65.32	21.15	68	0	100

Table 4

Personality Scales

Scale	Mean	Standard Deviation	Median	Minimum	Maximum
Schizoid	58.41	25.22	64.5	0	113
Avoidant	66.93	24.53	75	0	113
Melancholic	64.31	28.3	74	0	109
Dependent	67.57	23.84	75	0	115

Histrionic	50.24	25.84	54	0	100
Turbulent	51.73	26.18	61	0	100
Narcissistic	63.1	20.47	76	0	114
Antisocial	54.25	24.44	64	0	95
Sadistic	53.7	25.02	62	0	106
Compulsive	61.79	18.46	64.5	0	100
Negativistic	61.78	24.68	71.5	0	109
Masochistic	60.71	24.27	69	0	104
Schizophrenic	59.89	22.48	65	0	109
Paraphrenic	63.4	25.5	69	0	112
Cyclophrenic	58.82	27.91	69.5	0	106

Table 5

Frequencies of Personality Scale Categories

Scale	Non-elevated[1]		Style[1]		Type[1]		Disorder[1]	
	N	%	*N*	%	*N*	%	*N*	%
Schizoid	98	50	39	19.9	46	23.5	13	6.6
Avoidant	68	34.7	28	14.3	67	34.2	33	16.8
Melancholic	70	35.7	34	17.3	47	24	45	23
Dependent	64	32.7	32	16.3	66	33.7	34	17.3
Histrionic	117	59.7	40	20.4	26	13.3	13	6.6
Turbulent	114	58.2	51	26	18	9.2	13	6.6
Narcissistic	78	39.8	57	29.1	47	24	14	7.1
Antisocial	111	56.6	62	31.6	19	9.7	4	2
Sadistic	108	55.1	64	32.7	15	7.7	9	4.6
Compulsive	98	50	52	26.5	34	17.3	12	6.1
Negativistic	73	37.2	36	18.4	74	37.8	13	6.6
Masochistic	77	39.3	78	39.8	24	12.2	17	8.7
Schizophrenic	84	42.9	73	37.2	27	13.8	12	6.1

Paraphrenic	74	37.8	46	23.5	57	29.1	19	9.7
Cyclophrenic	82	41.8	53	27	37	18.9	24	12.2

[1]Scores were categorized as non-elevated if BR ≤ 59. Scores were categorized as style if 60 ≤ BR ≤ 74. Scores were categorized as type if 75 ≤ BR ≤ 84. Scores were categorized as disorder if BR ≥ 85.

Screening Results

Participants reported meeting with a counselor, therapist, psychologist, or other mental health professional for mental health difficulties (59.2%), couples' counseling or family counseling (14.8%), work-related or school-related difficulties (18.9%), and drug or alcohol use (3.6%). Seventy-eight participants (39.8%) reported being diagnosed with a mental illness or psychiatric disorder by a doctor or mental health professional. Forty-four participants (22.4%) reported they have experienced mental health difficulties, but have not been diagnosed by a professional, while 39 participants (19.9%) reported feeling unsure whether they have experienced mental health difficulties. Sixty percent of participants (n = 119) reported encouragement from a family member, spouse, close friend, or other loved one to see a mental health professional. Many participants also reported a history of suicidal ideation (57.6%) and suicide attempts (21.4%).

Hypothesis 1: Schizoid

Commented [TH3]: .025

Millon hypothesized that a history of childhood emotional neglect and parental mental illness are likely predictors of a schizoid personality (Millon 2011, pp. 700-702). This hypothesis was partially supported.

Participants (N = 56) who reported childhood emotional neglect (M = 70.64, SD = 18.85) compared to participants (N = 140) who did not report childhood emotional neglect (M = 53.51, SD = 25.83) scored significantly higher on the MCMI-IV schizoid scale, $t(194) = 5.139$, $p <$

.001[1]; *d* = 0.71. Schizoid scale scores comparing participants (*N* = 8) who reported parental mental illness (*M* = 64.75, *SD* = 20.49) and participants who denied parental mental illness (*M* = 58.14, *SD* = 25.41) were not significantly different, *t*(194) = 0.725, *p* = .469; *d* = 0.26.

Table 6

T-Test Results for Schizoid Scale Scores and Hypothesized Adversities

Variable	Endorsed		Denied		*t*-test	*df*	Cohen's *d*
	M	*SD*	*M*	*SD*			
Emotional neglect	70.64	18.85	53.51	25.83	5.139**	194	0.71
Parent with mental illness	64.75	20.49	58.14	25.41	0.725	194	0.26

Note: Bonferonni adjustment = .025*

***p* < .001

Hypothesis 2: Avoidant

Commented [TH4]: alpha = .013

Millon hypothesized that a history of childhood emotional abuse and emotional neglect, childhood illness or injury that slowed development, peer bullying, and parental abandonment are likely predictors of an avoidant personality (Millon, 2011, pp. 743-746). This hypothesis was partially supported.

Participants (*N* = 148) who experienced bullying in childhood (*M* = 69.96, *SD* = 22.34) compared to participants (*N* = 48) who did not experience bullying (*M* = 57.60, *SD* = 28.61) scored significantly higher on the MCMI-IV avoidant scale, *t*(194) = 2.734, *p* = .008; *d* = 0.52. Participants (*N* = 39) who reported feeling abandoned by a parent in childhood (*M* = 77.49, *SD* = 21.46) compared to participants (*N* = 156) who denied feeling abandoned (*M* = 64.24, *SD* = 24.67) scored significantly higher on the MCMI-IV avoidant scale, *t*(193) = 3.342, *p* = .001; *d* = 0.55. Participants (*N* = 45) who reported both emotional neglect and emotional abuse in

[1] Bonferroni corrections were used to determine significance thresholds.

childhood (*M* = 78.36, *SD* = 19.19) compared to participants (*N* = 151) who denied emotional neglect and emotional abuse (*M* = 63.53, *SD* = 24.97) scored significantly higher on the MCMI-IV avoidant scale, *t*(194) = 4.225, *p* < .001; *d* = 0.623. Avoidant scale scores comparing participants (*N* = 43) who reported a childhood illness or injury (*M* = 72.88, *SD* = 23.60) compared to participants who did not report childhood illness or injury (*M* = 65.20, *SD* = 24.67) were not significantly different, *t*(193) = 1.820, *p* = .07; *d* = 0.31.

Table 7

T-Test Results for Avoidant Scale Scores and Hypothesized Adversities

Variable	Endorsed		Denied		*t*-test	*df*	Cohen's *d*
	M	*SD*	*M*	*SD*			
Illness/injury	72.88	23.6	65.2	24.67	1.820	193	0.31
Victim of bullying	69.96	22.34	57.60	28.61	2.734*	194	0.52
Parent abandonment	77.49	21.46	64.24	24.67	3.342**	193	0.55
Emotional abuse and neglect	78.69	19.19	63.53	24.97	4.225**	194	0.62

Note: Bonferonni adjustment = .013*

***p* < .001

Hypothesis 3: Melancholic

Millon hypothesized a history of childhood emotional abuse and emotional neglect, specifically criticism and devaluation from parents, are likely predictors of a melancholic personality (Millon, 2011, pp. 788-789). This hypothesis was supported. Participants (*N* = 45) who reported childhood emotional abuse and neglect from parents or legal guardians (*M* = 77.31, *SD* = 23.05) compared to participants (*N* = 151) who denied childhood emotional abuse and neglect from parents or legal guardians (*M* = 60.43, *SD* = 28.63) scored significantly higher on the MCMI-IV melancholic scale, *t*(194) = 4.07, *p* < .001; *d* = 0.62.

Table 8

Table 8: T-Test Results for Melancholic Scale Scores and Hypothesized Adversities

Variable	Endorsed		Denied		*t*-test	*df*	Cohen's *d*
	M	*SD*	*M*	*SD*			
Parental emotional abuse and neglect	82.94	20.66	62.54	28.33	3.751**	194	0.73

**$p < .001$

Hypothesis 4: Dependent

Commented [TH5]: Alpha = .017 (3 tests)

Millon hypothesized a history of childhood illness or injury (i.e., "frailty"), sibling rivalry or an aggressive sibling, and peer bullying are likely predictors of a dependent personality (Millon, 2011, pp. 319-321). This hypothesis was not supported.

Commented [TH6]: Not supported

Dependent scale scores comparing participants (N = 43) who experienced bullying in childhood (M = 74.72, SD = 23.46) and participants (N = 153) who did not experience bullying (M = 65.56, SD = 23.63) were not significantly different, $t(194) = 2.251$, $p = .026$; $d = 0.39$. Dependent scale scores comparing participants (N = 43) who reported illness or injury in childhood (M = 67.02, SD = 25.82) and participants (N = 152) who denied illness or injury in childhood (M = 67.64, SD = 23.40) were not significantly different, $t(193) = -0.15$, $p = .88$; $d = -0.03$. Dependent scale scores comparing participants (N = 26) who endorsed sibling abuse (M = 71.31, SD = 24.19) and participants (N = 170) who denied sibling abuse (M = 66.99, SD = 23.80) were not significantly different, $t(194) = 0.859$, $p = .392$; $d = 0.18$.

Table 9

T-Test Results for Dependent Scale Scores and Hypothesized Adversities

Variable	Endorsed		Denied		*t*-test	*df*	Cohen's *d*
	M	*SD*	*M*	*SD*			
Illness/injury	67.02	25.82	67.64	23.40	0.15	193	-0.03
Sibling abuse	71.31	24.19	66.99	23.80	0.859	194	0.18

Victim of bullying	74.72	23.46	65.56	23.63	2.251	194	0.39

Note: Bonferonni adjustment = .017*

Hypothesis 5: Histrionic

Millon hypothesized that a history of sibling rivalry in childhood, which may include sibling aggression or abuse, is a likely predictor for a histrionic personality (Millon, 2011, p. 366). This hypothesis was not supported. Histrionic scale scores comparing participants (N = 26) who reported sibling abuse in childhood (M = 42.27, SD = 25.08) and participants (N = 170) who denied sibling abuse (M = 51.46, SD = 25.81) were not significantly different, $t(194) = -1.698$, $p = .091$; $d = -0.36$.

Table 10

T-Test Results for Histrionic Scale Scores and Hypothesized Adversities

Variable	Endorsed		Denied		*t*-test	*df*	Cohen's *d*
	M	*SD*	*M*	*SD*			
Sibling abuse	42.27	25.08	51.46	25.81	-1.698	194	0.36

*$p < .05$

Hypothesis 6: Turbulent

Commented [TH7]: .025

Millon hypothesized that loss of a parent in childhood, whether through divorce, abandonment, or death, or "an underlying painful experience" during childhood are likely predictors for a turbulent personality (Millon, 2011, p. 826). This hypothesis was not supported.

Participants (N = 83) who reported loss of a parent or legal guardian via divorce, death, or other reason (M = 46.63, SD = 25.98) compared to participants (N = 113) who denied loss of a parent or legal guardian (M = 55.49, SD = 25.80) scored significantly lower on the MCMI-IV turbulent scale, $t(194) = -2.369$, $p = .019$; $d = -0.34$. Turbulent scale scores comparing participants (N = 39) who reported feeling abandoned by a parent or legal guardian during childhood (M = 45.36, SD = 23.54) and participants (N = 156) who denied feeling abandoned in

childhood (M = 53.24, SD = 26.70) were not significantly different, $t(193) = -1.687$, $p = .093$; $d = -0.30$.

Table 11

T-Test Results for Turbulent Scale Scores and Hypothesized Adversities

Variable	Endorsed		Denied		*t*-test	*df*	Cohen's *d*
	M	*SD*	*M*	*SD*			
Feeling abandoned	45.36	23.54	53.24	26.70	-1.687	193	-0.30
Loss of parent	46.63	25.98	55.49	25.80	-2.369*	194	-0.34

Note: Bonferonni adjustment = .025*

Hypothesis 8: Antisocial

Commented [TH8]: .017

Millon hypothesized a history of parental physical and emotional neglect or a parental absence, especially "broken families with a father absence," and childhood delinquency (i.e., drug use, truancy, illegal activities) are likely predictors of an antisocial personality (Millon, 2011, p. 447, 466). This hypothesis was partially supported.

Participants (N = 51) who reported behaviors related to childhood delinquency (i.e., drinking alcohol at least fairly often, using drugs at least once, or legal trouble) (M = 63.63, SD = 20.88) compared to participants (N = 145) who denied these behaviors (M = 50.95, SD = 24.81) scored significantly higher on the MCMI-IV antisocial scale, $t(194) = 3.544$, $p < .001$; $d = .0.53$. Participants (N = 83) who reported parental loss or absence in childhood (M = 59.29, SD = 21.85) compared to participants (N = 113) who denied parental loss or absence (M = 50.55, SD = 25.65) scored significantly higher on the MCMI-IV antisocial scale, $t(194) = 2.569$, $p = .011$; d = 0.36. Antisocial scale scores comparing participants (N = 27) who reported both childhood physical and emotional neglect (M = 61.78, SD = 22.60) and participants (N = 169) who denied physical and emotional neglect (M = 53.05, SD = 24.57) were not significantly different, $t(194) = 1.732$, $p = .085$; $d = 0.36$.

Table 12

T-Test Results for Antisocial Scale Scores and Hypothesized Adversities

Variable	Endorsed		Denied		*t*-test	*df*	Cohen's *d*
	M	*SD*	*M*	*SD*			
Physical and emotional neglect	61.78	22.60	53.05	24.57	1.732	194	0.36
Parental loss or absence	59.29	21.85	50.55	25.65	2.569*	194	0.36
Delinquency	63.63	20.88	50.95	24.81	3.544**	194	0.53

Note: Bonferonni adjustment = .017*

***p* < .001

Hypothesis 9: Sadistic

Millon hypothesized a history of childhood physical abuse, childhood emotional abuse, significant parent-child conflict, conduct disorder during adolescence, and bullying behaviors toward peers are likely predictors of a sadistic personality (Millon, 2011, pp. 651-652). This hypothesis was partially supported.

Participants (*N* = 5) who endorsed behaviors consistent with conduct disorder in adolescence (*M* = 73.20, *SD* = 4.44) compared to participants (*N* = 191) who denied these behaviors (*M* = 53.26, *SD* = 25.14) scored significantly higher on the MCMI-IV sadistic scale, *t*(194) = 7.408, *p* < .001; *d* = 0.80. Participants (*N* = 43) who reported bullying peers in childhood (*M* = 66.21, *SD* = 17.08) compared to participants (*N* = 153) who denied bullying others (*M* = 50.27, *SD* = 25.81) scored significantly higher on the MCMI-IV sadistic scale, *t*(194) = 4.777, *p* < .001; *d* = 0.66. Participants (*N* = 95) who reported physical abuse in childhood (*M* = 58.48, *SD* = 24.47) compared to participants (*N* = 101) who denied physical abuse (*M* = 49.33, *SD* = 24.83) scored significantly higher on the MCMI-IV sadistic scale, *t*(194) = 2.599, *p* = .01; *d* = 0.37. Sadistic scale scores comparing participants (*N* = 125) who reported

emotional abuse in childhood (*M* = 55.29, *SD* = 25.18) and participants (*N* = 71) who denied emotional abuse (*M* = 51.08, *SD* = 24.68) were not significantly different, *t*(194) = 1.131, *p* = .259; *d* = 0.17.

Table 13

T-Test Results for Sadistic Scale Scores and Hypothesized Adversities

Variable	Endorsed		Denied		*t*-test	*df*	Cohen's *d*
	M	*SD*	*M*	*SD*			
Physical abuse	58.48	24.47	49.33	24.83	2.599*	194	0.37
Emotional abuse	55.29	25.18	51.08	24.68	1.131	194	0.17
Conduct disorder	73.20	4.44	53.26	25.14	7.408**	194	0.80
Bullying behaviors	66.21	17.08	50.27	25.81	4.777**	194	0.66

Note: Bonferonni adjustment = .0125*

***p* < .001

Hypothesis 10: Compulsive

Commented [TH9]: Alpha = .017 (3 tests)

Millon hypothesized a history of childhood physical abuse, childhood emotional abuse and emotional neglect are likely predictors of a compulsive personality (Millon, 2011, p. 516). This hypothesis was not supported.

Participants (*N* = 125) who reported emotional abuse in childhood (*M* = 57.45, *SD* = 18.40) compared to participants (*N* = 71) who denied emotional abuse (*M* = 69.44, *SD* = 16.03) scored significantly lower on the MCMI-IV compulsive scale, *t*(194) = -4.589, *p* < .001; *d* = -0.68. Participants (*N* = 95) who reported physical abuse in childhood (*M* = 56.04, *SD* = 17.01) compared to participants (*N* = 101) who denied physical abuse (*M* = 67.20, *SD* = 18.21) scored significantly lower on the MCMI-IV compulsive scale, *t*(194) = -4.425, *p* < .001; *d* = -0.63. Participants (*N* = 56) who reported emotional neglect in childhood (*M* = 56.61, *SD* = 15.77)

compared to participants (*N* = 140) who denied emotional neglect (*M* = 63.86, *SD* = 19.09) scored significantly lower on the MCMI-IV compulsive scale, *t*(194) = -2.520, *p* = .013; *d* = -0.40.

Table 14

T-Test Results for Compulsive Scale Scores and Hypothesized Adversities

Variable	Endorsed		Denied		*t*-test	*df*	Cohen's *d*
	M	*SD*	*M*	*SD*			
Emotional abuse	57.45	18.40	69.44	16.06	-4.589**	194	-0.68
Physical abuse	56.04	17.07	67.20	18.21	-4.425**	194	-0.63
Emotional neglect	56.61	15.77	63.86	19.09	-2.520*	194	-0.40

Note: Bonferonni adjustment = .017*

***p* < .001

Hypothesis 11: Negativistic

Commented [TH10]: .025

Millon hypothesized a history of sibling rivalry in childhood, oppositional defiant disorder and anti-authority attitudes in childhood, and witnessing parental violence or arguments as a child are likely predictors of a negativistic personality (Millon, 2011, pp. 541-564). This hypothesis was partially supported.

Participants (*N* = 87) who reported witnessing at least one domestic violence incident between parents or legal guardians (*M* = 68.16, *SD* = 23.09) compared to participants (*N* = 109) who denied witnessing domestic violence (*M* = 56.69, *SD* = 24.83) scored significantly higher on the MCMI-IV negativistic scale, *t*(194) = 3.315, *p* = .001; *d* = 0.48. Negativistic scale scores comparing participants (*N* = 26) who reported sibling abuse in childhood (*M* = 67.38, *SD* = 24.74) and participants (*N* = 170) who denied sibling abuse (*M* = 60.92, *SD* = 24.63) were not significantly different, *t*(194) = 1.245, *p* = .215; *d* = 0.26.

Table 15

T-Test Results for Negativistic Scale Scores and Hypothesized Adversities

Variable	Endorsed		Denied		*t*-test	*df*	Cohen's *d*
	M	*SD*	*M*	*SD*			
Sibling abuse	67.38	24.74	60.92	24.63	1.245	194	0.26
Witnessing DV	68.16	23.09	56.69	24.83	3.315*	194	0.48

Note: Bonferonni adjustment = .025*

Hypothesis 12: Masochistic

Commented [TH11]: .0125

Millon hypothesized that a history of childhood emotional or physical neglect, illness or injury during childhood including self-harm behaviors, or gender-specific experiences of dysfunctional parental roles (e.g., for girls, the mother was unhappy in the marriage and expressed irritability and anger with the absent father; for boys, the mother was dominating of the father through verbal or physical means) are likely predictors for a masochistic personality (Millon, 2011, pp. 605-606). This hypothesis was supported.

Participants (N = 56) who reported emotional neglect in childhood (M = 71.73, SD = 18.33) compared to participants (N = 140) who denied emotional neglect (M = 56.31, SD = 25.00) scored significantly higher on the MCMI-IV masochistic scale, $t(194) = 4.769$, $p < .001$; d = 0.66. Participants (N = 49) who reported physical neglect in childhood (M = 71.02, SD = 18.48) compared to participants (N = 147) who denied physical neglect (M = 57.28, SD = 25.04) scored significantly higher on the MCMI-IV masochistic scale, $t(194) = 4.100$, $p < .001$; d = 0.59. Participants (N = 43) who reported injury or illness in childhood (M = 69.05, SD = 21.47) compared to participants (N = 152) who denied injury or illness in childhood (M = 58.30, SD = 24.62) scored significantly higher on the MCMI-IV masochistic scale, $t(194) = 2.595$, $p = .01$; d = 0.45. Participants (N = 31) who reported witnessing domestic violence perpetrated by a

maternal figure (*M* = 71.19, *SD* = 20.02) compared to participants (*N* = 165) who denied witnessing domestic violence perpetrated by a maternal figure (*M* = 58.75, *SD* = 24.54) scored significantly higher on the MCMI-IV masochistic scale, *t*(194) = 2.661, *p* = .008; *d* = 0.52.

Table 16

T-Test Results for Masochistic Scale Scores and Hypothesized Adversities

Variable	Endorsed		Denied		*t*-test	*df*	Cohen's *d*
	M	*SD*	*M*	*SD*			
Emotional neglect	71.73	18.33	56.31	25.00	4.769**	194	0.66
Physical neglect	71.02	18.48	57.28	25.04	4.100**	194	0.59
Illness/injury	69.05	21.47	58.30	24.62	2.595*	194	0.45
Witness DV by maternal figure	71.19	20.02	58.75	24.54	2.661*	194	0.52

Note: Bonferonni adjustment = .0125*

***p* < .001

Hypothesis 13: Schizophrenic

Millon hypothesized a history of emotional abuse from the child's parents, peers, or siblings, emotional neglect from parents, peer bullying (i.e., alienation, humiliation, and rejection), and parental mental illness involving affective or cognitive deficits are likely predictors of a schizophrenic personality (Millon, 2011, pp. 876-878). This hypothesis was partially supported.

Participants (*N* = 56) who reported emotional neglect in childhood (*M* = 71.05, *SD* = 17.14) compared to participants (*N* = 140) who denied emotional neglect in childhood (*M* = 55.43, *SD* = 22.85) scored significantly higher on the MCMI-IV schizophrenic scale, *t*(194) = 5.215, *p* < .001; *d* = 0.73. Schizophrenic scale scores comparing participants (*N* = 148) who experienced bullying in childhood (*M* = 62.30, *SD* = 21.54) and participants (*N* = 48) who denied bullying in childhood (*M* = 52.48, *SD* = 23.88) were not significantly different, *t*(194) = 2.534, *p*

= .013; *d* = 0.44. Schizophrenic scale scores comparing participants (*N* = 125) who reported emotional abuse in childhood (*M* = 62.50, *SD* = 21.60) and participants (*N* = 71) who denied emotional abuse in childhood (*M* = 55.30, *SD* = 23.39) were not significantly different, *t*(194) = 2.179, *p* = .031; *d* = 0.32. Schizophrenic scale scores comparing participants (*N* = 8) who reported parental mental illness (*M* = 62.50, *SD* = 32.23) compared to participants who denied parental mental illness (*M* = 59.78, *SD* = 22.08) were not significantly different, *t*(194) = .334, *p* = .739; *d* = 0.12.

Table 17

T-Test Results for Schizophrenic Scale Scores and Hypothesized Adversities

Variable	Endorsed		Denied		*t*-test	*df*	Cohen's *d*
	M	*SD*	*M*	*SD*			
Emotional abuse	62.50	21.60	55.30	23.39	2.179	194	0.32
Emotional neglect	71.05	17.14	55.43	22.85	5.215**	194	0.73
Victim of bullying	62.30	21.54	52.48	23.88	2.534	194	0.44
Parent with mental illness	62.50	32.23	59.78	22.08	0.334	194	0.12

Note: Bonferonni adjustment = .0125*

***p* < .001

Hypothesis 14: Cyclophrenic

Millon hypothesized that childhood physical, emotional, and sexual abuse, emotional and physical neglect, a history of death or loss, extreme parental discord and inconsistency, and feelings of betrayal, shame, and guilt during childhood are likely predictors of a cyclophrenic personality (Millon, 2011, pp. 938-939). This hypothesis was mostly supported.

Commented [TH12]: Make change(s) in discussion

Participants (*N* = 56) who reported emotional neglect in childhood (*M* = 73.23, *SD* = 23.92) compared to participants (*N* = 140) who denied emotional neglect (*M* = 53.05, *SD* =

27.38) scored significantly higher on the MCMI-IV cyclophrenic scale, $t(194) = 5.115$, $p < .001$; $d = 0.76$. Participants ($N = 49$) who reported physical neglect in childhood ($M = 72.37$, $SD = 25.19$) compared to participants ($N = 147$) who denied physical neglect ($M = 54.30$, $SD = 27.38$) scored significantly higher on the cyclophrenic scale, $t(194) = 4.253$, $p < .001$; $d = 0.67$. Participants ($N = 87$) who witnessed domestic violence in childhood ($M = 66.99$, $SD = 26.26$) compared to participants ($N = 109$) who denied witnessing domestic violence ($M = 52.29$, $SD = 27.59$) scored significantly higher on the cyclophrenic scale, $t(194) = 3.806$, $p < .001$; $d = 0.54$. Participants ($N = 65$) who reported sexual abuse in childhood ($M = 67.35$, $SD = 24.64$) compared to participants ($N = 131$) who denied sexual abuse ($M = 54.58$, $SD = 28.55$) scored significantly higher on the cyclophrenic scale, $t(194) = 3.238$, $p = .001$; $d = 0.47$. Participants ($N = 95$) who reported physical abuse in childhood ($M = 64.93$, $SD = 26.15$) compared to participants ($N = 101$) who denied physical abuse ($M = 53.07$, $SD = 28.42$) scored significantly higher on the cyclophrenic scale, $t(194) = 3.042$, $p = .003$; $d = 0.43$. Participants ($N = 125$) who reported emotional abuse in childhood ($M = 63.07$, $SD = 26.22$) compared to participants ($N = 71$) who denied emotional abuse ($M = 51.32$, $SD = 29.37$) scored significantly higher on the cyclophrenic scale, $t(194) = 2.796$, $p = .006$; $d = 0.43$. Cyclophrenic scale scores comparing participants ($N = 83$) who reported death or loss in childhood ($M = 63.73$, $SD = 27.05$) and participants ($N = 113$) who denied death or loss in childhood ($M = 55.20$, $SD = 28.10$) were not significantly different, $t(194) = 2.134$, $p = .034$; $d = 0.31$.

Table 18

T-Test Results for Cyclophrenic Scale Scores and Hypothesized Adversities

Variable	Endorsed		Denied		*t*-test	*df*	Cohen's *d*
	M	*SD*	*M*	*SD*			
Physical abuse	64.93	26.15	53.07	28.42	3.042*	194	0.43

Emotional abuse	63.07	26.22	51.32	29.37	2.796*	194	0.43
Sexual abuse	67.35	24.64	54.58	28.55	3.238*	194	0.47
Emotional neglect	73.23	23.92	53.05	27.38	5.115**	194	0.76
Physical neglect	72.37	25.19	54.30	27.38	4.253**	194	0.67
Death or loss	63.73	27.05	55.20	28.10	2.134	194	0.31
Witnessed DV	66.99	26.26	52.29	27.59	3.806**	194	0.54

Note: Bonferonni adjustment = .007*

***p* < .001

Hypothesis 15: Paraphrenic

Millon hypothesized that childhood physical, emotional, and sexual abuse, emotional and physical neglect, and bullying peers are likely predictors for a paranoid personality (Millon, 2011, pp. 996-998). This hypothesis was partially supported.

Participants (*N* = 49) who reported physical neglect in childhood (*M* = 78.86, *SD* = 18.08) compared to participants (*N* = 147) who denied physical neglect (*M* = 58.25, *SD* = 25.57) scored significantly higher on the MCMI-IV paranoid scale, *t*(194) = 6.18, *p* < .001; *d* = 0.86. Participants (*N* = 56) who reported emotional neglect in childhood (*M* = 72.70, *SD* = 23.48) compared to participants (*N* = 140) who denied emotional neglect (*M* = 59.69, *SD* = 25.40) scored significantly higher on the MCMI-IV paranoid scale, *t*(194) = 3.309, *p* = .001; *d* = 0.52. Participants (*N* = 95) who reported physical abuse in childhood (*M* = 69.69, *SD* = 23.74) compared to participants (*N* = 101) who denied physical abuse (*M* = 57.49, *SD* = 25.79) scored significantly higher on the MCMI-IV paranoid scale, *t*(194) = 3.442, *p* < .001; *d* = 0.49. Participants (*N* = 43) who reported bullying others in childhood (*M* = 73.16, *SD* = 23.41) compared to participants (*N* = 153) who denied bullying others (*M* = 60.66, *SD* = 25.46) scored significantly higher on the MCMI-IV paranoid scale, *t*(194) = 2.894, *p* = .004; *d* = 0.50. Paranoid

scale scores comparing participants (N = 65) who reported sexual abuse in childhood (M = 65.66, SD = 28.43) and participants (N = 131) who denied sexual abuse (M = 62.28, SD = 23.95) were not significantly different, $t(194) = 0.873$, $p = .384$; $d = 0.13$. Paraphrenic scores comparing participants (N = 125) who reported emotional abuse in childhood (M = 66.82, SD = 24.08) and participants (N = 71) who denied emotional abuse (M = 57.38, SD = 26.96) were not significantly different, $t(194) = 2.449$, $p = .016$; $d = 0.38$.

Table 19

T-Test Results for Paraphrenic Scale Scores and Hypothesized Adversities

Variable	Endorsed		Denied		*t*-test	*df*	Cohen's *d*
	M	*SD*	*M*	*SD*			
Physical abuse	69.69	23.74	57.49	25.79	3.442**	194	0.49
Emotional abuse	66.82	24.08	57.38	26.96	2.449	194	0.38
Sexual abuse	65.66	28.43	62.28	23.95	0.873	194	0.13
Emotional neglect	72.70	23.48	59.69	25.40	3.309*	194	0.52
Physical neglect	78.86	18.08	58.25	25.57	6.180**	194	0.86
Bullying behaviors	73.16	23.41	60.66	25.46	2.894*	194	0.50

Note: Bonferonni adjustment = .008*

***p* < .001

Discussion

Overall, two of Millon's hypotheses were fully supported. Eight hypotheses were partially supported. Four hypotheses were not supported.

Dejected-Forlorn-Melancholic (DFM)

Results from this study support Millon's hypothesis that a history of childhood emotional abuse and emotional neglect, specifically from parents, are likely predictors of a melancholic personality. Participants who endorsed emotional abuse and neglect from parents or legal

guardians scored in the forlorn type range compared to participants who denied these experiences, who fell in the dejected style range. There was a medium effect size, indicating a difference of 0.73 standard deviations between groups.

Millon proposed that caregivers were likely distant or indifferent toward their child. The child likely felt a sense of loss and alienation and felt their efforts were inadequate to bring positive attention and validation to themselves. These feelings may have resulted in learned helplessness, as the child's self-esteem diminished due to caregiver criticism and rejection (Millon, 2011). Results suggest emotional abuse and emotional neglect from caregivers during childhood likely contribute to melancholic tendencies.

Abused-Aggrieved-Masochistic (AAM)

Results from this study support Millon's hypothesis that childhood emotional or physical neglect, illness or injury during childhood, or dysfunctional parental roles are likely predictors for a masochistic personality. Participants who endorsed emotional neglect, physical neglect, witnessing domestic violence by a maternal figure, or illness or injury in childhood scored in the abused style range compared to participants who denied these experiences, falling in the non-elevated range. There were medium effect sizes for emotional neglect, physical neglect, and witnessing domestic violence; there was a small effect size for illness or injury in childhood.

Millon (2011) proposed that punishment increases attachment to the punishing caregiver, because the child was met with warmth and praise from this caregiver. The child then clings to the caregiver and subjects themselves to punishment and suffering, believing these behaviors lead to protection, warmth, and avoidance of further pain. These children may only receive love from the caregiver when they are ill or injured, teaching the child they are only loved when they are sick or unwell; a child may turn to harming themselves to feel a sense of control over their

caregivers' reward schedule. When the child tries to become more independent, the caregivers confuse the child by becoming hostile, further provoking self-punishment to receive love.

Millon hypothesized different pathways to masochistic tendencies for girls and boys. For a girl who observed a mother who was critical of an absent father-figure, she would likely feel most familiar and safe with an equally absent or distant romantic partner. She likely believes only those who reject her could possibly love her. For a boy, his mother likely used her son as a replacement for an absent father-figure who left due to the harsh relationship, resulting in future ambivalence about romantic partners (Millon, 2011).

Results suggest emotional neglect, physical neglect, illness or injury in childhood, and witnessing domestic violence by a maternal figure likely contribute to development of masochistic tendencies.

Unstable-Borderline-Cyclophrenic (UBC)

Results from this study partially support Millon's hypothesis that childhood physical, emotional, and sexual abuse, emotional and physical neglect, a history of death or loss, and parental dysfunction are likely predictors of a cyclophrenic personality. Participants who endorsed child physical abuse, emotional abuse, sexual abuse, emotional and physical neglect, death or loss, and witnessing domestic violence in childhood scored in the unstable style range compared to participants who denied these experiences, who fell in the non-elevated range. However, cyclophrenic scale scores were not significantly different between those who endorsed versus denied a history of death or loss in childhood. There were medium effect sizes for emotional neglect and physical neglect, and small effect sizes for physical abuse, emotional abuse, sexual abuse, and witnessing domestic violence.

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Millon (2011) proposed that these children likely experienced extreme parental inconsistency and conflict, which required serving as a family mediator. These children were sometimes ignored, abused, exploited, or rejected and sometimes nurtured and loved; however, there was no pattern to this differential treatment. These children may have experienced loss, contributing to an overall sense of hopelessness. Due to sexual abuse, verbal abuse, and physical abuse, these children likely experience strong feelings of betrayal, shame, guilt, and powerlessness (Millon, 2011). Results were consistent with Millon's theory.

Apathetic-Asocial-Schizoid (AAS)

Results from this study partially supported Millon's hypothesis that childhood emotional neglect and parental mental illness are likely predictors of schizoid personality. Participants who endorsed emotional neglect fell in the apathetic style range, while participants who denied emotional neglect fell in the non-elevated range. There was a medium effect size of 0.71 between groups. Millon proposed these children may have been biologically insensitive to environmental rewards and punishments, which elicited little stimulation and warmth from caregivers, ultimately resulting in emotional neglect. Or, children may have vicariously learned from families that lacked warmth and comfort, in which family members interacted in a formal, distant manner (Millon, 2011)

Participants who reported parental mental illness scored in the apathetic style range and participants who denied parental mental illness fell in the non-elevated range. However, mean differences were not significant. Millon proposed that parents with schizoid traits, such as blunted affect or difficulty with social relationships, may have genetically passed down these traits to their children. It is possible parental mental illness is not associated with schizoid traits, but rather the specific mechanism of blunted affect or social difficulty (Millon, 2011).

Shy-Reticent-Avoidant (SRA)

Results from this study partially supported Millon's hypothesis that childhood emotional abuse and emotional neglect, childhood illness or injury, bullying victimization, and parental abandonment during childhood are likely predictors of avoidant personality. Participants who endorsed parental abandonment or emotional abuse and neglect scored in the reticent type range, while participants who denied these experiences scored significantly lower in the shy style range. Participants who reported bullying scored in the shy style range, while those who denied bullying scored significantly lower in the non-elevated range. Mean difference between those who reported versus denied illness or injury in childhood was not significant, with both groups scoring in the shy style range.

Millon originally proposed that irritable, withdrawn, or needy infants likely elicited rejecting and hostile attention from caregivers, resulting in emotional neglect or abuse. If a child experienced a setback in physical or cognitive development, perhaps due to an injury or illness, the child noticed the caregivers' distress and internalized the message they were inadequate in an important area of life or development. When the child failed, the caregiver likely criticized or penalized the child, resulting in the child's low self-esteem and increased social alienation. Self-esteem likely diminished over time through rejection, humiliation, or belittlement from parents, caregivers, and peers. Alienation from peers resulted in loneliness, harsh self-judgments, and feelings of inferiority. If a caregiver abandoned the child, the abandonment reinforced the child's beliefs they were inferior and inadequate (Millon, 2011). Results suggest that emotional abuse and neglect in childhood likely contribute significantly to development of avoidant tendencies; parental abandonment may reinforce feelings of inadequacy or inferiority.

Aggrandizing-Devious-Antisocial (ADA)

Results from this study partially supported Millon's hypothesis that parental physical and emotional neglect, parental absence, and childhood delinquency are likely predictors of antisocial personality. Participants who reported delinquent behaviors in childhood (i.e., illegal activity, using drugs or alcohol) scored in the aggrandizing style range, while those who denied these behaviors fell in the non-elevated range. Both those who endorsed and denied parental loss or absence in childhood fell in the non-elevated range, despite statistical significance between groups. Participants who reported physical and emotional neglect scored in the aggrandizing style range, while those who denied neglect scored in the non-elevated range; however, these differences were not statistically significant.

Millon proposed that parental neglect and hostility in early childhood created a schema that the world is a cold, unsafe, and uncompromising place. These children did not receive empathy or love from close relationships. This lack of caregiver presence resulted in little or no guidance, and the child was left to fend for themselves or vicariously learn the way of the world. Because of parental neglect or hostility, adolescents reject their caregivers' values and disregard norms beyond the home. These adolescents turn to peers with a similar background, and learn it is better to protect oneself by being the predator rather than the prey (Millon, 2011). Results suggest adults with antisocial tendencies reported illegal activities and drug and alcohol use during childhood; they also endorsed parental absence or loss, consistent with Millon's hypothesis.

Assertive-Denigrating-Sadistic (ADS)

Results from this study partially supported Millon's hypothesis that childhood physical abuse, emotional abuse, significant parent-child conflict, conduct disorder during adolescence, and bullying peers are likely predictors of sadistic personality. Participants who reported

bullying others and behaviors consistent with conduct disorder scored in the assertive style range, while those who denied these behaviors fell in the non-elevated range. Participants who reported child physical abuse scored significantly higher on the sadistic scale compared to those who denied child physical abuse; however, these differences are not clinically meaningful, as both groups scored in the non-elevated range. Mean differences were not significant between those who endorsed or denied child emotional abuse; both groups fell in the non-elevated range.

Millon suggested adults with sadistic tendencies were likely cold or difficult infants, eliciting parental hostility. Parental hostility can also manifest from scapegoating the child due to the parent's anger. The main contributing factors to sadistic tendencies are parental cruelty and domination. Similar to the avoidant personality, sadistic individuals were also exposed to parental rejection and learned to view the world as hostile and unsafe. However, sadistic individuals were taught though conflict with family members that they were a force to be reckoned with; they learned they had the power to make others upset, reinforcing an image of power and control. Millon wrote "hostility breeds hostility" through vicarious learning, as the caregivers laid the foundation for how the child learned people relate to each other. In adolescence, the child may bully others, as they want to "live in the moment," often expressing anger and hostility towards others (Millon, 2011). Results suggest sadistic tendencies may be associated with bullying behaviors in adolescence, conduct disorder (i.e., illegal activities, using drugs and alcohol, harming others), and a history of physical abuse. Emotional abuse was not significant, suggesting physical abuse may be uniquely related to future sadistic tendencies.

Discontented-Resentful-Negativistic (DRN)

Results from this study partially support Millon's hypothesis that sibling rivalry in childhood and witnessing parental violence or arguments in childhood are likely predictors of

negativistic personality. Participants who reported witnessing domestic violence in childhood scored in the discontented style range compared to participants who denied witnessing domestic violence, who fell in the non-elevated range. Mean differences were not significant between those who endorsed versus denied sibling abuse in childhood; both groups fell in the discontented style range.

Millon proposed the most likely predictor of negativistic tendencies was a history of parents engaging in contradictory behaviors, resulting in confusion of how the child should feel about each parent. Parents may have shifted rapidly between nurture and hostility. The child was likely confused about behavioral expectations of their parents, as the same behavior was likely rewarded at one time and punished at another. The child likely served as the family mediator and witnessed fighting and abuse between parents, which required the child "switch sides" in order to maintain the peace. The child may also develop negativistic tendencies if they felt replaced by a younger sibling; the child may have been told being an older sibling is rewarding, while simultaneously receiving less attention and praise (Millon, 2011). Results suggest witnessing parental conflict, specifically domestic violence, likely contributes to negativistic personality traits.

Eccentric-Schizotypal-Schizophrenic (ESS)

Results from this study partially supported Millon's hypothesis that emotional abuse, emotional neglect, bullying peers, and parental mental illness are likely predictors of schizophrenic personality. Participants who endorsed child emotional abuse, emotional neglect, and being bullied scored in the eccentric style range, while those who denied these experiences fell in the non-elevated range. However, mean differences were not significant between those who reported versus denied parental mental illness, emotional abuse, and being bullied. There

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was a medium effect size for emotional neglect, indicating a difference of 0.73 standard deviations between those who endorsed versus denied emotional neglect.

Millon proposed that genetic factors may contribute to development of schizophrenic tendencies. As children, these individuals likely had difficulty relating to others socially, resulting in alienation and isolation. These children likely experienced an early history of humiliation, rejection, and abuse from parents, siblings, and peers, contributing to low self-esteem and distrust of others. To cope with distress, these individuals likely escaped inwards to their internal world and fantasies (Millon, 2011). Results suggest emotional abuse, emotional neglect, and bullying likely contribute to schizophrenic tendencies.

Mistrustful-Paranoid-Paraphrenic (MPP)

Results from this study partially supported Millon's hypothesis that childhood physical, emotional, and sexual abuse, emotional and physical neglect, and bullying peers are likely predictors for paraphrenic personality. Participants who reported child physical abuse, emotional neglect, physical neglect, and bullying behaviors scored significantly higher on the paraphrenic scale compared to those who denied these experiences. Scores were not significantly different for those who reported versus denied emotional abuse. Those who reported these experiences scored in the mistrustful style range, with those who denied these experiences scored in the non-elevated range. There was a large effect size for physical neglect, medium effect for emotional neglect and bullying behaviors, and small effect for physical abuse.

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Although the difference between those who denied bullying others and those who endorsed bullying others was significant, both groups scored in the mistrustful style range. Scores were not significantly different between those who endorsed versus denied child sexual abuse.

Millon (2011) proposed these children felt they would be punished or abandoned if they did not meet caregiver demands or expectations. They experienced abuse in childhood, as caregivers used them as scapegoats for their own anger. These children likely vicariously learned that aggression and abuse were acceptable forms of punishment when others don't meet expectations. Thus, these children learned to set unrealistic standards for others and lashed out when they failed to meet these expectations (Millon, 2011). Results suggest physical abuse and neglect, emotional abuse and neglect, and bullying peers likely contribute to paraphrenic tendencies.

Deferential-Attached-Dependent (DAD)

Results from this study did not support Millon's hypothesis that childhood illness or injury, sibling rivalry or aggressive siblings, and bullying victimization are likely predictors of dependent personality. Participants who reported sibling abuse, bullying victimization, or a history of illness or injury in childhood were not significantly different from those who denied these experiences; all groups fell in the deferential style range.

Millon proposed that injury or illness in childhood may have been associated with excessive care and doting from mothers, resulting in dependency on caregivers to meet needs. Further, an assertive, competent, or aggressive sibling may have resulted in the child comparing themselves to their sibling and resorting to caregivers to be "saved" from the siblings' trouble. During adolescence, the child likely felt inadequate or inferior, leading to bullying at school. But, the child could find safety at home with loving caregivers who made efforts to solve the problem or conflict (Millon, 2011).

Sociable-Pleasuring-Histrionic (SPH)

Results from this study did not support Millon's hypothesis that sibling rivalry or aggression is a likely predictor for histrionic personality. Histrionic scale scores were not significantly different between those who endorsed and denied sibling abuse. Millon proposed that children who later elevate the histrionic scale likely experienced inconsistent praise or struggled to earn caregiver praise and affection due to competition with a sibling. The child likely resorted to manipulating "cuteness" or charm to earn positive reinforcement from adults or caregivers, which persisted into adulthood (Millon, 2011). However, results suggest sibling abuse is likely not associated with elevations on the histrionic scale.

Ebullient-Exuberant-Turbulent (EET)

Results from this study did not support Millon's hypothesis that loss of a parent in childhood, whether through divorce, abandonment, or death, is a likely predictor for turbulent personality. Turbulent scale scores were not significantly different between those who endorsed or denied feeling abandoned as a child. Millon also hypothesized that losing a parent in childhood would be associated with higher turbulent scores, because turbulent individuals often reported painful experiences in childhood, including loss of parent. However, turbulent individuals seemed to have an uncanny ability to deny these painful feelings and typically report a happy, normal childhood (Millon, 2011). But, those who reported loss of a parent in childhood, whether it was due to abandonment, divorce, or death, scored significantly *lower* on the turbulent scale compared to those who denied loss of a parent; however, this mean difference is not clinically meaningful, as both scores fell in the non-elevated range.

Reliable-Constricted-Compulsive (RCC)

Results from this study did not support Millon's hypothesis that child physical abuse, emotional abuse, and emotional neglect are likely predictors of compulsive personality.

Participants who reported child emotional abuse, child physical abuse, and emotional neglect scored significantly *lower* on the compulsive scale, falling in the non-elevated range, compared to participants who denied these experiences, who fell in the reliable style range. Millon proposed that compulsive tendencies likely resulted from overcontrolling parents who weaponized punishment to "keep the child in line." Caregivers were likely very critical of the child's behaviors and rarely praised the child's achievements. When the child tried to become more independent, the parents likely lashed out verbally or physically. The child learned to stay within their parents' rules through fear and intimidation (Millon, 2011). Results contradict Millon's theory, suggesting that emotional abuse, physical abuse, and emotional neglect in childhood are likely not associated with compulsive tendencies; however, parenting style was not assessed to provide further context.

Limitations

Due to the small sample size, interpretive caution is warranted. The small sample size did not allow for regression analysis; thus, predictive conclusions cannot be made. Further, 32% of participants resided in the upper Midwest, and 52% were enrolled in college or university at the time of participation, suggesting external validity may be limited. Additionally, only participants who reported a history of seeing a mental health professional or mental health difficulties were allowed to participate in the study. Results may differ in a non-clinical sample.

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This study is considerably limited due to inadequate consideration of stressors and trauma related to discrimination and oppression. The childhood adversity survey did not include items regarding adversity, stress, or trauma related to identification with a minoritized group. The minority stress model proposes that the chronic stress, stigma, and accumulation of discriminatory experiences associated with living in a predominantly White, cisgender,

heteronormative culture contributes to negative mental and physical health outcomes for LGBTQ+ individuals and racial and ethnic minority groups (Meyer, 2003). Research has demonstrated that racial trauma significantly impacts psychological wellbeing, with many adults reporting PTSD symptoms (Sibrava et al., 2019). Similar research has demonstrated the LGBTIA+ population experiences the same effects from discrimination, harassment, and oppression (Keating & Muller, 2020; Russell & Fish, 2016).

Data was collected during Spring and Summer of 2022. The Covid-19 pandemic began in winter of 2020 with many individuals in the United States quarantining throughout 2020 and 2021. The timing of data collection may have influenced personality scores, as quarantine requires individuals to isolate and engage in individual activities more often than group or social activities. The pandemic also increased financial, employment, health, and familial stress, which are often associated with increased loneliness, depression and anxiety.

Future Directions

Beyond Millon's hypotheses. Future research should evaluate whether other types of adversities or trauma are associated with each personality scale. Regression analysis may be used to assess whether specific adversities or clusters of adversities predict specific elevations on MCMI-IV scales. Additionally, Millon's theory (2011) is limited by a heteronormative and ableist worldview. The MCMI-IV was normed on individuals who identified as either male or female; individuals who do not identify as male or female do not currently have a norming sample to reference scores. Millon adheres to stereotypical gender norms and assumes that illness or disability leads to problematic responses from family members and peers. Millon's hypotheses include discussion of parental gender rules; while Millon discussed the potential impact of domestic violence perpetrated by a maternal figure, Millon did not discuss domestic

violence perpetrated by a parental figure. Future research may expand the literature to include a variety of gender identifications, sexualities, and experiences of disabled individuals.

Adaptive traits. One literature review on childhood trauma and personality disorders found children appeared resilient to traumatic experiences that are generally assumed to lead to psychopathology (Paris, 1998). Dumont and colleagues (2007) attempted to identify predictors of resilience in abused and neglected children by evaluating nearly 700 documented cases of childhood abuse and neglect from the Midwest in the 1960s and 1970s. Nearly half of abused and neglected children were considered resilient in adolescence, and one-third of these children were considered resilient in young adulthood, with "resiliency" defined as being successful in the following eight categories: education, psychiatric disorder, substance abuse, official reports of arrests, self-reports of violent behavior, employment, homelessness, and social activity. Surprisingly, environmental factors like neighborhood advantage did not have a direct effect on resiliency but did moderate the relationship between household stability and resiliency in adolescence. Environmental factors also moderated the relationship between cognitive ability and resiliency in young adulthood. Researchers concluded that individual characteristics and traits likely play a role in resiliency by interacting with environmental factors, such as a stable household and neighborhood advantage (Dumont et al., 2007).

Millon's hypotheses about adaptive traits in his personality prototypes may be considered a form of resiliency, since personality disorders measured by the MCMI-IV may have served an adaptive, evolutionary purpose to survive in the face of childhood adversity (Millon, 2011). Millon's personality prototypes may also encompass adaptive traits for individuals as adults; for example, individuals who elevate the antisocial scale tend to value independence and are effective leaders (Millon, 2011). Leaf and colleagues (1990) investigated "healthy" correlates of

Millon's histrionic, narcissistic, antisocial, and compulsive personalities measured by the MCMI-III in 1,000 adults. "Healthy" correlates included measures of mental health and life satisfaction – the General Health Questionnaire (GHQ; Goldberg, 1972), Satisfaction with Life Scale (Diener et al., 1985), General Well-Being Scale (GWB; DePuy, 1984) and Beck Depression Inventory (Beck & Beck, 1972). High elevations on the narcissistic, histrionic, antisocial, and compulsive MCMI-III scales were significantly "healthier" than those without personality disorders and those with other personality disorders, suggesting histrionic, narcissistic, antisocial, and compulsive personalities may encompass or facilitate adaptive traits in adulthood (Leaf et al., 1990).

Practitioners and researchers would benefit from research on potential adaptive traits associated with Millon's personality prototypes. While maladaptive characteristics that contribute to an individual's distress and daily functioning are important to address for intervention purposes, understanding and acknowledging adaptive traits build rapport between the therapist and client. Seligman's positive psychology framework for understanding and researching positive traits and strengths across individuals provide one lens for understanding and researching these adaptive traits. Seligman worked to create assessments that can facilitate research and can combine positive psychology with more pathology-focused subjects in psychology, such as childhood adversity and personality disorders. Seligman's Value in Action (VIA) classification of character strengths is one potential method of evaluating strengths associated with personality prototypes (Seligman et al., 2004). To develop the strength classification, the researchers reviewed literature from psychiatry, youth development, character education, religion, philosophy, and psychology and created a list of potential strengths. They

narrowed the list down to 24 universal core character strengths using the following seven criteria.

1. The strength must be evident in an individual's thoughts, feelings, and/or actions in a way that it can be assessed. The strength should be present across situations and stable across time.
2. The strength contributes to fulfillments for the self and others and determines how an individual copes with adversity.
3. The strength is morally valued on its own, even in the absence of obvious positive outcomes.
4. A strength in one individual does not diminish others but uplifts them.
5. The larger society provides systems and institutions to cultivate strengths, especially for children and adolescents.
6. A strength is easily identified in paragons of virtue, or ideal examples of individuals with that trait.
7. The strength is unidimensional and cannot be further broken down into smaller units.

This classification of strengths is of particular interest to researchers because the strengths were developed systematically with the goal of creating a valid and reliable assessment. One of the first projects Seligman and his colleagues commissioned was a literature review by experts to gather as much information as possible on all 24 character strengths that were narrowed down using these seven criteria from a much larger list (Peterson & Seligman, 2004). In most cases, there were reliable and valid methods of measuring each strength as individual differences, but there were some exceptions. Because these strengths were evaluated with a self-report survey, individuals may not report an accurate self-report of their own traits and virtues.

For example, they found the strengths modesty and humility were difficult to assess accurately in a self-report. With this information, they created the VIA Inventory of Strengths (VIA-IS) for English-speaking adults in the Western world, which is a face-valid 240 item self-report questionnaire using a 5-point Likert-type scale. All 24 scales demonstrated internal reliability greater than .70, and test-retest coefficients for all scales over a period of four months were greater than .70. The highest mean scores were consistently found for the strengths kindness and love, and lowest for forgiveness, prudence, humility, and self-regulation. A common critique of the VIA-IS was possible the bias for socially desirable self-reports; however, the researchers demonstrated that social desirability measured by the Marlow-Crowne Social Desirability Scale (Crowne & Marlowe, 1964) did not significantly correlate with scale scores, except for prudence (r = .44) and spirituality (r = .30). In validating the VIA-IS, researchers also discovered that individuals who recovered from physical or psychological trauma or difficulties typically scored higher on appreciation of beauty, gratitude, and hope (Seligman, Park, & Peterson, 2004).

Millon (2011) proposed there are limitations and impairments associated with each personality prototype, but there are also adaptive characteristics, such as ability to form social relationships or creativity, which may be uniquely associated with each prototype. Millon argued impairments associated with each prototype were likely adaptive at one time during childhood. Research examining the correlational relationship between adaptive characteristics measured by Seligman's 24 character strengths (Peterson & Seligman, 2004) and each MCMI-IV personality prototype would contribute to establishment of test validity. This analysis would facilitate therapeutic relationships by allowing the clinician to better understand possible positive characteristics of each personality prototype.

Conclusion

In conclusion, this study lays the foundation for future projects evaluating childhood adversity, abuse, and trauma as it relates to Millon's hypotheses about personality development and the MCMI-IV. Further research will test Millon's hypotheses about how childhood experiences affect personality traits, so clinicians may better understand and interpret personality scores in relation to a client's reported history.

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