Exploring how the Dark Tetrad is associated with coping: An intensive longitudinal daily diary approach

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Table of Contents

Abstract

Personality is broadly defined as a stable and enduring configuration of cognitions, emotions, and behaviours that influence how an individual experiences everyday life. The Dark Tetrad describes a cluster of subclinical and socially aversive, "dark" personality traits (i.e., Psychopathy, Narcissism, Machiavellianism, and Sadism). Personality, including varying degrees of dark personality traits, can influence the way that one copes. Coping consists of methods that one employs to deal with stressors or their associated emotional responses, and these methods can be adaptive or maladaptive. Although much research has examined how individuals higher in Dark Tetrad traits react to and experience stress, less research has been conducted directly examining how they *cope with* stress. The current study sought to evaluate and clarify how individuals higher in Dark Tetrad traits cope with daily stressors and to address stark methodological gaps in the literature. It was hypothesized that those with higher levels of Dark Tetrad traits would endorse greater maladaptive coping strategies (i.e., emotion-focused and avoidant/disengaged coping) in stressful daily situations compared to those with lower levels of Dark Tetrad traits. Undergraduates (N=359) were recruited for an intensive longitudinal (daily diary) study. Participants completed self-report measures on baseline personality, followed by a short daily survey each day for 14 days that evaluated stressors experienced over the last day and the methods that participants used to cope with them. Multilevel regression analyses revealed that hypotheses were generally supported, such that individuals higher in Psychopathy, Machiavellianism, and Sadism endorsed more emotion-focused and avoidant/disengaged coping, whereas, those higher in Narcissism endorsed a combination of all types of coping (both adaptive and maladaptive). However, there were very few *interactions* between personality and daily stress to predict coping. Findings can inform researchers and clinicians in the preferred coping

methods employed by those with darker personalities within average, non-forensic daily contexts. By providing greater understanding into the complexities of coping and the Dark Tetrad, researchers and clinicians can better predict how individuals will respond to stress and thus plan pre-emptive interventions accordingly.

How the Dark Tetrad is associated with coping with everyday stressors: An intensive longitudinal daily diary approach

Life is comprised of a complex interplay between one's experiences and one's personality. Personality is relatively stable across the lifespan, and encompasses many aspects of what makes one human (i.e., cognitions, emotions, behaviours; American Psychological Association, n. d.; McCrae & Costa, 1990). To explain why individuals behave in certain ways, there is a plethora of conceptual models to illustrate personality, such as the Big Five/Five Factor Model (FFM) and HEXACO (Ashton & Lee, 2020; Costa & McCrae, 1992a). Although not an overarching model per se, one group of important personality traits is that of the Dark Tetrad (Paulhus & Williams, 2002; Johnson et al., 2019). The Dark Tetrad encompasses four personality traits generally considered to be socially aversive and "dark". These include Psychopathy (e.g., remorselessness, lack of empathy, deceptiveness), Narcissism (e.g., egotism, grandiosity, entitlement), Machiavellianism (e.g., cynical world view, manipulativeness), and recently added, Sadism (e.g., enjoyment of another person's pain or misfortune; Johnson et al., 2019; Paulhus et al., 2021). Higher levels of these Dark Tetrad traits are associated with numerous unpleasant outcomes, often interpersonal (Coid et al., 2009; DeLisi et al., 2017; Forth et al., 2021; Wink, 1991).

Personality, such as the Dark Tetrad, is recognized as influencing how one behaves in and perceives everyday life (American Psychological Association, n. d.; McAdams & Olson, 2010; Paunonen & Jackson, 2001). Notably, personality impacts how one copes with stressors, such that individuals higher in certain personality traits are commonly found to engage in certain coping strategies (e.g., higher Neuroticism is associated with withdrawal; Connor-Smith & Flachsbert, 2007). The literature evaluating personality and coping – both separately and together

– is large, but the literature evaluating the Dark Tetrad and coping is significantly smaller. Higher levels of Dark Tetrad traits are associated with antisocial and self-destructive behaviour, similar to the poor outcomes experienced by those who engage in maladaptive coping (i.e., psychological, physiological, and interpersonal dysfunction; Compas et al., 2017). Therefore, research into how individuals higher in the Dark Tetrad traits cope can provide valuable information regarding how these individuals behave in normal, daily settings.

The present study sought to further understand the complex interplay between personality and coping with individuals in university, specifically how individuals higher in Dark Tetrad personality traits cope with daily stressors. First, a description of what personality is and its associated research will be summarized, followed by detailed descriptions of the current research regarding each Dark Tetrad trait (i.e., Psychopathy, Narcissism, Machiavellianism, and Sadism). Subsequently, coping will be defined as well as two theoretical models of coping (i.e., a transactional model and a self-regulatory model). Research regarding personality and coping will be explored with emphasis on relevant Dark Tetrad findings. Then important gaps in the literature are explained and the goals of the present study elucidated. Finally, the study itself, results, and implications are discussed.

Personality

The concept of *personality* emphasizes individual differences and stable individual patterns in thought, feeling, and action (McCrae & Costa, 1990). Specifically, the American Psychological Association broadly defines personality as “the enduring configuration of characteristics and behavior that comprises an individual’s unique adjustment to life, including major traits, interests, drives, values, self-concept, abilities, and emotional patterns” (American Psychological Association, n. d.). There is general consensus that personality is a major

determinant in behaviour and, to some degree, life trajectory (American Psychological Association, n. d.; McAdams & Olson, 2010; Paunonen & Jackson, 2001; Suls et al., 1996). Though personality can possess fluctuations and changes over long periods of time, it generally stabilizes in late-adolescence into young adulthood (Cobb-Clark & Schurer, 2012; Costa & McCrae, 1986; Hampson & Goldberg, 2006; Hoff et al., 2020), and it is shaped by heritable and environmental influences. Given its role in influencing one's everyday life, theories abound attempting to conceptualize and explain personality (American Psychological Association, n. d.).

One of the leading models of personality is the Big Five or Five Factor model (FFM). This model posits that human personality can be summarized along a continuum of five broad factors: Openness to Experience, Conscientiousness, Extraversion, Agreeableness, and Neuroticism (e.g., Costa & McCrae, 1992a). Within each factor, there are *facets,* (e.g., competence, warmth, straightforwardness, anxiety; Costa & McCrae 1992b) and associated behaviours (e.g., talkativeness, withdrawing). This model rose to prominence in the 1980s and has since dominated much of personality research (Ashton & Lee, 2020). The appeal of the Big Five/FFM is its dimensionality, such that most behaviours, associated facets, and individual differences can be described by combinations of Big Five/FFM traits of differing magnitudes (Paunonen & Jackson, 2001; Suls et al., 1996). Due to its dimensionality, the Big Five/FFM carries immense potential in describing and predicting human behaviour, spanning everyday nonclinical experiences to problematic clinical manifestations (Paunonen & Ashton, 2001; Samuel et al., 2013; Widiger et al., 2012; Widiger et al., 2018).

Another widely used personality model is the HEXACO model, which posits six personality factors: Honesty-Humility, Emotionality, eXtraversion, Agreeableness, Conscientiousness, and Openness to Experience (Ashton & Lee, 2020). Most of the traits

(Extraversion, Conscientiousness, Emotionality, Agreeableness and Openness to Experience) are very similar to their Big Five/FFM counterparts; whereas, Honesty-Humility is unique to HEXACO. Ample research has been conducted since the introduction of the HEXACO model, and much of it provides support for its theoretical, empirical, and predictive advantages (e.g., Ashton & Lee, 2007; Volk et al., 2020), particularly in predicting antisocial behaviours (e.g., Lee et al., 2013). As such, personality is a complex construct and can be conceptualized, described and quantified in countless ways.

Since personality can be conceptualized in a variety of ways, researchers have begun to extend beyond the Big Five/FFM and HEXACO. Paunonen and Jackson (2001) found that there are traits that could be construed as independent from the Big Five/FFM, such as religiosity, honesty/morality, eroticism/sensuality, masculinity/femininity, and humour. The existence of extraneous traits that cannot quite be subsumed under the overarching Big Five/FFM traits underscores the importance of evaluating alternative models of personality. Limiting research to one or two popular models holds the potential to neglect important aspects of human nature, and having numerous explanatory models for is expected, if not encouraged (Hilbig et al., 2020).

Indeed, new models are continuously hypothesized and explored, such as a cybernetics model of personality (attached to the Big Five/FFM; DeYoung, 2015) and Eysenck's "giant three" consisting of Psychoticism, Extraversion, and Neuroticism (Eysenck, 1994). A common theme of the aforementioned models is that these models describe "neutral" traits. In other words, traits like Conscientiousness and Extraversion can be construed as "good" or "bad" based on how much of them an individual has (e.g., being Conscientious is commonly considered a good thing until it exists in high enough levels to become problematic). As burgeoning

personality research drifts toward specificity, and dimensionality becomes the standard, other models are narrowing and exploring specific concepts like “light” and “dark” traits.

When Paunonen and Jackson (2001) identified traits that are not encompassed by the Big Five/FFM, among them were slyness, deception, manipulation, egotism, snobbishness, risk-taking and thrill-seeking. Considered negative, these traits commonly lead to dangerous behaviour and interpersonal problems (e.g., Baumeister et al., 1996; Waddell et al., 2020). Such negative traits fall under a “dark” personality umbrella known as the Dark Triad or, recently, Dark *Tet*rad (Johnson et al., 2019; Katz et al., 2022; Paulhus & Williams, 2002; Paulhus et al., 2021). The Dark Tetrad conceptualizes the darker side of human nature, which can stand alone or be incorporated under other overarching personality models (namely, the Big Five/FFM or HEXACO; Lee & Ashton, 2014). Having a thorough appreciation of how individuals higher in Dark Tetrad traits behave, especially in normal everyday contexts, is imperative when it comes to predicting subtle, negative behaviours before they escalate. Moreover, elaborating on alternative personality models beyond the Big Five/FFM and HEXACO can illuminate aspects of human behaviour that may be novel or neglected, or simply illustrate how other distinctive traits *do* nest within the Big Five/FFM and HEXACO. The Dark Tetrad represents a collection of personality traits that can have significant and reverberating impacts on everyday life that only worsen when one possesses higher levels of these traits.

The Dark Tetrad

Much research into the “darker” side of personality identified numerous traits connected to antisocial behaviours that are both subtle (e.g., lying) and destructive (e.g., aggression, criminality), and often pertain to the Dark Tetrad. The traits that comprise the Dark Tetrad

include Psychopathy, Narcissism, Machiavellianism, and more recently (and controversially), Sadism (Chabrol et al., 2009; Paulhus & Williams, 2002).

Psychopathy

Psychopathy is characterized by a lack of empathy, emotional disconnection, low impulse control, interpersonal manipulation, and parasitic and antisocial behaviours (Cleckley, 1941; Hare, 2003; Paulhus & Williams, 2002). Approximately 10-15% of offender populations would meet criteria for a diagnosis of "psychopath," but psychopaths are estimated to be approximately 1% of the general, non-forensic population (Coid et al., 2009; Hare, 2003). Evidently, individuals with extreme levels of Psychopathy often encounter the criminal justice system, engage in antisocial behaviour, and are at risk for recidivism (Hemphill et al., 2011). However, it is also very common for individuals to display some Psychopathic tendencies and maintain a subclinical status, outside of the criminal justice system (Coid et al., 2009). This is evidenced by the plethora of research examining Psychopathy and the Dark Tetrad in "normal" populations, particularly undergraduates and community adults (e.g., Blais et al., 2014; Bronchain et al., 2021; Dawel et al., 2019; Furnham et al., 2013; Jones & Paulhus, 2014; Paulhus & Williams, 2002). Thus, it is possible for some people to have more Psychopathic tendencies than others, and for these higher tendencies to have reverberating impacts in daily life.

In community and student samples, Psychopathy is associated with boldness (Wall et al., 2015), callousness (Bader et al., 2021; Watt & Brooks, 2012), erratic lifestyle (Jonason et al., 2015; Watt & Brooks, 2012), risk-taking and impulsivity (Jonason et al., 2015), negative mental and physiological outcomes (Jonason et al., 2015), substance use (Curtis et al., 2020; Jauk & Dieterich, 2019; Watt & Brooks, 2012), detachment from other people (Baughman et al., 2014; Hancock et al., 2018; Smith et al., 2019), entitlement (Fix & Fix, 2015), vindictiveness (Bader et

al., 2021), spitefulness (Jordan et al., 2022), manipulation (Ok et al., 2020; Rauthmann, 2011; Watt & Brooks, 2012), uncaring about responsibility or fairness (Dinkins & Jones, 2021), lower mood (Fix & Fix, 2015), and delinquency and criminality (Colins et al., 2015; Fix & Fix, 2015). Importantly, aggression and antagonism are consistent, significant behaviours of those higher in Psychopathy (Bronchain et al., 2021; Hayes et al., 2021). Miller and Lynam (2015) found that undergraduates who resembled the "prototypic psychopath" were most likely to behave aggressively while doing laboratory tasks, and they displayed preferences for aggressive choices in tasks where they could choose their response. Similarly, as aggression often leads to violence, Psychopathy is related to increased reactive (i.e., impulsive emotional response) and instrumental (i.e., controlled, goal-oriented, proactive) violence, and this association exists for both offender and non-offender samples (e.g., Asscher et al., 2011; Blais et al., 2014; Walters 2003ab). These findings extend into the virtual realm, with those higher in Psychopathy being more likely to engage in cyberaggression, cyberstalking, hostile language, and technology-facilitated sexual violence online (Csordas et al., 2022; Hancock et al., 2018; Moor & Anderson, 2019). This psychopathic propensity toward antisocial behaviours is potentially explained by the recurrent finding that those higher in Psychopathy lack empathy and do not care for others the same way that others do, if at all (Dawel et al., 2019; Driessen et al., 2021; Fix & Fix, 2015; Hare, 2003; Paulhus & Williams, 2002; Takamatsu, 2018; Watt & Brooks, 2012).

Those higher in Psychopathy are paradoxical, such that they can fit in with other people to the point of being likeable, coined "the mask of sanity" (Cleckley, 1941; Eisenman, 1980; O'Toole et al., 2012), yet are also prone to interpersonal dysfunction (Fix & Fix, 2015). Ample research shows that those higher in Psychopathy are better able to identify whether or not one had been previously victimized simply based on personality traits, gait, and body language

(Book et al., 2021; Dinkins & Jones, 2021; Ritchie et al., 2019; Wheeler et al., 2009). This is concerning as those that are particularly inclined to antisocial behaviour may subsequently be more likely to prey on individuals they perceive as vulnerable and adjust their behaviours accordingly to get close and get what they want (Dinkins & Jones, 2021; Rauthmann, 2011; Ritchie et al., 2019), thus bringing harm to those around them and themselves. Lacking empathy and guilt for these actions are key indicators of Psychopathy.

Those higher in Psychopathy seem to have reduced emotional attention. For example, they have greater difficult attending to the emotions of themselves and others (Blair & Mitchell, 2009), which aligns with theories related to amygdala dysfunction (e.g., Kiehl, 2006). For example, when Dawel and colleagues (2019) presented faces displaying different emotions to young adult participants, the ability to discriminate distress in those higher in Psychopathy was reduced compared to normal controls. They also had fewer intentions to help those in genuine distress. Related findings also indicate that although those higher in Psychopathy have greater adverse childhood experiences (Gobin et al., 2015; Moreira et al., 2020; Schimmenti et al., 2015), those in a forensic sample self-reported *lower* traumatic events and lower traumatic stress scores (Pham, 2012). There is a clear deficiency in affect and appropriate processing of unpleasant events, also extending to a general reported lack of stress and anxiety (Hare, 1993; Lee & Salekin, 2010; O'Neill et al., 2009; Wendt & Bartoli, 2019; Willemsen et al., 2012). Indeed, those higher in Psychopathy self-report under-arousal and lower HPA axis activation (i.e., endocrinal system involved in stress response, such as releasing hormones and increased heartrate) in stressful conditions, in both men and women (Cima & Nicolson, 2021; Lee & Salekin, 2010; O'Leary et al., 2010), and possess lower arousal and salivary cortisol levels, (Cima & Nicolson, 2021; Dawel et al., 2019; Lee & Salekin, 2010). Such findings provide

explicit support to the notion that individuals with psychopathic traits may be prone to less physiological stress experience. These findings may extend to everyday life, such as the context of coping with stress. If those higher in Psychopathy are not properly attuned to themselves, others, and the daily stressors unfolding around them, they may react inappropriately or dangerously, potentially harming themselves or others.

Clear gender differences in Dark Tetrad traits exist in the literature as well. Men reliably possess higher levels of Psychopathy and are more likely to engage in Psychopathy-related behaviours than women (e.g., Bronchain et al., 2021; Durand & Plata, 2017; Hayes et al., 2021; Jonason & Webster, 2010; Jonason et al., 2015; Jonason et al., 2020; Jones & Paulhus, 2014; Lee & Salekin, 2010; Rogoza et al., 2021; Watt & Brooks, 2012). Facet-level gender differences exist too, such as callousness, fearlessness, and impulsivity being more present in undergraduate men, and anger more present in undergraduate women (Bronchain et al., 2021; Lee & Salekin, 2010). In both men and women, greater Psychopathy is associated with lower emotional intelligence (Jauk et al., 2016; Visser et al., 2010), further supporting that those higher in Psychopathy have issues in perceiving, processing, and understanding emotion or stress (Kirsch & Becker, 2007). Given the evidence, the ability for those higher in Psychopathy to properly discern everyday events is attenuated in both men and women.

The aforementioned findings describe Psychopathy as an overarching construct; however, theorists have split the trait into *Primary* and *Secondary* Psychopathy. Primary Psychopathy is characterized as more emotionally stable, proactive with high agency, and lower stress reactivity (Hicks et al., 2004; Lee & Salekin, 2010; Wendt & Bartoli, 2019). Secondary Psychopathy is characterized as less stable and more reactive, impulsive, and aggressive, with increased emotionality and anxiety (Hicks et al., 2004; Lee & Salekin, 2010; Wendt & Bartoli, 2019).

When divided into Hare's (2003) factor structure, Primary Psychopathy aligns with "Factor 1," pertaining to more interpersonal, affective manipulation (e.g., shallow emotion, deception, lack of empathy, glibness and superficial charm). Whereas, Secondary Psychopathy aligns with "Factor 2," pertaining to more behavioural impairments (e.g., parasitic lifestyle, antisociality, criminality, impulsivity; Hare, 2003). Regardless of whether Psychopathy truly exists as a single trait or can be divided into two representations, it is considered a damaging trait to have in high levels, with consequences for the self and others, even within average subclinical populations like community adults or undergraduates.

Narcissism

Narcissism is characterized by elevated self-image and arrogance, entitlement and haughtiness, a need for admiration, but also sensitive self-esteem (American Psychiatric Association, 2022; Cheng et al., 2013; Miller et al., 2011; Wink, 1991). Similar to Psychopathy, it is possible for everyday individuals to possess elevated but subclinical levels of Narcissism, and for these to have internal and external consequences.

Narcissism is divided into subtypes: those that are *grandiose* and those that are *vulnerable.* Grandiose Narcissism is distinguished by rampant grandiosity, aggression, dominance, interpersonal exploitation, antisociality, a desire to "win" at any cost, and a need for excessive admiration (American Psychiatric Association, 2022; Cain et al., 2008; Chan & Cheung, 2022; Miller et al., 2011; Russ et al., 2008; Wink, 1991). Vulnerable Narcissism is distinguished by a defensive and insecure grandiosity, negative affect, avoidance, feelings of stark inadequacy, shame, elevated stress and cortisol levels, and sensitivity to criticism/failure (American Psychiatric Association, 2022; Cain et al., 2008; Cheng et al., 2013; Miller et al., 2011; Russ et al., 2008; Wink, 1991). Both subtypes are linked to entitlement and cognitions that

they are better than others (Miller et al., 2011). Those higher in Grandiose Narcissism are described as bossy, argumentative, dishonest, and cruel; whereas, those higher in Vulnerable Narcissism are emotional, defensive, anxious, and complain (Cain et al., 2008; Wink, 1991).

Whether grandiose or vulnerable, those high in Narcissism thrive on attention, success, and possessing power. The more power, praise, pleasure, or positive interactions they receive, positive feelings increase, and much of what a Narcissistic individual does is generated out of self-interest (Giacomin & Jordan, 2014). Depending on the situation, one's experiences and interpersonal interactions can bolster or diminish the degree of Narcissism one holds, specifically in the case of Grandiose Narcissism (Giacomin & Jordan, 2014). Their self-concept and self-esteem are impacted by the natural fluctuations and stressors of daily life (Giacomin & Jordan, 2014). In sum, Narcissism is conceptualized as tiptoeing the line between "an unconscious sense of inadequacy and a conscious feeling of superiority" (p. 211, Lambe et al., 2018). It is a self-esteem "addiction" (Baumeister et al., 2001) that is at the mercy of life's events.

Due to Narcissism's preoccupation with the self, Narcissism frequently invokes interpersonal issues, such as hostile reaction, manipulation, and potentially aggression (American Psychiatric Association, 2022; Kauten et al., 2013). The risk of aggression increases with provocation and this finding extends to all forms of violence (e.g., physical and verbal, direct and indirect), all forms of Narcissism (i.e., Grandiose and Vulnerable), and to undergraduate samples (Hart et al., 2021; Kjærvik & Bushman, 2021). Researchers suggest that due to their "thin skins," provocation could dismantle their internally constructed self-image, jeopardizing their self-esteem, and thus prompt aggressive, cruel, or vengeful responses in order to cope (Hart et al., 2021; Kjærvik & Bushman, 2021; Miller et al., 2011). Interestingly, Narcissism appears contradictory in nature. In order to improve their self-image, they need admiration from others.

But when their self-image is threatened, they often resort to negative behaviours to salvage their self-esteem, sometimes taking the form of damaging or avoiding interpersonal relationships. Moreover, their grandiose fantasies of wealth and power exist in stark contrast with concealed issues in self-esteem and inadequacy (American Psychiatric Association, 2022; Cain et al., 2008; Cheng et al., 2013; Miller et al., 2011; Russ et al., 2008; Wink, 1991).

Also contradictory, a portion of the literature is dedicated to the *adaptive* aspects of Narcissism. The "bright" side of Narcissism includes adaptive self-assuredness, charm, interpersonal success (Back et al., 2013), mental toughness (Papageorgiou et al., 2017; Papageorgiou et al., 2018), motivation, emotional intelligence (Petrides et al., 2011), and prosocial qualities (Veselka et al., 2012). It is not uncommon for those high in Narcissism to be high achievers and successful, especially in their chosen occupations (American Psychiatric Association, 2022). Seeking and receiving admiration is not necessarily bad in moderation (Back et al., 2013), and cultivating positive self-esteem is often a goal in psychological interventions. Only when this self-love becomes excessive does Narcissism veer dangerously into darker territory, such as rivalry (linked to negative self-esteem) and impairing self-consciousness (Back et al., 2013). Grandiose Narcissism is considered the more "adaptive" of the two versions, due to greater overall stability and resilience (Miller et al., 2011), high Extraversion and Openness to Experience, and lower negative emotions and emotional dysregulation (Zhang et al., 2017). Conversely, Vulnerable Narcissism is prone to increased reactivity and emotional dysregulation, Neuroticism, internalizing emotions, and a hostile attribution bias, thus posing a risk to engage in maladaptive behaviours (Miller et al., 2011; Zhang et al., 2017). Of the Dark Tetrad, Narcissism is considered the lightest trait, and may contain positive qualities that offset the negative ones, particularly over the course of daily life.

Narcissism is common in both men and women, although men display higher levels of it among undergraduate and community adult samples (e.g., Jonason et al., 2020). Grijalva and colleagues (2015) conducted a meta-analysis on gender differences in Narcissism and noted that not only did men have higher levels of Narcissism, but this finding is stable across age groups and university/college samples over time. However, effect sizes were small in their meta-analysis, so interpretation is with caution. Moreover, in undergraduates of both genders, Vulnerable Narcissism is independently and positively associated with depression, anxiety, and stress (Chan & Cheung, 2022). Across genders and demographics, particularly young adults, higher levels of Narcissism are paradoxically linked to a myriad of maladaptive and adaptive facets and behaviours.

Machiavellianism

Machiavellianism is derived from Niccolò Machiavelli, who penned a Renaissance-era political treatise titled *The Prince,* which describes how to be an effective ruler (Jones & Paulhus, 2009). It describes the art of control, manipulation, and interpersonal strategy to get what one wants; wherein the end justifies the means, no matter the cost. As such, *Machiavellianism* is characterized by exploitation, manipulation, and clever strategy to achieve one's goals (Christie & Geis, 1970; Paulhus & Williams, 2002). Unlike Psychopathy and Narcissism, Machiavellianism has no clinical counterpart (i.e., Psychopathy is similar to Antisocial Personality Disorder and Narcissism is related to Narcissistic Personality Disorder; American Psychiatric Association, 2022). Regardless, like Psychopathy and Narcissism, when these traits are at higher levels, there are still various impacts on one's life.

Those higher in Machiavellianism engage in a host of antisocial behaviours and inclinations. They possess a distinctly manipulative interpersonal style and a great willingness to

exploit others (Christie & Geis, 1970; Paulhus & Williams, 2002; Paulhus, 2014; Shafer & Simmons, 2008). They achieve what they desire by gaining control of others and/or winning their approval for later manipulation (Rauthmann, 2011). High levels of Machiavellianism is associated with entitlement, mistrust, and emotional deprivation (Blötner & Bergold, 2021; Láng, 2015); antagonism and spitefulness (Jordan et al., 2022; Kircaburun & Griffiths, 2018); disagreeableness, cynicism, and lying (Blötner & Bergold, 2021); negative psychological and physical health conditions (Jonason et al., 2015); higher problematic online gaming, gambling, and cyberbullying (Kircaburun & Griffiths, 2018; Wright et al., 2022); increased workplace bullying (Linton & Power, 2013); and being cold and aloof (Rauthmann, 2011). Similar to Psychopathy and Narcissism, men consistently report higher levels of Machiavellianism compared to women (e.g., Collision et al., 2021; Szabó & Jones, 2019; Zhu et al., 2021).

Those high in Machiavellianism thrive on control, especially in instances where they perceive they lack it (Aldousari & Ickes, 2021). Like Psychopathy, those higher in Machiavellianism are able to perceive victim vulnerability via gait cues (Ritchie et al., 2019) and are more likely to perceive others as weak, anxious, depressed and neurotic (Black et al., 2014). According to Christie and Geis (1970), they lack empathy, they focus on getting things done regardless of cost, and they hold an instrumental view of others for their deceit. Those higher in Machiavellianism are likely to engage in sexual behaviour for selfish reasons, such as goal attainment, revenge, and stress reduction, rather than interpersonal connection or love (Brewer & Abell, 2015; Jones & Paulhus, 2009; Smith et al., 2019). This mindset and these behaviours reflect a stark moral disengagement (Abdollahi et al., 2021). All of these findings have been established with undergraduate populations, as well as general community samples. Evidently,

those higher in Machiavellianism have a unique and potentially harmful way of moving through daily life.

A common theory is that the manipulativeness of Machiavellianism is better conceptualized as a facet of Psychopathy (e.g., Katz et al., 2022), which perhaps impacts our understanding into Machiavellianism as a standalone trait. Previous researchers proposed that the Dark Tetrad traits are more in line with a *Dark Dyad* or bifactor model, consisting of a single combined Psychopathy-Machiavellianism construct and treating Narcissism as a separate entity (Egan et al., 2014; Jonason & Luévano, 2013; Rogoza & Cieciuch, 2020). However, advocates of Machiavellianism's inclusion in the Dark Tetrad note that those higher in Machiavellianism are characterized by their *non-violent* and strategic planning (e.g., "playing nice") as opposed to Psychopathy's propensity toward using violence (Paulhus et al., 2018; Paulhus & Williams, 2002). Jones and Mueller (2022) posit that the primary delineation between Psychopathy and Machiavellianism is *when* these traits predict behaviours, such as antisociality or coping. To maintain nuance in the present study, I evaluated Machiavellianism as its own trait.

Sadism

Sadism is a newer addition to the original Dark Triad (i.e., only Psychopathy, Narcissism, Machiavellianism), transforming it into a Dark *Tet*rad (e.g., Buckels et al., 2013; Neumann et al., 2022; Paulhus et al., 2021). "Sadism" is the derivation of pleasure from others' pain (Buckels et al., 2013; Foulkes, 2019; O'Meara et al., 2011; Paulhus, 2014; Plouffe et al., 2021). Often, it is used in the context of sexual sadism, notably in forensics or bondage/discipline sadomasochism (BDSM) circles (Fedoroff, 2008; Palermo, 2013). For example, forensic research has noted that sadistic individuals are likely to be criminally versatile, engaging in sexual and nonsexual offenses alike, ranging in severity (DeLisi et al., 2017). Understanding how normal, subclinical

individuals higher in Sadism behave, think, and cope with stress can aid in predicting sadistic behaviour before it escalates into damaging criminal behaviour. In the context of the present study, the focus is on *every day,* subclinical Sadism, which does not necessarily involve sexual connotations and could simply indicate an enjoyment of others' misfortunes (Foulkes, 2019; Liu et al., 2020; Palermo, 2013; Paulhus, 2014). Like sexual and criminalistic Sadism, everyday Sadism can have adverse effects.

Individuals higher in everyday Sadism are more likely to enjoy another's pain and misfortune, which can be prompted by spite, contempt, dominance, or boredom (Fedoroff, 2008; Foulkes, 2019; Garofalo et al., 2019; DeLisi et al., 2017; Liu et al., 2020; Plouffe et al., 2021). They are associated with an increased likelihood of harming others physically and verbally, directly and indirectly. Examples of harm include deliberately causing frustration in others (Emer & Poepsel, 2021), cruelty in the workplace or social situations (Palermo, 2013), humiliating others (Palermo, 2013), and aggression online and in real life (Thomas & Egan, 2022). Although those higher in Sadism are less inclined to consider the emotions of others (Kirsch & Becker, 2007), they are still able to take the perspective of others and subdue their sadistic impulses or enjoyment, unlike those higher in Psychopathy. For example, Liu and colleagues (2020) found that taking the perspective of another person diminished those higher in Sadism's tendency to glean pleasure from suffering. Overall, there is mounting evidence to suggest that individuals higher in Sadism have little qualms in witnessing and engaging in the misfortune or pain of others. However, much research is focused on forensic or sexual Sadism. More information is still required to illustrate the subtleties of everyday Sadism and how subclinical individuals with higher levels of Sadism engage with stress and pain of their own.

The inclusion of Sadism with the original Dark Triad traits is controversial. Evidence supports Sadism as being both a facet of Psychopathy and a unique construct (Buckels et al., 2013; Greitemeyer & Sagioglou, 2017; Johnson et al., 2019; Plouffe et al., 2017; Plouffe et al., 2019). For example, Meere and Egan (2017) predicted everyday Sadism from both Psychopathy and Machiavellianism. Bertl and colleagues (2017) evaluated the factor structure of all Dark Tetrad traits and found that Sadism yielded little additional explanatory value compared to the original Dark Triad traits. Conversely, Johnson and colleagues (2019) also used factor analysis with 615 university students to examine physical, verbal and vicarious Sadism in relation to the other Dark Tetrad traits. Convergent validity supported Sadism's inclusion in the Dark Tetrad as a unique construct, however there was still slight overlap with Psychopathy. Moreover, Buckels and colleagues (2013) conducted two laboratory studies with undergraduates wherein those higher in Sadism were more likely to engage in bug-killing, unprovoked aggression, and a stronger willingness to work toward harming another person than those with lower levels of Sadism. When controlling for Dark Tetrad overlap, Sadism remained a unique predictor of these behaviours, signifying the validity of its inclusion (Buckels et al., 2013; Dinić et al., 2021). Given this inconsistency, in the present study Sadism is evaluated as its own trait to indirectly explore the validity of it being in the Dark Tetrad.

The Dark Core

Advocates for Machiavellianism and Sadism's inclusion in the Dark Tetrad contend that although there is consistent overlap between them and Psychopathy, the same could be argued for all of the Dark Tetrad traits because they all correlate highly with each other. These personality traits may never be completely teased apart. As such, there is interest in identifying the "Dark Core" of personality (Bertl et al., 2017; Book et al., 2015; Book et al., 2016;

Moshagen et al., 2018; Zettler et al., 2020). Rather than limiting behaviours to one or two dark traits, the Dark Core is considered a basic, underlying disposition encompassing *all* aversive personality traits, that includes facets like antisociality, callousness, sadism, narcissistic entitlement, interpersonal problems, and more (Bader et al., 2021; Bertl et al., 2017; Moshagen et al., 2018; Zettler et al., 2020). Research by Bertl and colleagues (2017) found that a single latent Dark Core personality had better fit in structural equation modelling than the Dark Tetrad traits individually. A meta-analysis by Muris and colleagues (2017) found great overlap between the Dark Triad traits and Psychopathy, arguing that researchers may not need to evaluate these traits separately as once thought. Relatedly, the Dark Core was stable over time and predicted individual differences in aversive behaviours almost better than some dark traits themselves (e.g., the Dark Core better predicted Psychopathy than Psychopathy by itself; Bader et al., 2021; Zettler et al., 2020). The Dark Core is a viable avenue to explore (or at least consider) when evaluating dark personality.

Nevertheless, reducing all dark personality traits into one overarching theme loses the nuances that exploring individual traits could provide; it is still possible to statistically and conceptually tease apart the Dark Tetrad, despite their overlap (e.g., Paulhus & Williams, 2002). The Dark Tetrad, and Dark Core by extension, is a rich area of inquiry (Furnham et al., 2013), but more research is needed to strengthen our understanding of these traits and evaluate their distinctiveness, which can only be achieved by measuring the traits separately (Furnham et al., 2013; Paulhus & Williams, 2002). When findings indicate risks to the wellbeing of individuals higher in Dark Tetrad traits and those around them (Jonason et al., 2015), elaborating on how these individuals navigate daily life can inform us on how they behave and consequently how they handle their problems.

Coping with Stress

Given abundant evidence that personality can predict behaviours, it therefore extends to how individuals experience stress and cope with it. *Coping* is broadly conceptualized as how an individual responds in the face of stress to deal with current problems or to alleviate associated emotions (e.g., Carver et al., 1989; Lazarus & Folkman, 1984). It is vital to stress theory, as the physiological and psychological effects of stress can be exacerbated or lessened depending on how it is dealt with (Tobin et al., 1989). Coping can entail larger-scale strategies, such as seeking psychological treatment, or smaller-scale strategies, such as simply walking away from an argument. Coping can occur consciously or unconsciously, voluntarily or involuntarily, and sometimes one may not know they are "coping" at all (Compas et al., 2001; Lazarus & Smith, 1988; Troop, 1998). Coping can be classified as problem-focused, emotion-focused, or avoidant; adaptive or maladaptive; and engaged or disengaged – or a combination thereof. Understanding how and when an individual copes with certain situations is paramount to predicting maladaptive strategies that could impede well-being and bolster negative psychological and physiological consequences (e.g., increased internalizing and externalizing symptoms like anxiety or disruptive behaviour; Compas et al., 2017). Thus, future well-being can be encouraged through appropriate adaptive strategies (e.g., leading to decreased internalizing and externalizing symptoms, increased sense of mastery, confidence, and self-esteem; Aldwin et al., 1996; Compas et al., 2017). The coping literature is ever-growing and has resulted in various theoretical conceptualizations of coping and its specific strategies.

Coping Models

A notable model of coping was hypothesized by Lazarus (1966; Lazarus & Folkman, 1984) which defines coping as a process consisting of primary appraisal (i.e., the

acknowledgement of a stressor or possible threat), secondary appraisal (i.e., the recognition of potential strategies/resources to use to address the stressor), and the act of coping itself (i.e., actively engaging in a behaviour to deal with the stressor). Although outlined as occurring successively, they noted that this model does not have to occur in the same order every time a stressor is encountered. For instance, secondary appraisal and coping can occur concurrently, wherein one recognizes that they are already instinctively coping, whether appropriately or not.

Within this "transactional" coping model, Lazarus and Folkman (1984) describe higher order categories of coping, dubbed "problem-focused coping" and "emotion-focused coping." Strategies from each category can be utilized independently or simultaneously. Problem-focused coping is equated to "active" coping strategies (e.g., Carver et al., 1989), wherein one is focused on the problem, situation, or stressor, and aims to deal with the *stressor* directly (e.g., seeking instrumental social support to help combat the problem). This is common when the individual perceives the stressor to be within their control and changeable (Sideridis, 2006; Zimmer-Gembeck & Skinner, 2016). Alternatively, emotion-focused coping is considered "passive," during which the individual aims to address or regulate their *emotions and feelings* associated with the stressor rather than confronting the stressor directly (e.g., seeking emotional social support to find comfort). This is common when the individual perceives the stressor to be out of their control, too large to combat by themselves, or beyond the strategies they already possess (Sideridis, 2006; Zimmer-Gembeck & Skinner, 2016).

A second, similar theoretical model of coping is derived from Carver and colleagues (1989). They conceptualize coping as being closely related to – if not the same as – *self-regulation* and its associated "control" strategies. They assert that cybernetic (e.g., feedback loops and causal processes) and control theories governing self-regulating "systems" can be

applied to a psychological context (Carver & Scheier, 1981; Carver & Scheier, 1982; Carver et al., 2008). Described simply, these theories posit that individuals "change" their behaviours moment-to-moment in response to events they perceive so that they can achieve certain goals and internal standards, forming a feedback loop (Carver & Scheier, 1982; Mansell, 2020). This can be done through behaviours that align with or oppose whatever they are aiming to control (Carver & Scheier, 1982; Mansell, 2020).

Applied to coping, the perception of a stressor is the detection of an environmental stimulus. This stimulus is compared to one's personal goals or standards, and when the stimulus does not align with those goals, an internal discrepancy is created (e.g., a big test may impede good grades and a future career). The discrepancy can cause stress. In order to realign with one's goals, the individual selects a coping strategy to address the discrepancy/stress in order to maintain cohesion and control. According to Carver and Scheier (1981; 1982), the result is self-regulation and coping, whether adaptive or maladaptive. In this model, coping is similar to that of Lazarus and Folkman (1984): strategies are categorized as problem-focused and emotion-focused, plus a new category of avoidant coping (Carver et al., 1989; Carver, 1997).

Combining their cybernetic/control theories of self-regulation with Lazarus' model of stress, Carver and colleagues' 1989 Coping Orientation to Problems Experienced Inventory (COPE) yields 14 types of common coping strategies that are both theoretically and empirically derived (Carver et al., 1989; Carver, 1997; NovoPsych, n/a). These strategies are consistently utilized and examined in coping research. The following 14 strategies are utilized in the Brief COPE (B-COPE; Carver, 1997) specifically and provide a guide for the present study:

(1) *Active coping,* in which the individual takes action to address the stressor to improve it or eliminate it. This can include other strategies in this list, such as planning. (2) *Planning,* in

which the individual thinks and plans *how* to best address the stressor or situation. (3) *Positive reframing* (formerly *positive reinterpretation and growth;* or *positive reappraisal* according to Lazarus and Folkman [1984]), in which the individual re-construes the stressor in a positive way that can lead to more direct coping. (4) *Acceptance,* in which the individual acknowledges the reality and existence of the stressor, as well as recognition of appropriate strategies to address it. (5) *Humour,* in which the individual uses humour in the face of a stressor or situation (e.g., jokes). (6) *Turning to religion,* in which the individual finds solace in their faith. (7) *Emotional social support,* in which the individual seeks support from others to gain comfort, moral support, or sympathy for emotional amelioration. (8) *Instrumental social support,* in which the individual seeks help, advice, or information to address the stressor from others. (9) *Self-distraction* (formerly *mental disengagement*), in which the individual works to take their mind off of the stressor, such as via daydreaming, watching television, or sleeping. (10) *Denial,* the opposite of acceptance, in which the individual denies the existence of the stressor or minimizes the gravity of the stressor. (11) *Venting* (formerly *focusing on and venting of emotions*), in which the individual seeks to "ventilate" their emotions and feelings, often verbally and to another person. It may also take the form of exercise. (12) *Substance use,* in which the individual turns to substances to cope. (13) *Behavioural disengagement,* in which the individual may diminish their effort in dealing with the stressor or give up on pursuing any goals or tasks related to the stressor. (14) *Self-blame,* in which the individual criticizes oneself and believes oneself to be responsible for the stressor or situation. Typically, the strategies that are predominantly considered problem-focused include active coping, planning, positive reframing, and instrumental social support (Tobin et al., 1989). The strategies that are considered emotion-focused include venting, acceptance, humour, use of religion, self-blame, and emotional social support. Finally, those that

are avoidant include self-distraction or mental disengagement, denial, substance use, and behavioural disengagement (Tobin et al., 1989).

Adaptive and Maladaptive Coping

It is commonly held that coping strategies do not exist independently, but rather interact. Individuals have an innate "repertoire" of coping strategies available to choose from (Cheng et al., 2014; Sideridis, 2006) and a study by Freire and colleagues (2020) noted that a group of "highly flexible" university students possessed the ability to combine coping strategies from both the problem- and emotion-focused groups. This ability to manoeuvre between different coping strategies is coined "coping flexibility" (Freire et al., 2020; Kato, 2021).

Nevertheless, evidence suggests that problem-focused coping is generally more adaptive than emotion-focused and avoidant coping **(**e.g., Compas et al., 2017). For example, problem-focused coping is linked with greater coping flexibility, which can in turn decrease depressive symptoms, such as within the context of stressful interpersonal relationships (Kato, 2021). Rather than disengaging or attempting to solely better one's emotions, enduring stress and experiencing struggles, in some instances, can lead to improved self-efficacy if dealt with directly and appropriately (Kesimci et al., 2005). Indeed, focusing on the problem can result in stress-related growth*,* resilience, and competence (Compas et al., 2001; Compas et al., 2019). Research by Aldwin and colleagues (1996) noted that over 80% of adult participants (*N*=1888 across three studies) reported using past stressful experiences to inform how they respond to future stressful experiences. That exposure to stress taught participants adaptive coping strategies that worked, informed them of their weaknesses, and most reported primarily positive or mixed long-term effects of previous stress (Aldwin et al., 1996).

Conversely, emotion-focused coping is associated with undesirable outcomes and negative long-term consequences, such as increased alcohol use and psychological distress (Feil & Hasking, 2008; Suls et al., 1996). Similarly, while avoidant, disengaged coping strategies can have short-term benefits, particularly when stress is perceived as uncontrollable, they primarily lead to long-term maladaptive effects, such as prolonging the stress or facilitating an unpreparedness to properly deal with future stress (Newman et al., 2011). Further research by Aldwin and colleagues (1996) concluded that individuals employing avoidant, disengaged strategies like escapism were more likely to perceive negative outcomes following the stressful event and increase feelings of depression.

However, this does not conclusively indicate that problem-focused coping cannot be maladaptive and emotion-focused or avoidant coping cannot be adaptive. The degree to which they are adaptive or maladaptive depends greatly on the individual and the specific coping strategy within the stressful context. For example, findings suggests that positive distraction (emotion-focused) can be beneficial in the face of chronic stressors, and is related to enhanced well-being and positive emotions, but avoidance (also emotion-focused) results in the opposite (Waugh et al., 2020). Relatedly, a forensic sample consisting of 100 male inmates found that inmates with shorter sentences were inclined to use problem-focused strategies; whereas, inmates with longer sentences were inclined to use emotion-focused strategies (Reed et al., 2009). This could be due to the theory of "control". Shorter-term inmates may perceive more control of their situation as they would be released soon; whereas, longer-term inmates possess less control since they will be in prison longer, therefore choosing emotion-focused strategies (e.g., acceptance) to alleviate symptoms of stress. Similar findings are revealed in the health literature where emotion-focused coping is helpful in unchangeable medical circumstances, such as advanced lung cancer

and terminal illness (e.g., Huda et al., 2021; Tao et al., 2022). The aforementioned examples denote the importance of context and other variables, such as personality, that influence coping.

Personality and Coping

Abundant research has evidenced personality's associations with coping and stress, since external, situational factors do not solely explain individual differences in coping (Suls et al., 1996). For example, Neuroticism's been associated with increased perception of daily stress (Mroczek & Almeida, 2004), as well as predominantly emotion-focused coping strategies and avoidance (Afshar et al., 2015; Carver et al., 1992; Connor-Smith & Flachsbert, 2007; Lee-Baggley et al., 2005). Interestingly, it is also found that personality is particularly predictive of coping among younger adults and those that are more stressed (e.g., university students; Connor-Smith & Flachsbert, 2007).

Within Carver and colleagues' self-regulatory coping model, they consider the extent of an individual's goals and standards as a "manifestation" of their innate personality (Carver & Scheier, 2012). When obstacles hinder those goals, *interacting* with one's personality, stress is experienced and consequent coping is required (Carver et al., 2008). This suggests that certain strategies are more useful for specific people with specific traits, or they are more inclined to choose certain coping strategies if "predisposed" to use them (Suls et al., 1996). Given that research indicates that individuals higher in the Dark Tetrad personality traits perceive the world differently from average individuals (e.g., Blair & Mitchell, 2009; Dawell et al., 2019), thus having different goals or perceptions of stressors/obstacles, how these individuals cope becomes an interesting topic to explore.

Coping and the Dark Tetrad

Despite evidence that those higher in Dark Tetrad personality traits may have diminished emotional reactivity (Cima & Nicolson, 2021; Kirsch & Becker, 2007; Lee & Salekin, 2010; O'Leary et al., 2010), *all* individuals still employ coping methods, whether they experience significant amounts of stress or not. Directly evaluating the coping strategies utilized by the original Dark Triad (excluding Sadism), Birkás and colleagues (2016) conducted a cross sectional survey study with Serbian undergraduates (N=200). They found that those higher in Psychopathy were less inclined to employ problem-focused strategies, less likely to seek social support, were confrontative, and made less effort to alter stressful situations. Similarly, those higher in Machiavellianism were less task-oriented, less effortful in their methods, negatively associated with social support, and positively associated with positive reappraisal. Conversely, those higher in Narcissism displayed adaptive methods, such as planning, reappraisal, seeking social support, self-control, and had no notable preference for emotion- versus problem-focused coping (Birkás et al., 2016). However, those higher in Narcissism were less inclined to accept responsibility for their actions, and may engage in denial or behavioural disengagement (Birkás et al., 2016; Fernie et al., 2016).

Further research examining Psychopathy, coping and stress suggests that those higher in secondary Psychopathy are prone to engage in internalizing shame more than those lower in primary Psychopathy (Campbell & Elison, 2005); are less optimistic (Jonason et al., 2020); tend to avoid or dissociate (Pham, 2012); and may be initially inclined to aggress in response to everyday stress (Hart et al., 2021; Tetreault & Hoff, 2019). Those higher in Machiavellianism are also less optimistic (Jonason et al., 2020); engage in blame, suppression, and minimization (Rim, 1992); but are less inclined to aggress (Hart et al., 2021; Tetreault & Hoff, 2019). Individuals with higher levels of Narcissism are more optimistic (Jonason et al., 2020); display good coping

flexibility (Ng et al., 2014); but may also be inclined to use substances (Kealy et al., 2017) or aggress in response to daily stress (Hart et al., 2021; Tetreault & Hoff, 2019). Individuals high in the original Dark Triad traits in general, excluding everyday Sadism, engaged in distraction as stress and work pressure increased (e.g., procrastination and counterproductive work behaviour; De Clercq et al., 2019) and are negatively associated with constructive coping (Jonason et al., 2020). When evaluating defense mechanisms (i.e., defenses against stress; a psychodynamic variant of coping) in predominantly female undergraduates, Richardson and Boag (2016) found that acting out, dissociation, splitting, passive aggression, isolation, displacement, and decreased humour were all associated with individuals higher in the Dark Triad traits. Notably, those higher in Psychopathy and Machiavellianism were at greatest risk for engaging in these maladaptive strategies, whereas those higher in Narcissism yielded some degree of "mature" or adaptive defense mechanisms, like rationalization. Although sparse, findings regarding coping strategies used by the Dark Tetrad are emerging.

Since coping is a direct response to stress, understanding how individuals with higher levels of Dark Tetrad traits experience stress is key in interpreting their coping behaviours. Birkás and colleagues (2020) found that those higher in Machiavellianism perceived greater stress while those higher in Narcissism perceived comparatively less, and there were no relationships with Psychopathy. These findings are echoed in related research, namely that those higher in Narcissism and Psychopathy report less perceived stress and are less deterred by stressors, and that those higher in Machiavellianism report more stress (Dalkner et al., 2018; Durand & Plata, 2017; Kajonius & Björkman, 2018; Kauten et al., 2013; Kelsey et al., 2001; Lyons et al., 2019; Mushtaq et al., 2022). Indeed, those with greater Psychopathy are prone to less autonomic and emotional reactivity to stress and distress (Kajonius & Björkman, 2018;

Sandvik et al., 2015). However interestingly, Gao and colleagues (2012) discovered that those higher in Psychopathy did physiologically react to stressors, but they were perceptually misaligned (i.e., they did not perceive as much stress as their objective physiological markers suggested). This phenomenon was dubbed *somatic aphasia*. The notion that those higher in Psychopathy and Narcissism are less reactive or perceptive of stress can be contextualized within their explanatory theories: Both individuals with Psychopathy and/or Narcissism tend to be primarily concerned with themselves and are thus less concerned or bothered by others (Grover & Furnham; 2021). Furthermore, they simply may not care about the consequences of their actions and therefore do not worry about them (Cima et al., 2010).

Nevertheless, there are contradictory findings in the literature. A recent study by Mushtaq and colleagues (2022) noted that higher Psychopathy and Machiavellianism are related to higher stress, distress, maladjustment, and decreased subjective happiness in young adults. Similarly, Noser and colleagues (2014) found that adults higher in Psychopathy are *more* reactive to stress. They also have greater anxiety sensitivity and intolerance of uncertainty (Sabouri et al., 2016; Wendt & Bartoli, 2019). Using an undergraduate sample, Visser and colleagues (2012) also concluded that low anxiety may not actually be a "core feature" of Psychopathy. It is theorized that this could be due to issues in perceiving emotion in others and themselves (e.g., Gao et al., 2012; Wendt & Bartoli, 2019). Likewise, those higher in Narcissism exude greater cortisol in moments of high stress and negative affect (Cheng et al., 2013), and their self-esteem is a primary indicator for the degree of stress reactivity they display (e.g., higher, grandiose self-esteem is associated with decreased stress; Zhang et al., 2017).

Regarding gender research, men more often report maladaptive coping strategies compared to women (Jonason et al., 2020; Kealy et al., 2017; Saltoglu & Irak, 2020) and the

same pattern holds across the Dark Tetrad traits. Jonason and colleagues (2020) found that community adult men higher in Dark Triad traits engage in destructive, maladaptive coping strategies (e.g., denial, mental and behavioural disengagement), whereas women were inclined to use constructive, socially-oriented coping strategies. However, adding to Narcissism's complexity, men higher in this trait engaged in some social coping as well (Jonason et al., 2020). Research by Rim (1992) noted that men higher in Machiavellianism were more inclined to suppress and avoid compared to women, who sought nurturance and support. Participants of both genders who reported higher Machiavellianism engaged in blame (Rim, 1992).

In sum, Dark Tetrad coping conceptually aligns with their theoretical underpinnings: Individuals higher in Psychopathy gravitate toward destructive, antisocial behaviours (e.g., substance use and avoidance; Birkás et al., 2016; Curtis et al., 2020); individuals higher in Machiavellianism are typically planful and able to reappraise situations to shift them to their favour, but still maladaptive; individuals higher in Narcissism are the most "adaptive" and least "dark" of the Dark Tetrad; and individuals with heightened everyday Sadism is sorely neglected (e.g., Papageorgiou et al., 2019a; Papageorgiou et al., 2019b; Watt & Brooks, 2012). Applied to coping strategies, those higher in Dark Tetrad traits usually employ emotion-focused and/or avoidant coping. Rarely do they engage in problem-focused coping, except for those high in Narcissism. Scant research has been conducted on how individuals higher in everyday Sadism cope or react to stress, although some may argue that Sadism is encompassed in Psychopathy (Bertl et al., 2017; Meere & Egan, 2017). Finally, conflicting findings illustrate the necessity for further research examining the coping and stress responses of subclinical individuals higher in Dark Tetrad personality traits, especially in response to normal, daily stressors as these are most likely to be encountered.

Gaps in the Literature

There is ample literature examining personality, coping, stress, and how individuals higher in certain personality traits cope with stress (e.g., Carver & Scheier, 2012; Connor-Smith & Flachsbert, 2007; Vollrath, 2001). Regarding dark personality traits, there is plenty of research examining how individuals with high levels of the Dark Tetrad traits react to stress in general, namely Psychopathy and Narcissism (e.g., Sabouri et al., 2016; Wendt & Bartoli, 2019). There are fewer studies examining how subclinical individuals higher in these traits cope with average, everyday stressors (e.g., Birkás et al., 2016; Jonason et al., 2020).

Current research theorizes that personality and coping can shift subtly depending on the circumstance. Recently, Baumert and colleagues (2019) remarked that researchers need to evaluate "intraindividual differences" in how one's dynamic state (e.g., thoughts and behaviours *in the moment*) interacts with situational features. This is especially important to consider since everyday life is constantly in flux. Alternatively, Carver and Scheier (2012) dubbed coping a manifestation of one's innate personality. As such, it may be possible that coping strategies are the result of dispositional aspects of one's personality. For example, perhaps Narcissism's propensity for adaptive coping (e.g., seeking social support) is a manifestation of Narcissism's innate adaptive qualities (e.g., sociability). Previous research designs were not equipped to address such theories and conflictions. Relying on generalized, global, one-time reports on one's overall tendencies is not sufficient for a detailed understanding of personality, coping and general human behaviour (Baumert et al., 2019). Advanced research methodologies are needed to further clarify whether or not personality and coping are more situational or dispositional.

Of the studies that directly examine how individuals higher in Dark Tetrad traits cope with and react to stress, there are severe methodological gaps. By and large, the vast majority of

coping and stress studies rely on cross-sectional, one-time, self-report questionnaires (e.g., Birkás et al., 2020; Fernie et al., 2016; Jonason et al., 2018; Jonason et al., 2020; Kajonius & Björkman, 2018; Noser et al., 2014; Richardson & Boag, 2016; Rim, 1992). One-time measures create a foundation of research to build from, but will ultimately lack ecological validity and broader applicability. Past studies always noted their methodology as a limitation, primarily because participants may not know how they will cope with stress until it actually occurs. Or participants rely on past experiences dealing with similar stress, which can introduce retrospective biases (i.e., inaccurate recall). There is a profound need for intensive study designs. Sophisticated methodology (e.g., longitudinal, experimental, multi-method) and replicability of findings is necessary to draw stronger conclusions (Baumert et al., 2019).

Furthermore, coping research focuses primarily on Psychopathy and Narcissism, occasionally Machiavellianism, and never on everyday Sadism. Greater detail into how those higher in Machiavellianism and everyday Sadism cope is needed. Having further information into each of these constructs can provide additional insight into whether they are better described as facets of Psychopathy or can continue to exist separately within the Dark Tetrad. Finally, stress research often evaluates specific, major stressors and adverse events. There is great potential in extending stress and coping research into average, daily stressors – big or small – as they can cumulatively pose a detrimental impact on individual physical and mental functioning like major stressors do (Brantley & Jones, 1993; DeLongis et al., 1988; Richardson, 2017).

The Present Study

The present study was one component of a larger study evaluating daily stress and coping in undergraduates. Given that dark personality traits can be subclinical and have adverse impacts on oneself and those around them, previous research underscores the necessity of examining the

Dark Tetrad traits in normal, community, non-forensic samples. Undergraduates in particular are important to study given that personality stabilizes in late-adolescence and early-adulthood (Hampson & Goldberg, 2006; Hoff et al., 2020), and individuals in this age group typically face a myriad of stressors in daily life. Moreover, much previous research has utilized undergraduate samples and replicability of findings is key for robust conclusions.

The overarching research questions of the present study were: (RQ1) *How do individuals higher in Psychopathy cope with daily stressors?* (RQ2) *How do individuals higher in Narcissism cope with daily stressors?* (RQ3) *How do individuals higher in Machiavellianism cope with daily stressors?* (RQ4) *How do individuals higher in everyday Sadism cope with daily stressors?*

Subsumed within these research questions were several concurrent objectives:

a) Clarify inconsistencies in the Dark Tetrad/coping literature and fortify findings by utilizing an intensive longitudinal (daily diary) methodology. This method filled stark design gaps and can allow researchers to have a better understanding on how those higher in Dark Tetrad traits cope with stressors in as close to "real-time" as possible. This may illuminate any situational nuances or dispositional stability. Moreover, this method aimed to minimize inaccurate recall, retrospective bias (i.e., believing one will cope a certain way based on how they have coped previously), and prospective bias (i.e., believing one will cope a certain way in a certain situation *prior* to actually experiencing it).

b) Provide information on how individuals higher in Dark Tetrad traits cope with daily stressors. Consolidating Lazarus and Folkman's (1984) and Carver and colleagues' (1989) coping models, the present study defined *coping* as anything an individual

does in response to a stressful situation to diminish its emotional impact or to address the problem itself. For statistical simplicity, I pooled and categorized coping strategies as problem-focused, emotion-focused, or avoidant.

c) Evaluate each Dark Tetrad trait *individually* rather than as an overall Dark Tetrad or Dark Core. This was done to provide information into the viability of subsuming Machiavellianism and Sadism under Psychopathy or considering them as separate, independent traits. Moreover, Narcissism is commonly dubbed the most adaptive and distinct of the Dark Tetrad (e.g., Back et al., 2013), and should therefore be evaluated separately rather than lumped together. Since the present study was one part of a larger study, to ease participant burden regarding the number of items to complete, I examined Psychopathy and Narcissism as whole constructs rather than their subtypes (primary/secondary and grandiose/vulnerable respectively).

Hypotheses

(1) *How do individuals higher in Psychopathy cope with daily stressors?*

a. Based on previous research that suggests that those greater in Psychopathy feel and perceive less stress (Dalkner et al., 2018; Durand & Plata, 2017; Kajonius & Björkman, 2018; Kauten et al., 2013; Kelsey et al., 2001; Lyons et al., 2019), but may still deal with underlying anxiety and distress (Mushtaq et al., 2022; Noser et al., 2014; Sabouri et al., 2016; Wendt & Bartoli, 2019), I hypothesized that there would be an interaction between Psychopathy and daily stress that would predict the use of emotion-focused and avoidant coping strategies. Specifically, I expected that individuals higher in Psychopathy would engage in more emotion-focused and avoidant coping strategies when

faced with daily stressors. This could include general avoidance, less humour, mental and behavioural disengagement (e.g., not caring about their actions; Cima et al., 2010), or not seeking social support (Birkás et al., 2016; De Clercq et al., 2019; Hart et al., 2021; Jonason et al., 2018; Pham, 2012; Tetreault & Hoff, 2019). I also expected that men would yield a higher Psychopathy score and more maladaptive coping than women.

(2) *How do individuals higher in Narcissism cope with daily stressors?*

a. As those with higher Narcissism tend to perceive less stress (e.g., Birkás et al., 2020; Kajonius & Björkman, 2018; Kauten et al., 2013; Lyons et al., 2019), and are associated with increased mental toughness and other beneficial features (e.g., Levi & Bachar, 2019; Ng et al., 2014; Papageorgiou et al., 2019a; Papageorgiou et al., 2019b), I hypothesized that there would be an interaction between Narcissism and daily stress that would predict the use of problem-focused and emotion-focused coping strategies. Specifically, I expected that those higher in Narcissism would engage in both problem-focused and emotion-focused coping. This could include problem-focused coping like planning, seeking instrumental social support, and overall coping flexibility (Birkás et al., 2016; Ng et al., 2014), or emotion-focused coping like denial or seeking emotional social support (Birkás et al., 2016; Kealy et al., 2017; Richardson & Boag, 2016). I also expected men to endorse more Narcissism and maladaptive coping than women. I expected women to endorse less Narcissism and more adaptive coping than men.

(3) *How do individuals higher in Machiavellianism cope with daily stressors?*

a. As those with greater Machiavellianism perceive greater stress (Birkás et al., 2020; Dalkner et al., 2018; Kajonius & Björkman, 2018; Kauten et al., 2013; Kelsey et al., 2001; Lyons et al., 2019; Mushtaq et al., 2022), I hypothesized that there would be an interaction between Machiavellianism and daily stress that would predict the use of emotion-focused and avoidant coping strategies. Specifically, I expected that those higher in Machiavellianism would engage in greater emotion-focused or avoidant coping. This could include blame, less social support, and minimization (Birkás et al., 2016; Richardson & Boag, 2016; Rim, 1992). I also expected men to endorse more Machiavellianism and maladaptive coping than women.

(4) *How do individuals higher in everyday Sadism cope with daily stressors?*

a. Although Sadism's received significantly less attention, those higher in everyday Sadism may react to stress similar to Psychopathy given their overlap (e.g., Meere & Egan, 2017). I therefore hypothesized that there would be an interaction between Sadism and daily stress that would predict the use of emotion-focused and avoidant coping strategies. Specifically, I expected that those higher in Sadism will engage in greater maladaptive coping, similar to that of Psychopathy (i.e., less "constructive" coping, as per findings by Jonason et al., 2020). I also expected men to endorse more Sadism and maladaptive coping than women.

Method

Participants

A sample of 359 undergraduate students at Lakehead University was recruited via emails to classes, flyers, social media advertisements, and the Department of Psychology's SONA Experiment Management system. All participants were required to speak and read fluent English, have consistent access to the Internet, and be willing to complete daily surveys. In compensation, participants could have received up to $75.00 CAD or 4.5 bonus points towards an eligible psychology course. The compensation was commensurate to the number of daily surveys completed.

The mean age of the sample was 22.4 (*SD* = 6.34). Most participants identified as White (53.0%), while others identified as Black (18.8%), South Asian (9.3%), East Asian (7.1%), Mixed Race (4.0%), Indigenous (3.9%), Hispanic (1.9%), Middle Eastern (1.5%), or did not specify (0.6%). Regarding gender identity, 64.2% identified as Women, 32.5% identified as Men, and 3.3% identified as Nonbinary/Transgender. Regarding survey completion, 41.2% completed all 14 daily surveys, 20.6% completed 13 surveys, 9.47% completed 12 surveys, 7.8% completed 11 surveys, 4.46% completed 10 surveys, and 11.98% completed less than 10 surveys. Only 4.46% completed more than 14 surveys. Participants completed an average of 12.32 surveys (*SD* = 2.68).

Procedure

This study was part of a larger study examining daily stress and coping among undergraduate students. The study was reviewed and approved by Lakehead University's Research Ethics Board (ROMEO #1469023) prior to data collection. Interested participants signed up for the study by emailing the research team or through the SONA system. Participants

attended an online orientation session via Zoom (Phase 1; approx. 60 minutes), wherein they learned about the study, provided informed consent, examined a practice daily survey, and then completed a baseline survey measuring demographics, personality, social desirability, and overall stress and coping. Beginning the day after the orientation, participants received one survey each evening at 8:00pm for 14 days, for a total of 14 daily surveys (Phase 2). Participants could complete the daily survey anytime between receiving the link and going to bed. If they were unable to complete the daily survey in the evening, they could complete it *early* the next morning, but were told to limit that for improved accuracy of the data. Each daily survey took approximately 10-minutes to complete and asked about daily stressors experienced during the past day and how participants coped with them. After completing the study, participants were thanked for their participation via email and compensated accordingly through e-transfer or SONA bonus points.

Baseline Measures

The Short Dark Triad

The Short Dark Triad (SD3; Jones & Paulhus, 2014) is a 27-item self-report questionnaire assessing respondents' levels of Machiavellianism, Narcissism, and Psychopathy. The SD3 has three subscales corresponding to each Dark Triad trait: Machiavellianism (9 items; e.g., *"I like to use clever manipulation to get my way"*), Narcissism (9 items; e.g., *"Many group activities tend to be dull without me"*), and Psychopathy (9 items; e.g., *"Payback needs to be quick and nasty"*). Each item required the respondent to use a 5-point Likert scale to rate how much they agreed with each statement, from 1 (*disagree strongly)* to 5 (*agree strongly*). Items were summed to create a total score as well as subscale scores. Higher scores suggest higher levels of Dark Triad traits. The scale was developed and validated with diverse adults (mean age

= 30 years) from Canada and the USA. It correlated well with other standard measures that examine Dark Triad traits individually (i.e., MACH-IV, Narcissistic Personality Inventory, Self-Report Psychopathy Scale), and has reasonable internal consistencies with α = .74-.76 for Machiavellianism, α = .68-.78 for Narcissism, and α = .72-.73 for Psychopathy (Jones & Paulhus, 2014). The SD3 is widely applicable beyond adults (e.g., at-risk youth; Pechorro et al., 2018), and is validated across cultures (e.g., Germany, Serbia, China, Portugal; Dinić et al., 2018; Malesza et al., 2017; Pechorro et al., 2018; Zhang et al., 2020). It has become one of the primary and trusted measures for the Dark Triad. Notably for studies seeking to minimize items, the SD3 is considered more consistent than other measures (e.g., the Dark Triad Dirty Dozen; Maples et al., 2014). Cronbach's alphas for the present study are reported in Table 1.

Assessment of Sadistic Personality

The Assessment of Sadistic Personality (ASP; Plouffe et al., 2017) is a 9-item self-report questionnaire assessing respondents' levels of subclinical Sadism. Respondents rated their agreement with each statement (e.g., *"I never get tired of pushing people around"*) on a 5-point Likert scale from 1 (*strongly disagree*) to 5 (*strongly agree*). Scores were averaged with higher scores indicating higher levels of Sadism. Developed and validated among Canadian university students, the ASP has good cross-cultural validity and adequate internal consistency at .80 to .83 (Dinić et al., 2020; Plouffe et al., 2017; Plouffe et al., 2021). The ASP provides a valid and reliable measurement of Sadism as its own distinct trait (Plouffe et al., 2017). Cronbach's alphas for the present study are reported in Table 1.

Marlow-Crowne Social Desirability Index – Short Form

The Marlow-Crowne Social Desirability Index-Short Form (MCSDI; Crowne & Marlow, 1960; Reynolds, 1982; Zook & Sipps, 1985) is a 13-item self-report questionnaire assessing the

inclination to respond in a socially desirable manner. The MCSDI was used to evaluate potential socially desirable responding in participants. This is because the Dark Tetrad items contain content that individuals may not want to endorse if they agree with them (e.g., *"I tend to manipulate others to get my way"*). This was a concern as those higher in Dark Tetrad traits may be prone to adapting their responses to sound more socially acceptable (e.g., Book et al., 2006; Ray et al., 2013). Respondents rated each *True* or *False* statement as it relates to them (e.g., *"It is sometimes hard for me to go on with my work if I am not encouraged"*). True items are scored 1; False items are scored 2. Items were summed with higher scores indicating a greater tendency toward social desirability. The short form version was validated among university students and has adequate internal consistency (α = .63-.82; Reynolds, 1982; Zook & Sipps, 1985). Test-retest reliability yielded a coefficient of .75 (Zook & Sipps, 1985). The MCSDI is broadly applicable and useful for a variety of demographics (e.g., forensic samples; Andrews & Meyer, 2003) and cultures (e.g., Romanian; Sârbescu et al., 2012). Of all versions of the MCSDI, both Reynolds (1982) and Zook and Sipps (1985) recommended the 13-item version, as used in the present study. In many instances, the short form version is superior to the original 33-item version (e.g., Sârbescu et al., 2012; Zook & Sipps, 1985), especially when items need to be kept to a minimum. Cronbach's alphas for the present study are reported in Table 1.

Daily Survey Measures

Daily Stressor Checklist

The Daily Stressor Checklist (DSC; Almeida et al., 2002; Baker et al., 2020) is a 10-item self-report questionnaire that asks respondents to reflect on their last 24-hours and check yes/no if any items occurred. Each item is a potential stressful situation (e.g., "*Too much school work", "Issues at/with your job").* The Daily Stressor Checklist is derived from a checklist created by

Baker and colleagues (2020) in an intensive longitudinal daily diary study. All stressors listed were coded from responses provided by undergraduate students (Nguyen-Feng et al., 2017), ensuring that the stressors were relevant to the population of interest. A total number of stressors was calculated by summing the items that were endorsed. If participants endorsed any stressful event, participants subsequently rated how stressful each event was on a 4-point Likert scale ranging from 1 (*not at all stressful)* to 4 (*very stressful*), which was based on the Daily Inventory of Stressful Events by Almeida and colleagues (2002). Within a specific day, stress severity was averaged across the number of stressors endorsed (Baker et al., 2020). The severity rating satisfactorily demonstrated construct validity, such that greater stress predicted negative affect within the same day (Baker et al., 2020). For the purposes of the present study, the overall stress severity rating was of primary interest as opposed to the types of stressors. Cronbach's alphas for the present study are reported in Table 1.

Daily Coping

Daily Coping (Aldridge-Gerry et al., 2011; Bartley & Roesch, 2011) is a 26-item self-report questionnaire assessing which coping strategies were used on a given day to deal with the stressful events experienced. Each item is a potential coping method (e.g., "*Did something to solve the problem"* or *"Cried to myself"*) and were rated on a 4-point scale ranging from 1 (*I didn't do this at all*) to 4 (*I did this a lot*). The coping strategies were derived from other, larger coping inventories, such as the Coping Orientation to Problems Experienced Inventory and the Responses to Stress Questionnaire, and provided a diverse representation of coping strategies (Bartley & Roesch, 2011). The 13 strategies included cognitive decision making (e.g., "*Thought about what I need to know to solve the problem*"), direct problem solving (e.g., "*did something to solve the problem*"), seeking understanding (e.g., "*Thought about why it happened*"), positive

cognitive restructuring (e.g., "*Tried to think about or notice only the good things in life*"), expressing feelings (e.g., "*Cried to myself*"), humour (e.g., "*Laughed at the situation*"), physical release of emotions (e.g. "*Went and exercised*"), distracting actions (e.g., "*Watched television and/or listened to music*"), avoidant actions (e.g., "*Tried to stay away from the problem*"), cognitive avoidance (e.g., "*Tried to put it out of my mind*"), problem-focused support (e.g., "*Figured out what I could do by talking to my family*"), emotion-focused support (e.g., "*Talked to my family about how I was feeling*"), and acceptance (e.g., "*Learned to live with it*"). Items were summed for each subscale. Based on a multilevel factor analysis, internal consistencies range from .70-.80 (Roesch et al., 2010).

I re-categorized the coping strategies into "problem-focused," "emotion-focused," and "avoidant" coping to better align with the theoretical models elucidated by Lazarus and Folkman (1984) and Carver and colleagues (1989) that guided the present study. Problem-focused strategies included cognitive decision making, direct problem solving, problem-focused support seeking, and positive cognitive restructuring. Emotion-focused strategies included expressing feelings, acceptance, humour, emotion-focused support seeking, and physical release of emotions. Avoidant strategies included avoidant actions, cognitive avoidance, and distracting actions. All of these new scales were based directly on the aforementioned models and all had adequate internal consistencies. Cronbach's alphas for the present study are reported in Table 1.

Statistical Analysis Plan and Model Specifications

Given the hierarchical nature of the data (i.e., repeated measures [Level 1] nested within individuals [Level 2]), I used multilevel modelling (MLM) via Stata (Version 18) to test the hypotheses that Dark Tetrad personality traits would predict certain coping strategies. MLM is a common technique utilized in a wide variety of longitudinal designs, such as panel or time series.

It is especially applicable for intensive longitudinal (daily diary) designs (Bauer & Curran, 2022; Bolger & Laurenceau, 2013), such as the present study. MLM allows researchers to examine "time-invariant" variables, which consist of variables that are expected not to vary over time (Bauer & Curran, 2022; Dedrick et al., 2009). In the context of the present study, personality was deemed time-invariant and between-person, and was measured only at the Baseline. MLM also considers the influences of "time-varying" variables, which consist of variables that are expected to fluctuate and vary over time or across days (Bauer & Curran, 2022). In the present study, daily stress and daily coping were deemed time-varying and within-person, as one is likely to experience different degrees of stress and variable coping across time. Time itself was represented by a "timepoint" variable that indicated the day of the study corresponding each survey entry (e.g., survey 1, survey 2, etc.).

I hierarchically ran individual MLMs for each research question and their related hypotheses: *How do individuals higher in Psychopathy cope with daily stressors; How do individuals higher in Narcissism cope with daily stressors; How do individuals higher in Machiavellianism cope with daily stressors; and How do individuals higher in Sadism cope with daily stressors?* The primary predictors were the Dark Tetrad traits individually (Psychopathy, Narcissism, Machiavellianism, and Sadism), as well as their interaction with daily stress. Daily stress was also included as a Level-1 predictor and control. There were three outcome variables for each type of coping: problem-focused, emotion-focused, and avoidant coping. Each outcome was entered individually. I intended on including gender in the models as a covariate, given that there are clear, recurring gender differences in Dark Tetrad personality traits (e.g., Bronchain et al., 2021; Durand & Plata, 2017; Hayes et al., 2021). However, gender was not correlated significantly with the Dark Tetrad traits in the present sample, did not significantly predict

coping when included in the models, and was subsequently excluded from the models. Nevertheless, I ran supplemental analyses with the models where men and women were separated (see: Supplemental Gender Analyses).

Based on recommendations in the literature, I grand mean centered the Level-2 predictors (personality) prior to analyses (Bolger & Laurenceau, 2013). This provides a meaningful zero point in the intercept to facilitate subsequent interpretation (Hayes, 2013). Typically, Level-1 predictors (daily stress) would be within-person cluster-mean centred, but since daily stress in the present study already yielded a meaningful zero (i.e., it was possible for participants to not feel any stress in a day), centering was not necessary. All variables were continuous.

Prior to running the MLMs to test hypotheses, I tested the null model (also called the *random-intercept only* model) to determine if MLM would be appropriate for the data. I ran three null models for each outcome variable. These models did not include any predictor variables. I calculated the intraclass correlation (ICC) to determine the independence of nested observations and the percentage of variance that was due to stable between-person differences (Aldridge-Gerry et al., 2011; Shek & Ma, 2011). The ICC ranges from 0 to 1, and the further an ICC is from zero, the better support for between-person differences in the data and the better support for utilizing MLMs (as opposed to other statistical procedures). The ICCs for problem-focused, emotion-focused, and avoidant coping were 0.43, 0.57, and 0.49 respectively. As such, MLM was still deemed appropriate for the purposes of the present study.

Following the guidelines of Peugh (2010) and the steps outlined in previous multilevel research, I built and hierarchically tested the models. Overall, the model was the following:

$$Coping_{ij} = \beta_0 + \beta_1 Personality + \beta_2 Daily\ Stress + \beta_3 Personality \times Daily\ Stress + b_{0i} + b_{2i} Daily\ Stress + e_{ij}$$

Where β_0 represents the intercept at Level-2, or the average amount of coping of all participants across the days of the study at average levels of dark personality and stress. As such, individual *i*'s coping on a given day (*j*) could be a function of the overall grand mean (β_0), the individual's variation from the grand mean (b_{0i}); the fixed effect of dark personality (β_1); the fixed effect of daily stressor severity on a given day (β_2) and the individual's variation around the fixed effect (b_{2i}); the cross-level interaction between dark personality and daily stress severity (β_3); and lastly, random error (e_{ij}). A random effect of daily stress was included in the models as it improved model fit via likelihood ratio tests and Akaike's Information Criterion / Bayesian Information Criterion (AIC/BIC) comparisons. This random effect allowed the slope of daily stress to vary within-persons since it was expected that daily stress would fluctuate and change between- and within-individuals on a daily basis.

Peugh (2010) recommended beginning with Level-1 predictors (like daily stress), but given the research questions of the present study, I prioritized the Level-2 personality predictors as the first step in the hypothesis testing process. The first version of the model (Model 1) tested whether each personality trait individually predicted the coping outcome. The second model (Model 2) added daily stress to test whether the impact of personality still held when controlling for daily fluctuations in stress. These two models tested the hypotheses that certain Dark Tetrad traits would predict certain coping strategies. The third and final version of the model (Model 3) included an interaction term for personality and daily stress, testing the hypotheses that there would be an *interaction* between personality and daily stress that would predict coping. If significant interactions arose, I interpreted them via simple slopes analysis. I tested each successive model for better fit compared to the previous one using both likelihood ratio tests and AIC/BIC comparisons. All models utilized maximum likelihood estimation (MLE), as is

consistently recommended (Peugh, 2010). Another option for estimation included *restricted* maximum likelihood estimation (REML), however, differences between MLE and REML diminish as sample size increases (Twisk, 2003; Singer & Willett, 2003). Given that the present study's sample was quite large, I chose the standard MLE method.

Since there were three outcome variables and several predictors of interest being evaluated hierarchically, multiple comparisons were made. The threat of Type 1 error (false positives) increases with the more tests and comparisons one conducts (Bender & Lange, 2001; Sato, 1996). To address this problem, I chose the Benjamini-Hochberg procedure since it directly addresses the "false discovery rate" (i.e., the expected proportion of false discoveries/positives), and is often more powerful and preferable to other multiple comparison methods, like the Bonferroni procedure (Thissen et al., 2002).

Sample Size Estimation

Calculating sample size and power for intensive longitudinal methodology and multilevel analysis is complex given the range of parameters to consider, and the intricacies of the variables, design, and analyses. For example, observations are closer in time than other longitudinal designs (e.g., panel), nested within individuals, and can be continuous, discrete, or count (Bolger et al., 2011; Lafit et al., 2021; Lane & Hennes, 2018). Moreover, a sample size is required for each level of a multilevel model (Snijders, 2005), and minimum requirements fluctuate depending on the model (Hox & McNeish, 2020). As such, there are few definitive guidelines to efficiently identify power and sample size in this type of design.

Nevertheless, a recent simulation study by Hecht and Zitzmann (2021) noted that shorter time series studies (i.e., intensive longitudinal studies) with fewer time points can result in a well-performing estimated model with larger numbers of participants (and vice versa).

Specifically, they calculated that studies with 10-15 time points can be satisfactory with N>50 participants. Approximately 250 participants or greater is ideal (Hecht & Zitzmann, 2021). This is noteworthy given that the present study has 14 time points (i.e., 14 daily surveys). Other simulation studies bolster the aforementioned findings, such that N>50 at Level 2 can yield unbiased, accurate results (e.g., Maas & Hox, 2005). As sample sizes increase beyond 200, correlation stabilization can occur (Schonbrodt & Perugini, 2013). There is a general rule of thumb that more participants are better with intensive longitudinal designs, especially when in doubt (Bolger & Laurenceau, 2021). Otherwise, smaller samples require simpler models (Hox & McNeish, 2020).

Previous daily diary studies with undergraduates that utilized the same daily measures of stress and coping as the present study reported samples ranging from 163 to 365 (Aldridge-Gerry et al., 2011; Bartley & Roesch, 2011; Dunkley et al., 2003). Daily survey response rates were approximately 82-90% (Baker et al., 2020; Kaubrys et al., 2021; Richardson & Rice, 2015). Effect sizes ranged from .03-.82, with most falling modestly between .10-.50 with satisfactory power and statistical significance (Aldridge-Gerry et al., 2011; Dunkley et al., 2003; Richardson & Rice, 2015; Yap et al., 2021). Intraclass correlations were consistently between .12-.61, which are ideal for conducting multilevel analyses (e.g., Aldridge-Gerry et al., 2011; Baker et al., 2020; Yap et al., 2021). Other non-longitudinal studies examining the Dark Tetrad, coping and stress possessed equivalent sample sizes of 100 to 346 (Birkás et al., 2016; Fernie et al., 2016; Kajonius & Björkman, 2018; Rim, 1992) with the largest totalling over 1000 participants (Jonason et al., 2020; Kealy et al., 2017). Significant effect sizes ranged .10-.20 (Birkás et al., 2016; Fernie et al., 2016). Based on this accumulated knowledge, a modest target sample size of N = 250 [Level 2] was originally proposed, resulting in up to approximately 3750 baseline

surveys and daily diary entries combined [Level 1]. High response rates and adequate power to detect modest effect sizes were anticipated. After achieving a sample of 250, recruitment continued to specifically target men. Additional recruitment also accounted for attrition and/or subject exclusions (e.g., participants that did not complete any surveys and were deleted). Therefore, the ultimate sample was N = 359.

Data Cleaning Procedure

Cleaning the dataset was broken into systematic steps. For the first couple of steps, a senior graduate student assisted me. First, we merged the Baseline survey dataset with the Daily Diary dataset in a "long" orientation (i.e., each daily survey entry coincides with its own row in the dataset, organized by ID number and timepoint, so all surveys for each individual was clustered together in consecutive rows; Bolger & Laurenceau, 2013). The full, raw dataset consisted of 456 Baseline survey entries. We deleted any Baseline duplicates, entries that lacked ID numbers, and entries that were incomplete. The Daily Diaries were then screened for duplication, distinction, and incompletion. For daily entries that were completed too close together (e.g., one entry completed within five minutes of the last entry), we deleted the first entry if it was incomplete or indistinct from the second entry (i.e., the participant wrote about the same stressful event twice). If daily entries were completed close together but consisted of *distinct* responses to the measures, they were kept. We deleted any entries that were simply blank or incomplete. For participants that completed extra entries (i.e., more than 14 surveys), the extra entries were kept if they were complete and distinct. Extra entries were rare. This was done to maximize information obtained.

From here, every subsequent step I did alone. I conducted Little's MCAR test (Little, 1988; Osborne, 2013) to examine missing data. Most measures yielded results that were non-

significant, indicating that the missing data was completely at random (MCAR). However, the SD3 revealed significant Little's MCAR results, indicating that the missing data may not be completely at random. As recommended by Tabachnick and Fiddell (2006), I administered follow-up tests to delineate any patterns in the missing data using SPSS, such as Separate Variance *t* Tests and visual inspection of missing data charts. Cross-reference with the content of the specific items on the measures also occurred to determine if participants skipped items pertaining to a specific theme (e.g., skipping all Psychopathy-related items only). There were no discernable patterns. Moreover, given that missing data was minimal on this measure (0.3-1.3%) and the dataset is quite large, the issue of missing data becomes less problematic (Tabachnick & Fiddell, 2006). Therefore, I assumed that the missing data on these measures was missing at random. Missing items on the predictors (i.e., SD3, ASP) were addressed via subject-mean imputation.

Regarding the daily diary entries, Little's MCAR test was not performed on the Daily Stressor Checklist items and ratings. This is because missing data was more substantial on these items (approx. 6-83%). Conceptually, however, this is reasonable: The Checklist asked participants if they experienced a list of stressors and to check all that applied. If a participant did not experience certain stressors on a given day, they would not endorse them on the Checklist or rate how much stress they caused since they did not occur. Since the type of stressor was not relevant to primary, hypothesis-testing analyses, and since stress ratings were averaged for an overall composite of stress for the day, the missing data was less concerning. Regarding Daily Coping strategies, missing data was reasonable (7.4-8.2%), and also is conceptually reasonable: It is quite possible that missing data was because participants did not experience a stressor that day and therefore did not need to "cope." Nevertheless, I ran Little's MCAR test with the Daily

Coping measure and it yielded a non-significant result, indicating that missing data was MCAR. Missing dependent variables (i.e., Daily Coping) were addressed by cluster-mean imputation and maximum likelihood estimation during analyses.

As suggested by Laurenceau and Bolger (2021), I used panel scatter plots to visualize the overall data to discern any preliminary trends or patterns in outcomes across time. The plots revealed predominantly random results, suggesting that coping (regardless of type) did not follow any notable pattern over the 14-day study period. This also suggested that time may not impact coping strategies used by participants (at least in the present study). Normality, heteroskedasticity, and independence of residuals are the main assumptions of MLMs, similar to that of linear regression, and were assessed visually using histograms and residual scatterplots. The graphs yielded normal looking, independent residuals and variables, and no notable outliers.

Results

Preliminary Analyses

Means, standard deviations, and Cronbach's alphas for each measure are reported in Table 1. The means, standard deviations, and Cronbach's alphas are consistent with those reported in previous research examining the Dark Tetrad, stress, and/or coping in undergraduates and adults (e.g., Birkás et al., 2016; Birkás et al., 2020; Plouffe et al., 2022). Most scales and subscales demonstrated adequate internal consistency (i.e., >.70).

Bivariate correlations are reported in Table 2. Overall, nearly all correlations were significant at $p < .01$. There were small positive correlations between the Dark Tetrad traits and coping strategies, and the Dark Tetrad traits and daily stress; moderate positive correlations between the Dark Tetrad traits and each other; and small-moderate correlations between daily

stress and coping strategies. One extra correlation was conducted between total score on the SD3 and Gender, which was not significant ($r = 0.08$, $p = .13$).

Multilevel Analyses

Coefficients, standard errors, and random variances for all models are presented in Tables 3a-3c. The majority of the findings remained consistent when controlling for multiple comparisons with the Benjamini-Hochberg procedure. As such, the original, uncorrected *p*-values are reported unless stated otherwise.

RQ1: How do individuals higher in Psychopathy cope with daily stressors?

To test the hypothesis that individuals higher in Psychopathy would utilize more emotion-focused and/or avoidant coping strategies, I ran separate models for each coping outcome and Psychopathy. For problem-focused coping, there was no significant effect of Psychopathy in Model 1, where Psychopathy was the only predictor ($p = 0.18$). The Wald chi-square test for the significance of the overall model was also not significant, $\chi^2(1) = 1.78$, $p = 0.18$. In Model 2, there was still no significant effect of Psychopathy when daily stress was added as a predictor ($p = .42$). However, daily stress was significant ($p < .001$), suggesting that daily stress is positively related to problem-focused coping. The Wald test of the overall Model 2 was significant, $\chi^2(2) = 22.42$, $p < .001$. In Model 3, there was still no significant effect of Psychopathy when the interaction term between Psychopathy and daily stress was added ($p = 0.47$). While daily stress maintained its influence alone ($p < .001$), the interaction between Psychopathy and daily stress was not significant ($p = 0.17$). The overall Wald test was significant, $\chi^2(3) = 24.31$, $p < .001$. Based on likelihood ratio tests and comparisons of AIC/BIC, Model 2 was deemed to be the best fitting model for problem-focused coping. These results

suggest that Psychopathy is not associated with problem-focused coping, consistent with hypotheses.

For emotion-focused coping, in Model 1, Psychopathy significantly predicted emotion-focused coping ($p = 0.007$). The overall Wald test was also significant, $\chi^2(1) = 7.38$, $p = 0.007$. In Model 2, both Psychopathy ($p = 0.009$) and daily stress ($p = .009$) were significant predictors. The overall Wald test was also significant, $\chi^2(2) = 13.94$, $p < .001$. For Model 3, with the interaction term, both Psychopathy ($p = 0.04$) and daily stress ($p = 0.008$) still maintained their significance; however, there was no interaction between them ($p = 0.51$). When adjusting for multiple comparisons, Psychopathy was no longer significant in Model 3, $p_{adj} = 0.06$. The overall Wald test was also still significant, $\chi^2(3) = 14.36$, $p = .003$. Likelihood ratio tests and AIC/BICs suggested that Model 2 was the best fitting. These results suggest that Psychopathy is positively associated with more emotion-focused coping, such that emotion-focused coping may increase as Psychopathy increases, even when controlling for daily stress. This is generally consistent with hypotheses.

For avoidant coping, in Model 1, Psychopathy significantly predicted avoidant coping ($p = 0.003$). The overall Wald test was also significant, $\chi^2(1) = 8.80$, $p = .003$. In Model 2, both Psychopathy ($p = 0.004$) and daily stress ($p < .001$) were significant predictors. The overall Wald test was also significant, $\chi^2(2) = 28.38$, $p < .001$. In Model 3, with the interaction term, both Psychopathy ($p = 0.01$) and daily stress ($p < .001$) maintained their significance; however, there was still no significant interaction between Psychopathy and daily stress ($p = .28$). The overall Wald test was also significant, $\chi^2(3) = 29.53$, $p < .001$. Likelihood ratio tests and AIC/BIC comparisons suggested that Model 2, without the interaction term, was still the best fitting version of the model. These results suggest that Psychopathy is positively associated with more

avoidant coping. Overall, results were contrary to hypotheses, such that there were no interactions between Psychopathic personality and daily stress. However, results supported hypotheses that those higher in Psychopathy would report more emotion-focused and avoidant coping strategies.

RQ2: How do individuals higher in Narcissism cope with daily stressors?

To test the that hypothesis that individuals higher in Narcissism would utilize a combination of problem-focused and emotion-focused coping strategies, I ran separate models for each coping outcome and Narcissism. For problem-focused coping, in Model 1, where only Narcissism was the predictor, Narcissism was significant ($p < .001$). The Wald chi-square test for the significance of the overall model was significant, $\chi^2(1) = 20.41$, $p < .001$. In Model 2, there was still a significant effect of Narcissism when daily stress was added as a predictor ($p < .001$). Daily stress was also significant ($p < .001$). The Wald test of the overall Model 2 was significant, $\chi^2(2) = 42.27$, $p < .001$. In Model 3, with an interaction term between Narcissism and daily stress added, Narcissism ($p = 0.005$) and daily stress ($p < .001$) maintained their significance. However, their interaction was not a significant predictor ($p = 0.58$). The overall Wald test was significant, $\chi^2(3) = 42.58$, $p < .001$. Based on likelihood ratio tests and comparisons of AIC/BIC, Model 2 was deemed to be the best fitting model for problem-focused coping. These results suggest that Narcissism is positively associated with problem-focused coping, which is generally consistent with hypotheses.

For emotion-focused coping, in Model 1, Narcissism was a significant predictor ($p < .001$). The Wald chi-square test for the significance of the overall model was significant, $\chi^2(1) = 18.91$, $p < .001$. In Model 2, there was still a significant effect of Narcissism when daily stress was added as a predictor ($p < .001$). Daily stress was also significant ($p = .008$). The Wald test of

the overall Model 2 was significant, $\chi^2(2) = 25.93$, $p < .001$. In Model 3, with the interaction term, Narcissism ($p < .001$) and daily stress ($p = .006$) maintained their significance. However, their interaction was not a significant predictor, although it approached significance ($p = 0.08$). The overall Wald test was significant, $\chi^2(3) = 29.03$, $p < .001$. Unfortunately, Model 3 did not reach convergence and the results for this model should be interpreted with caution. Based on likelihood ratio tests and comparisons of AIC/BIC, Model 2 was deemed to be the best fitting model for emotion-focused coping. These results suggest that Narcissism is positively associated with emotion-focused coping, which is generally consistent with hypotheses.

Regarding avoidant coping, in Model 1, Narcissism was a significant predictor ($p = .004$). The overall Wald test was significant, $\chi^2(1) = 8.14$, $p = .004$. In Model 2, both Narcissism ($p = 0.003$) and daily stress ($p < .001$) significantly predicted avoidant coping. The overall Wald test was significant, $\chi^2(2) = 28.67$, $p < .001$. In Model 3, with the interaction term, Narcissism ($p = 0.035$) and daily stress ($p < 0.001$) remained significant, but their interaction was not ($p = 0.55$). When adjusting for multiple comparisons, Narcissism was no longer significant in Model 3, $p_{adj} = 0.05$. The overall Wald test was significant, $\chi^2(4) = 43.02$, $p < .001$. Once again, Model 2 had a better model fit. These results suggest that Narcissism is positively associated with avoidant coping. Overall, results did not support the hypothesis that Narcissistic personality and daily stress would interact to predict coping strategies. Nevertheless, the hypothesis that Narcissism would predict a combination of problem- and emotion-focused coping was supported, such that the higher levels of Narcissism one has, the more likely they are to engage in these coping strategies. Furthermore, there was evidence to suggest that they may also engage in avoidant coping as well, which was slightly unexpected.

RQ3: How do individuals higher in Machiavellianism cope with daily stressors?

To test that hypothesis that individuals higher in Machiavellianism would employ more emotion-focused and avoidant coping strategies, I ran separate models for each coping outcome and Machiavellianism. For problem-focused coping, in Model 1, where only Machiavellianism was the predictor, Machiavellianism was not a significant predictor of problem-focused coping ($p = 0.51$). The overall Wald test was not significant, $\chi^2(1) = 0.43$, $p = 0.51$. For Model 2, when daily stress was added to model, Machiavellianism was still not a significant predictor ($p = 0.56$). Daily stress was significant ($p < .001$). The overall Wald test was significant, $\chi^2(2) = 22.08$, $p < .001$. For Model 3, where an interaction term for Machiavellianism and daily stress was added, neither Machiavellianism alone ($p = 0.32$) or the interaction ($p = 0.41$) were significant. Daily stress maintained its significance ($p < .001$), and the overall Wald test was significant, $\chi^2(3) = 22.78$, $p < .001$. Likelihood ratio tests and AIC/BIC comparisons suggest that Model 2 is the best fit. These results suggest that Machiavellianism is not associated with problem-focused coping, consistent with hypotheses.

Regarding emotion-focused coping, in Model 1, Machiavellianism was not a significant predictor ($p = 0.13$). The overall Wald test was significant, $\chi^2(1) = 2.33$, $p = 0.13$. For Model 2, Machiavellianism was still not a predictor, but approached significance ($p = 0.09$). Daily stress was significant ($p = 0.008$). The overall Wald test yielded a significant result, $\chi^2(2) = 9.89$, $p = .007$. For Model 3, with the interaction term, Machiavellianism did become a significant predictor ($p = 0.02$), and daily stress remained significant ($p = 0.009$). Their interaction was not significant ($p = 0.10$). The overall Wald test was significant, $\chi^2(3) = 12.69$, $p = .005$. Based on AIC/BIC comparisons, Model 3 was deemed a better fit. These results suggest that Machiavellianism alone is not associated with emotion-focused coping, but when controlling for daily stress and its interaction with personality, Machiavellianism could positively predict

emotion-focused coping. In this scenario, daily stress is a suppressor variable augmenting Machiavellianism's influence. This is somewhat consistent with hypotheses.

Regarding avoidant coping, in Model 1, Machiavellianism did significantly predict avoidant coping ($p = 0.02$). The overall model was significant, $\chi^2(1) = 5.07$, $p = .02$. In Model 2, with the addition of daily stress, both Machiavellianism ($p = 0.004$) and daily stress ($p < .001$) were significant. The overall model was significant as well, $\chi^2(2) = 27.97$, $p < .001$. Lastly, in Model 3, all terms were significant: Machiavellianism ($p < .001$), daily stress ($p < .001$), and their interaction ($p = 0.005$). The overall Wald test for Model 3 was significant, $\chi^2(3) = 35.90$, $p < .001$. Both likelihood ratio tests and AIC/BIC comparisons suggest that Model 3 is the best fit. These results suggest that Machiavellianism is associated with avoidant coping, both alone and when interacting with daily stress. Overall, there is evidence to suggest that Machiavellianism is related to emotion-focused and avoidant coping, especially the latter – which is consistent with hypotheses.

Since there was a significant interaction between Machiavellianism and daily stress predicting avoidant coping, the simple slopes of that interaction were probed to better interpret the interaction. One standard deviation below the mean, the mean, and one standard deviation above the mean for daily stress was examined for low, moderate, and high levels of Machiavellianism. Figure 1 and Table 4 display the results of this evaluation, suggesting that the slope between daily stress and avoidant coping becomes less pronounced as individuals increase in Machiavellianism. In other words, the more Machiavellianism an individual displays, the less likely their avoidant coping will be influenced by how much stress they experience.

RQ4: How do individuals higher in Sadism cope with daily stressors?

To test that hypothesis that individuals higher in Sadism would employ more emotion-focused and avoidant coping strategies, I ran separate models for each coping outcome and Sadism. For problem-focused coping, in Model 1, where Sadism was the only predictor, Sadism was not significant (p = 0.33). The overall Wald test of the model was also not significant, $\chi^2(1) = 0.93$, $p = 0.33$). With the addition of daily stress in Model 2, Sadism remained not significant (p = 0.42), but daily stress was significant ($p < .001$). The overall Wald test was significant, $\chi^2(2) = 23.25$, $p < .001$. Next, with Model 3, where an interaction term between Sadism and daily stress was included, both Sadism (p = .82) and the interaction (p = .80) were not significant. The overall Wald test was significant, $\chi^2(3) = 23.32$, $p < .001$. Model 2 was deemed to have the best fit, based on likelihood ratio tests and AIC/BIC comparisons. These results suggest that Sadism is not associated with problem-focused coping, consistent with hypotheses.

Regarding emotion-focused coping, in Model 1, Sadism was a significant predictor (p = 0.03), except when adjusting for multiple comparisons, $p_{adj} = 0.05$. The overall Wald test was also significant, $\chi^2(1) = 4.68$, $p = 0.03$. For Model 2, both Sadism (p = 0.03) and daily stress (p = 0.006) were significant predictors. The overall model was also significant, $\chi^2(2) = 12.54$, $p <$ .002. Finally, for Model 3 with the interaction term, Sadism approached significance (p = 0.06) and the interaction was not significant (p = 0.55). Daily stress was still a significant predictor (p = 0.006). The overall Wald test was significant, $\chi^2(3) = 12.89$, $p = .005$. Comparisons indicated that Model 2 fit best. These results suggest that Sadism is a predictor of emotion-focused coping, but does not interact with daily stress. This is generally consistent with hypotheses.

Finally, regarding avoidant coping, in Model 1, Sadism was a significant predictor (p = 0.02). The Wald test was also significant, $\chi^2(1) = 5.79$, $p = .02$. For Model 2, both Sadism (p = .007) and daily stress ($p < .001$) were significant predictors of avoidant coping. The overall

model maintained significance, $\chi^2(2) = 27.91$, $p < .001$. For Model 3, with the interaction term, Sadism ($p = 0.01$) and daily stress ($p < .001$) both maintained their influence, but did not interact with each other ($p = .13$). The overall model was significant, $\chi^2(3) = 30.22$, $p < .001$. Model 2 was deemed the best fit. These results suggest that Sadism positively predicts avoidant coping. Overall, there were no significant interactions between Sadism and daily stress, contrary to hypotheses. However, aligned with expectations, Sadism was positively associated with emotion-focused and avoidant coping.

Supplemental Gender Analyses[1]

Given frequently reported gender differences regarding the Dark Tetrad (e.g., Bronchain et al., 2021; Grijalva et al., 2015; Jonason et al., 2020; Lee & Salekin, 2010; Rim, 1992), all of the aforementioned models were run separately with only women and only men to delineate potential differences in coping. Individuals identifying as nonbinary or transgender were not examined due to small sample size. Multiple comparisons were not controlled for in these subsets as these were exploratory, post-hoc analyses. There were no significant interactions between personality and stress except where noted below. Daily stress was always a significant predictor of all forms of coping, similar to the previous main analyses. Men reported marginally higher mean scores on the Dark Tetrad measures than women, and stress and coping scores were essentially equivalent (Table 5).

For women, Psychopathy did not significantly predict problem-focused coping in any iteration of the model ($p = 0.09$ in Model 1, 0.19 in Model 2, 0.93 in Model 3); it did predict

[1]I ran other supplemental analyses on models with all Dark Tetrad traits entered at the same time to control for each other, alongside daily stress. No trait predicted avoidant coping, and only Narcissism still predicted problem- and emotion-focused coping after controlling for the other Dark Tetrad traits and stress. When Dark Triad *total* score on the SD3 (i.e., the traits pooled *without* Sadism) was entered as a predictor alongside daily stress, the Dark Triad did not predict problem-focused coping, but did predict emotion-focused and avoidant coping. The latter two interactions with daily stress were not significant predictors, but approached significance. Specific results are available upon request.

emotion-focused coping except Model 3 (p = 0.01 in Models 1 and 2, 0.22 in Model 3); and it did predict avoidant coping in all versions of the model (p = 0.01 in Model 1, 0.004 in Models 2 and 3). Narcissism did significantly predict problem-focused coping in all three models ($p < .001$ in all models); it did predict emotion-focused coping ($p < .001$ in Models 1 and 2, $p = .01$ in Model 3); and did predict avoidant coping as well (p = 0.01 in Models 1 and 2, 0.04 in Model 3). Machiavellianism did not significantly predict problem-focused coping (p = 0.27 in Model 1, 0.35 in Model 2, 0.33 in Model 3); it did predict emotion-focused coping except Model 3 (p = 0.04 in Models 1 and 2, 0.06 in Model 3); and also predicted avoidant coping (p = 0.01 in Model 1, 0.004 in Model 2, 0.002 in Model 3). Sadism did not significantly predict problem-focused coping (p = 0.09 in Models 1 and 2, 0.33 in Model 3); it did predict emotion-focused coping (p = 0.01 in Model 1, 0.04 in Model 2, 0.02 in Model 3); and did predict avoidant coping in all versions of the model (p = 0.04 in Model 1, 0.02 in Model 2, < .001 in Model 3). There was also a significant interaction between Sadism and daily stress to predict avoidant coping in Model 3, p = 0.005.

For men, Psychopathy did not significantly predict problem-focused coping (p = 0.67 in Model 1, 0.99 in Model 2, 0.47 in Model 3), emotion-focused coping (p = 0.39 in Model 1, 0.42 in Models 2 and 3), or avoidant coping (p = 0.26 in Model 1, 0.33 in Model 2, 0.38 in Model 3). Narcissism did significantly predict problem-focused coping in models 1 and 2, but not model 3 with the interaction term (p = 0.02 in Models 1 and 2, 0.33 in Model 3); it did predict emotion-focused coping in all models (p = 0.05 in Model 1, 0.04 in Model 2, 0.03 in Model 3); and did not significantly predict avoidant coping (p = 0.22 in Model 1, 0.16 in Model 2, 0.19 in Model 3). Machiavellianism did not significantly predict problem-focused coping (p = 0.77 in Model 1, 0.74 in Model 2, 0.88 in Model 3), emotion-focused coping (p = 0.89 in Model 1, 0.88 in Model

2, 0.37 in Model 3), or avoidant coping except for Model 3 with the interaction term included (p = 0.55 in Model 1, 0.20 in Model 2, 0.02 in Model 3). There was also a significant interaction between Machiavellianism and daily stress to predict avoidant coping in Model 3, p = 0.04. Sadism did not significantly predict problem-focused coping (p = 0.77 in Model 1, 0.91 in Model 2, 0.83 in Model 3), emotion-focused coping (p = 0.87 in Model 1, 0.85 in Model 2, 0.67 in Model 3), or avoidant coping (p = 0.35 in Model 1, 0.33 in Model 2, 0.60 in Model 3). Overall, the results suggest that dark personality may not be as linked to coping strategies in men as it is with women.

Discussion

Personality influences how individuals navigate life and impacts how they perceive themselves and the world around them. Everyone experiences stress in their daily lives to some degree, and thus have to cope with the stress when it arises. Given previous research suggesting that personality and coping with stress are intrinsically linked (Carver & Scheier, 2012; Suls et al., 1996), and a dearth of detailed research pertaining to how individuals higher in darker personalities cope, the present study sought to explore how individuals higher in the Dark Tetrad traits cope with average, every day stress across a short period of time.

Results predominantly aligned with hypotheses. Firstly, as expected, as individual levels of Psychopathy, Machiavellianism, and Sadism respectively increased, use of emotion-focused and avoidant coping strategies also increased. These included strategies like venting, seeking emotional support, acceptance, humour, exercise, avoidance, distraction, and mental disengagement. Higher levels of these traits were not related to problem-focused coping, such as active coping, planning, seeking instrumental support, and positive reframing. These findings generally held when controlling for daily stress levels and imply that at higher levels of

Psychopathy, Machiavellianism, or Sadism, individuals may be less likely to utilize adaptive, problem-focused coping strategies when faced with stress. Conversely, as anticipated, as Narcissism increased, individuals endorsed a combination of problem- and emotion-focused coping strategies. Unexpectedly, increased levels of Narcissism were also associated with increased avoidant coping. Although not explicitly hypothesized or the focus of the present study, daily stress was always significantly related to all forms of coping strategies, regardless of the personality traits that were controlled for.

Interestingly and contrary to hypotheses, there were nearly no significant interactions between any personality trait and daily stress to predict coping. The only exception was an interaction between Machiavellianism and daily stress to predict avoidant coping, indicating that the more Machiavellianism an individual displays and the more stress they experience, the less likely they may be to use avoidant-type strategies. The lack of significant interactions runs contrary to the notion that stress arises when there are hindrances to one's internal goals, as defined by one's personality (Carver et al., 2008), and that personality is linked to one's perceptions of stress (e.g., Psychopathy; Durand & Plata, 2017; Pham, 2012). This prompts the question as to whether personality and stress are as linked as previously theorized. However, it is possible that the present study's findings are due to some other simpler explanation, such as being underpowered to detect interactions, or personality and stress do not interact to predict coping specifically. Findings could also be due to the fact that those higher in these traits simply under-reported their stress because they do not perceive it "normally" (Gao et al., 2012). These suggestions are speculative at this stage and would require further examination in future studies.

Dark Personality and Dark Coping

Researchers have posited that coping is a theoretical "manifestation" of one's personality (Carver & Scheier, 2012; Carver et al., 2008; Suls et al., 1996). If following this notion, certain coping strategies would be more useful for specific people of certain personalities, or individuals with certain personalities may gravitate toward specific coping strategies because their innate disposition (Suls et al., 1996). The present study supports previous research showing that individuals higher in the Dark Tetrad traits tend to employ "maladaptive" coping strategies, which aligns with conceptualizations of what it means to be high in these dark traits.

Psychopathy and Coping

Individuals higher in Psychopathy frequently endorse more maladaptive and destructive coping, impulsivity, and a stark lack of empathy (Birkás et al., 2016; Paulhus & Williams, 2002). Such an inherent degree of self-centredness, unthinkingness and uncaringness may make one disinclined to "fix" a problem (Birkás et al., 2016; Cima et al., 2010). If a problem is not creating *personal* distress or interfering with one's goals, there may be less motivation to alter the situation, even if the situation harms others. Simply, those higher in Psychopathy are less likely to cope constructively if they themselves are not greatly impacted by a stressor (Jonason et al., 2020). Therefore, they may avoid the situation altogether, if it is not serving them beneficially, or they may address whatever emotions they are experiencing. It is unsurprising then that increased Psychopathy in the present sample was associated with a greater tendency to avoid, disengage, or utilize emotion-focused coping.

Nevertheless, it is curious that those higher in Psychopathy engaged in coping strategies that typically aim to alleviate *emotional* reactions to stressors, since they are often defined by their disconnect from their feelings and those of others (Gao et al., 2012). It could be that those higher in Psychopathy do still feel stress and the unpleasant emotions associated with it, thus

supporting research suggesting those higher in Psychopathy are *more* reactive to stress (Mushtaq et al., 2022; Noser et al., 2014; Sabouri et al., 2016; Wendt & Bartoli, 2019; Visser et al., 2012) rather than the research indicating they are *less* reactive (e.g., Durand & Plata, 2017; Gao et al., 2012; Kajonius & Bjorkman, 2018; Lyons et al., 2019). Moreover, these findings have implications for the idea of somatic aphasia, where there is a discrepancy between the physiological experience of stress and someone higher in Psychopathy's ability to self-report stress experience (Gao et al., 2012). The question becomes whether it is possible that individuals higher in Psychopathy feel the emotions related to stress, perceive them abnormally, and then unwittingly engage in emotion-focused coping to relieve unconsciously perceived unpleasant feelings. Or, in other words, how much are they aware that they engage in strategies aimed at emotional relief? Such conclusions and inquiries are beyond the scope of the present study and would require further empirical clarification.

Machiavellianism and Coping

Similar to Psychopathy, those higher in Machiavellianism consistently experience more maladaptive coping strategies, such as blame, suppression, less effort or social support, and less problem-focused coping (Birkás et al., 2016; Jonason et al., 2018; Rim, 1992). The present findings bolster these conclusions: Although Machiavellianism is characterized by cunning and manipulation, these individuals are still susceptible to undesirable coping methods when handling stress. However, the fact that higher levels of Machiavellianism was not associated with greater problem-focused coping conceptually diverges from the cold, controlled, and strategic nature of someone high in Machiavellianism. Typically, it is assumed that those higher in Machiavellianism are motivated by their goals and will do anything to achieve them, including problem-solving. Birkás and colleagues (2016) even noted that those higher in Machiavellianism

were not entirely maladaptive, displaying an ability to positively reframe their situations. In light of the present findings, it might be possible that we overestimate one's ability to effectively overcome emotional stress or stressors in general. Those higher in Machiavellianism thrive on control (Aldousari & Ickes, 2021), and perhaps the discomfort they feel in situations wherein they lose that control is strong enough to warrant coping strategies that target emotions rather than obstacles.

Narcissism and Coping

Of the Dark Tetrad, Narcissism is dubbed the most "adaptive" of the traits. Subclinical Narcissism is positively associated with mental toughness (i.e., consistent performance under pressure and stress; Papgeorgiou et al., 2017), rationalization (Richardson & Boag, 2016), and coping flexibility (i.e., the ability to shift between an arsenal of coping strategies; Ng et al., 2014); but also with aggression, denial, and behavioural disengagement (Birkás et al., 2016; Fernie et al., 2016). Therefore, hypotheses were based on these findings and those of Birkás and colleagues (2016), that noted individuals higher in Narcissism utilized a combination of problem- and emotion-focused coping. Present findings supported this hypothesis and add to the literature detailing Narcissism's potentially beneficial, adaptive qualities. The inclination to utilize various different types of coping also hints at further evidence for the "coping flexibility" individuals higher in Narcissism have revealed in past research (e.g., Ng et al., 2014).

The present findings also highlight this trait's inconsistent presentation. Since higher levels of Narcissism were associated with all three types of coping, this could provide further incentive to investigate the nuances between Grandiose and Vulnerable Narcissism. Although not differentiated in the present study, the propensity to utilize problem-focused coping could be linked to higher levels of Grandiose Narcissism, which is associated with stability and resiliency.

Whereas, emotion-focused or avoidant coping could be linked to higher levels of Vulnerable Narcissism, which is associated with dysregulation and reactivity (Miller et al., 2011; Zhang et al., 2017). Further, specified research is required to know for certain.

The Dark Tetrad, Dark Dyad, or Dark Core

The present study evaluated the coping strategies of the Dark Tetrad traits independently, including Sadism, to provide evidence for or against consolidating them into a "Dark Dyad" (i.e., Psychopathy-Machiavellianism as one dark construct and Narcissism as a separate construct; Egan et al., 2014) or an overarching "Dark Core" (Bertl et al., 2017; Moshagen et al., 2018). Although clarity was the goal, the findings still yield some degree of uncertainty in this debate.

To the best of my knowledge, the coping strategies of those higher in Sadism have never been directly evaluated. As such, hypotheses for Sadism were informed by Psychopathy research, given their similarities and that idea that Sadism could be subsumed within Psychopathy (Bertl et al., 2017; Meere & Egan, 2017). Expectedly, results revealed a similar coping pattern among those with higher levels of Sadism to those with higher levels of Psychopathy; that is, there was no association between increased Sadism and problem-focused coping, but there was an association between increased Sadism and increased emotion-focused and avoidant coping. This similarity of coping extends across gender, such that increased Psychopathy and increased Sadism predicted the same coping strategies in women, and both did *not* predict coping in men. This could further support Sadism falling under the Psychopathy umbrella (Bertl et al., 2017; Meere & Egan, 2017). However, increased Sadism was only associated with emotion-focused coping after daily stress was accounted for; whereas, Psychopathy resoundingly predicted emotion-focused coping, even alone in the model. Therefore, although Sadism overlaps greatly with Psychopathy, there may still be unique

nuances in its manifestation and its relationship with daily stress and coping. Nevertheless, the patterns were similar enough to still maintain that Psychopathy and Sadism are closely related. Moreover, Psychopathy and Sadism were moderately correlated (Table 2).

In addition to Sadism, Machiavellianism also followed similar trends to Psychopathy: there was no association with problem-focused coping, but there was positive association between increased Machiavellianism and emotion-focused and avoidant coping. However, Machiavellianism was the only dark trait with an interaction with daily stress to predict avoidant coping – Psychopathy did not interact with stress. It appears that, at least in the present study, the trio of Psychopathy, Machiavellianism, and Sadism are extremely similar in the coping strategies they employ. Machiavellianism and Sadism are similar still in their relationships with daily stress. The results imply that daily stress could be a suppressor (i.e., an extraneous variable that suppresses the influence of predictor variables until adjusted for, improving predictive validity) in their relationships with emotion-focused coping, since it amplified their predictability (Mackinnon et al., 2000). Although minor distinctions still exist between these three traits, they are more similar than not in the context of coping, supporting the theory that Sadism and Machiavellianism *could* be facets of Psychopathy.

Narcissism's inclusion in the Dark Tetrad is controversial given its aforementioned "benefits" (Back et al., 2013; Miller et al., 2011). Of the four dark traits explored in the present study, Narcissism revealed the strongest, most consistent, and most distinct relationships with coping. Having predicted all three forms of coping, with and without daily stress's inclusion, there is strong support for not only hypotheses, but also Narcissism's individuality as a dark personality trait. If the other three traits could theoretically be amalgamated within Psychopathy while Narcissism is distinctive in its associations with coping, these findings could bolster

previous “Dark Dyad” or “bifactor model” findings (which pools the aversiveness of Psychopathy and Machiavellianism together while maintaining Narcissism’s separate complexity; Egan et al., 2014; Jonason & Luévano, 2013; Rogoza & Cieciuch, 2020). Muris and colleagues (2017) also argued that there is little compelling reason to include all dark traits as separate in research studies given their overlap and similarities to Psychopathy itself. Similarly, regarding the Dark Core, it is important to statistically and/or conceptually tease apart Narcissism’s benevolent aspects from its malevolent aspects, as not every “piece” of Narcissism is construed as “dark” (Egan et al., 2014). However, that is not to imply that the problematic aspects of Narcissism cannot be explained by a common, underlying dark core. Further research is necessary and many research questions could arise from this idea (such as the importance of context, other aspects of the individual, or subtypes of the Dark Tetrad traits). In the argument regarding the independence of each of the Dark Tetrad traits, the results of the present study point more toward a Dark Dyad-type model, as opposed to a Tetrad or a Core.

Gender Differences

As anticipated, men had higher mean levels of the Dark Tetrad traits than women. Unexpectedly, these differences in mean scores were marginal (i.e., differing only by a couple points). Also unexpected was that coping strategies were quite similar between genders. Differences in coping were also quite marginal; whereas, it was anticipated that men would utilize more maladaptive strategies (e.g., avoidant) than women. This could be specific to the present sample, suggesting that these particular undergraduate men and women are quite similar in their Dark Tetrad and coping presentations, or it could hint at something else unaccounted for that warrants deeper exploration. For example, it is possible that men higher in Dark Tetrad traits, like Psychopathy, might have downplayed their responses to seem “better.” Although there

was little correlation between the Dark Tetrad and the social desirability measure, response bias is always a potential confound.

In the full-sample models, gender was not a significant predictor of coping. However, when men and women were separated, notable distinctions arose. For the women, findings aligned with the overall findings, where increased Narcissism predicted all forms of coping and the other three traits did not predict problem-focused coping. Sadism in particular revealed a significant interaction with daily stress, which was not present in the full-sample with men included. Supporting Carver and Scheier's (2012) notion that coping is prompted when obstacles/stressors interact with one's personality, Sadism appeared to have a closer relationship to daily stress than the other traits when predicting avoidant coping among women. This finding is unique given that the coping of individuals higher in Sadism has not yet been explored and could have implications for future studies examining everyday Sadism. For example, considering the influence of stress would be a variable to consider when avoiding confounds.

Overall, it appeared that dark personality may play a role in the prediction of certain types of coping in women, notably emotion-focused and avoidant coping. Women's propensity toward emotion-focused coping is unsurprising since women tend to be more attuned with their feelings and alleviating/expressing them than men (e.g., Chaplin, 2015; Nolen-Hoeksema, 2012; Thayer et al., 2003). Previous research also noted that women higher in Dark Triad traits were inclined to use socially-oriented strategies, like emotional social support (Jonason et al., 2020; Rim, 1992). While the finding that Dark Tetrad traits predicted avoidant coping aligned with hypotheses, it misaligns with the notion that women would be more likely to choose adaptive, constructive forms of coping like problem-focused strategies, even if higher in Dark Tetradic traits (Jonason et al., 2020; Rim, 1992). It is unclear the mechanisms underlying these

conclusions, so further research is needed to determine if these findings are robust and if there are other unincluded explanatory factors.

Conversely, findings were not consistent with hypotheses among men. Indeed, Psychopathy, Machiavellianism, and Sadism did not predict any coping whatsoever, and Narcissism lost some of its predictive power, primarily predicting emotion-focused coping. One interpretation could be that dark personality may not play a large role in dictating coping in men as it does with women, given the noteworthy lack of significant associations. However, this is in contrast to previous research denoting significant gender differences in coping (e.g., Matud, 2004), and significant gender differences in Dark Triad coping (e.g., Jonason et al., 2020). Further research into Dark Tetrad coping with a larger sample of men is imperative. In the present study, power and sample size calculations were determined with the entire sample in mind, so it is plausible that excluding women from the analyses (removing the majority of the sample) greatly diminished power.

Strengths and Limitations

This is the first study to examine Dark Tetrad coping using an intensive longitudinal approach, and the first study in general to examine coping in relation to Sadism. Previous literature sorely lacks in rigorous methodology and has greatly neglected everyday Sadism, often favouring sexual Sadism. The present study fortifies previous Dark Triad / Tetrad coping research, adding to findings about the maladaptive Dark Tetrad coping tendencies, and stands alone in its methodology and robustness. Strengths and limitations are reviewed below.

Firstly, a variety of coping strategies were included in the daily surveys, thus providing participants with a broader coping list to choose from as opposed to requiring them to choose from a few strategies. However, some key coping strategies were not captured, such as

aggression or substance use – both of which are common coping techniques of the Dark Tetrad (Birkás et al., 2016; Miller et al., 2011; Hart et al., 2021; Richardson & Boag, 2016). Moreover, coping strategies were pooled into categories during primary analyses (problem-focused, emotion-focused, and avoidant). While this choice decreased coping specificity, it promoted statistical and conceptual simplicity, and better aligned with hypotheses.

The diverse sample in the present study is an important strength. Previous studies within this domain, and other psychological studies conducted in university populations, tend to report predominantly White, female samples (e.g., Birkás et al., 2016; Birkás et al., 2020; Jonason et al., 2020; Kajonius & Bjorkman, 2020). Of the present sample, however, only 53% identified as White, with a wide array of other unique ethnicities representing the remaining 47% (i.e., Black, East Asian, South Asian, Middle Eastern, Hispanic, Indigenous). This permits greater generalizability to the general public. However, the study did not control for cultural differences in coping. Regarding gender identity, 64.2% identified as Women and 32.5% identified as Men. Undergraduate men are by-and-large more difficult to recruit, with many studies reporting 18-41% of men in their final samples (Birkás et al., 2016; Birkás et al., 2020; Lyons et al., 2019; Papageorgiou et al., 2019; Richardson & Boag, 2016). By specifically targeting individuals that identify as men during recruitment with advertisements tailored to them, I was able to increase their representation in the present study. This is particularly valuable when examining gender differences in coping and personality, as men (usually) have greater tendencies to cope more destructively and display higher levels of the Dark Tetrad traits (Jonason et al., 2020). Indeed, the men in the present sample coped with slightly more maladaptive tendencies and displayed higher levels of the Dark Tetrad traits compared to women, consistent with a plethora of previous research (e.g., Jonason et al., 2020; Kealy et al., 2017; Rim, 1992). Nevertheless, the sample was

still limited to a young, undergraduate sample. This does not consider individuals who are older, younger, did not attend university, or possess higher clinical levels of these dark traits.

The implementation of an intensive longitudinal (daily diary) study design is a substantial improvement over previous research that heavily relied on one-time cross-sectional questionnaires (Bolger & Laurenceau, 2013). This is unfortunate as cross-sectional surveys introduce retrospective bias into the results (i.e., inaccurate recall regarding how stressful and event was or how one coped with it). The intensive longitudinal method allowed me to examine the consistency (or inconsistency) of coping between personality traits and across a period of time to get as close to real-time as possible without being an ecological momentary assessment (i.e., repeatedly sampling participant behaviours, reactions, emotions, or experiences in real-time in the real world using specialized technological devices). With the intensive longitudinal design, participants were encouraged to complete the surveys each day prior to going to bed, in order to decrease the likelihood of retroactive interference. Although reflecting on the day still possesses some degree of retrospective bias, the threat is decreased since the events of the day are presumably still recent and clearer in one's memory. For future research, a further improvement on this methodology would be employing ecological momentary assessments and/or encouraging participants to complete surveys immediately after a stressful, upsetting, or bothersome event occurred. Limitations to the intensive longitudinal (daily diary) approach included: participants forgetting to complete surveys, resulting in less than 14-entries; participants completing surveys inconsistently, resulting in uneven intervals between surveys; and attrition. This method is also time-consuming and resource intensive (Bauer & Curran, 2022**)**.

Statistically, multilevel regression exceptionally robust, but is still "correlational" in nature. Although longitudinal research is more robust than cross-sectional correlational survey

research, adding an experimental element to future iterations of this study could allow researchers to more clearly account for confounding variables that influence coping beyond personality or gender. For example, if researchers are interested in how individuals higher in the Dark Tetrad traits respond to specific stressors, researchers could manufacture a stress-inducing scenario and monitor how participants react and cope. They would then be able to compare individuals possessing higher levels of Dark Tetrad traits to individuals with lower levels of Dark Tetrad traits in a much more controlled design that limits extraneous factors (e.g., inaccurate recall, differences in the stressful situation itself).

The SD3 and the ASP were used as the primary questionnaires to measure the Dark Triad and Sadism respectively. They have been validated and utilized within college and university populations with adequate internal consistencies. Therefore, the results regarding the levels of dark personality traits in the present sample can be deemed statistically reliable. However, there is always the possibility of inaccurate or dishonest responding when individuals complete self-report questionnaires. The risk of dishonest responding, namely creating a more favourable impression, is of particular consideration when evaluating individuals with potentially Psychopathic, Narcissistic, Machiavellian, and/or Sadistic tendencies, given that lying, manipulation, and "faking good" are common behaviours associated with these traits (Book et al., 2006). Although we cannot know for certain whether individuals answered honestly, attempts were made to provide safeguards. Firstly, the research team reiterated during orientation sessions that all responses would remain confidential with no identifying features of participants. It was stated that we would not know whose responses belonged to whom. Secondly, the MCSDI was added to detect socially desirable responding. Fortunately, the MCSDI did not correlate highly with any of the SD3 subscales or the ASP, and when it did, it was a negative correlation,

suggesting little socially desirable responding. Previous research also supports little concern about socially desirable responding, even among those higher in Psychopathy (MacNeil & Holden, 2006; Ray et al., 2013).

Furthermore, the present sample had low-moderate means with regard to SD3 and ASP scores. This could be a limitation given that individuals with higher levels of these traits could provide greater insight into their coping strategies and yield a greater delineation between the traits. When they appear in lower levels, detecting authentic differences could become difficult. Nevertheless, this result is not an anomaly. Young adult and postsecondary samples (even general populations) typically reported lower levels of the dark personality traits (Birkás et al., 2016; Birkás et al., 2020). Forensic populations tend to reveal higher Dark Tetradic traits and tendencies, which was not the focus of the present study. University populations, and the general population by extension, typically possess low-moderate levels of these traits. Although ideal to examine stress and coping in samples higher in the Dark Tetrad, the present study still provides a valuable contribution to past research and a solid foundation to build upon in the future.

Future Directions and Implications

There are many ways in which future research can build upon the present study. As briefly mentioned above, future research could examine *specific* coping strategies as opposed to broad categories of coping (e.g., evaluating denial, exercise, or cognitive reappraisal alone); or employ alternative methodology and statistical techniques (e.g., experimental paradigms).

Research suggests that the Dark Tetrad can be broken down into more specific facets. For example, Psychopathy is comprised of sub-traits like aggression, callous-unemotionality, and impulsivity, which have been studied individually (Bader et al., 2021; Jonason et al., 2015; Miller & Lynam, 2015). Exploring how individuals higher in these particular facets cope with

stress could yield detailed findings and a better understanding into the complexities of the personality and coping relationship. For instance, Young and Kyranides (2022) found that individuals higher in callous-unemotional traits employed maladaptive humour styles to cope and regulate emotions. However, they also relied on one-time questionnaires. Thus, there is opportunity to utilize longitudinal or experimental designs here as well.

A new constellation of personality traits has recently been identified that appears to mirror the Dark Tetrad. Proposed by Kaufman and colleagues (2019), the Light Triad is comprised of Humanism (i.e., valuing the dignity and worth of people), Faith in Humanity (i.e., believing in the fundamental goodness of humans), and Kantianism (i.e., treating people as ends unto themselves). To date, no research has examined how individuals higher in these traits cope with stress and there is very little research into how individuals higher in these traits react to stress in general (e.g., physiologically). Given that those higher in the Dark Tetrad cope destructively, it could be theorized that those higher in the Light Triad are better able to regulate themselves in stressful situations and potentially cope adaptively. However, further research is needed to test such hypotheses. Moreover, the Light Triad is distinctive from the Dark Tetrad, such that they are not direct opposites (Kaufman et al., 2019; Lukić & Živanović, 2021). It would be an interesting avenue for future research to delineate how these constellations differ from each other and if there is any *similarity* in coping behaviours or stress responses.

Previous research, as well as the present study, has shown that individuals higher in Dark Tetrad traits cope maladaptively (Birkás et al., 2016; Jonason et al., 2020). However, little to no research has thoroughly examined the specific situations that these individuals find stressful in the first place. Exploring stressful situations in detail can provide pre-emptive information that could be utilized by researchers and clinicians. For example, if individuals higher in Narcissism

experience higher stress in academic situations, namely testing situations, researchers or clinicians could reasonably start to predict how these individuals may respond when faced with upcoming examinations. If they respond destructively, efforts could be made to curb those destructive coping responses.

Broadening the present research to diverse populations and stressful situations further strengthens findings and tailors them to unique groups and circumstances. For instance, individuals higher in Psychopathy tend to report lower levels of stress despite experience great adversity (e.g., childhood adversity; Gobin et al., 2015; Pham, 2012). This finding was evidenced in a forensic sample of male offenders, which provides a uniquely detailed perspective into that specific population for those specific circumstances. However, they have neglected to explore how these individuals specifically cope to such *extreme* stressors. The same could be done for other populations (e.g., youth, elderly, the broader general public, differing cultural and ethnic groups) for other stressful scenarios, ranging from the "everyday" stressors of the present study to profound stressors like childhood traumas, acute traumatic incidents (e.g., car crash), ongoing stressors (e.g., abusive relationships), or war. Yet, research relies on retrospective accounts of traumatic events, which introduces an inherent retrospective bias. As such, employing longitudinal methodologies could strengthen the conclusions drawn.

The present study's findings are relevant to both research and applied contexts. Firstly, as already outlined above, researchers could use the present study as a framework for conducting future studies examining coping strategies and personality, especially regarding the Dark Tetrad and other dark personality traits, facets, or tendencies. There is much strength in using longitudinal methodology, from long-term panel studies to shorter duration intensive longitudinal "daily diary" or time series designs. Their longer timeframe permits greater

detection of changes in personality, stress, and coping strategy, as opposed to a one-time, less reliable, reflective self-report. As previously discussed, individuals may not accurately remember how they behaved in a stressful situation nor are they able to accurately predict how they would behave in a future stressful situation. One never truly knows how they will behave until the event has occurred recently. Therefore, researchers can hopefully take inspiration from the present study and consider more robust methods for their personality and coping studies, whether in the design or statistically.

Secondly, clinicians can keep these findings in mind when conducting their services, particularly with clients they may suspect either possess higher propensities for darker behaviour (implying a potential for the presence of a darker personality trait) and/or higher propensities for coping with stress in maladaptive ways. Other service workers like law enforcement or correctional employees may also find these findings useful, since forensic populations regularly boast higher levels of these traits and engage in antisocial behaviours, often triggered by high stress, emotional dysregulation, and maladaptive coping responses (Baumeister & Lobbestael, 2011; Coid et al., 2009; Falcón et al., 2021; Meddeb et al., 2023). Findings like these can start to explain why certain people behave in certain ways, from both personality and stress theory standpoints. For example, perhaps those with Narcissistic tendencies react arrogantly and crueller to others because they are coping with stress induced by threats to their self-esteem. In response, service workers could help these individuals cultivate their self-esteem adaptively. Or they could learn to cope appropriately, which can greatly improve how they function in their own life as well as with others, diminishing the likelihood of developing poor life outcomes (e.g., internalizing/externalizing mental health symptoms; Compas et al., 2017) and enhancing the likelihood of developing healthier life outcomes (Aldwin et al., 1996; Compas et al., 2017).

Creativity is encouraged when clinicians and service workers work with individuals higher in Dark Tetrad traits, especially when they are faced with stressors.

Conclusion

Overall, the present study advanced the Dark Tetrad literature by longitudinally examining how individuals higher in Dark Tetrad personality traits cope with everyday stress. Findings indicated that increased Psychopathy, Machiavellianism, and Sadism were significantly associated with increased emotion-focused and avoidant coping, and were not significantly associated with problem-focused coping. Narcissism was associated with all forms of coping, indicating both adaptive and maladaptive tendencies. The robust nature of the present study's design builds upon the foundations laid by previous research, and the findings are relevant for both research and applied contexts, providing important implications for how diverse, darker individuals cope with stress.

References

Abdollahi, A., Hashemi, F., Faraji, H. R., & Hosseinian, S. (2021). Moral disengagement: Mediator between moral perfectionism and Machiavellian behavior among undergraduates? *Psychological Reports, 124*(6), 2761-2773. https://doi.org/10.1177/0033294120964067

Afshar, H., Roohafza, H. R., Keshteli, A. H., Mazaheri, M., Feizi, A., & Adibi, P. (2015). The association of personality traits and coping styles according to stress level. *Journal of Research in Medical Sciences, 20*(4), 353-358.

Aldridge-Gerry, A. A., Roesch, S. C., Villodas, F., McCabe, C., Leung, Q. K. & Da Costa, M. (2011). Daily stress and alcohol consumption: Modeling between-person and within-person ethnic variation in coping behavior. *Journal of Studies on Alcohol and Drugs, 72*(1), 125-134. https://doi.org/10.15288/jsad.2011.72.125

Aldousari, S. S., & Ickes, W. (2021). How is Machiavellianism related to locus of control?: A meta-analytic review. *Personality and Individual Differences, 174,* 110677. https://doi.org/10.1016/j.paid.2021.110677

Aldwin, C. M., Sutton, K. J., & Lachman, M. (1996). The development of coping resources in adulthood. *Journal of Personality, 64*(4), 837-871.

Almeida, D. M., Wethington, E., & Kessler, R. C. (2002). The daily inventory of stressful events: An interview-based approach for measuring daily stressors. *Assessment, 9*(1), 41-55.

American Psychiatric Association (2022). Personality disorders. In *Diagnostic and statistical manual of mental disorders* (5th ed., text rev.).

American Psychological Association. (n. d.). *APA Dictionary of Psychology.* American

Psychological Association. https://dictionary.apa.org/personality?_ga=2.135755057.1210695918.1679423271-1608993445.1662481186

Andrews, P., & Meyer, R. G. (2003). Marlowe-Crowne social desirability scale and short form C: Forensic norms. *Journal of Clinical Psychology, 59*(4), 483-492. https://doi.org/10.1002/jclp.10136

Ashton, M. C., & Lee, K. (2020). Objections to the HEXACO model of personality structure – And why those objections fail. *European Journal of Personality, 34,* 492-510. https://doi.org/10.1002/per.2242

Asscher, J. J., van Vugt, E. S., Stam, G. J., Dekovic, M., Eichelsheim, V. I., & Yousfi, S. (2011). The relationship between juvenile psychopathic traits, delinquency and (violent) recidivism: A meta-analysis. *Journal of Child Psychology and Psychiatry, 52*(11), 1134-1143. https://doi.org/10.1111/j.1469-7610.2011.02412.x

Back, M. D., Küfner, A. C. P., Dufner, M., Gerlach, T. M., Rauthmann, J. F., & Denissen, J. J. L. (2013). Narcissistic admiration and rivalry: Disentangling the bright and dark sides of narcissism. *Journal of Personality and Social Psychology, 105*(6), 1013-1037. https://doi.org/10.1037/a0034431

Bader, M., Hartung, J., Hilbig, B. E., Zettler, I., Moshagen, M., & Wilhelm, O. (2021). Themes of the dark core of personality. *Psychological Assessment, 33*(6), 511-525. https://doi.org/10.1037/pas0001006

Baker, M. R., Nguyen-Feng, V. N., Nilakanta, H., & Frazier, P. A. (2020). Childhood maltreatment predicts daily stressor exposure in college students but not perceived stress

or stress reactivity. *Journal of Counseling Psychology, 67*(1), 79-89. https://doi.org/10.1037/cou0000359

Bartley, C. E., & Roesch, S. C. (2011). Coping with daily stress: The role of conscientiousness. *Personality and Individual Differences, 50*(1), 79-83. https://doi.org/10.1016/j.paid.2010.08.027

Baughman, H. M., Jonason, P. K., Veselka, L., & Vernon, P. A. (2014). Four shades of sexual fantasies linked to the dark triad. *Personality and Individual Differences, 67,* 47-51. https://doi.org/10.1016/j.paid.2014.01.034

Baumeister, R. F., Smart, L., & Boden, J. M. (1996). Relation of threatened egotism to violence and aggression: The dark side of high self-esteem. *Psychological Review, 103*(1), 5-33. https://doi.org/10.1037/0033-295x.103.1.5

Baumeister, R. F., Bratslavsky, E., Finkenauer, C., & Vohs, K. D. (2001). Bad is stronger than good. *Review of General Psychology, 5*(4), 323-370. https://doi.org/10.1037/1089-2680.5.4.323

Baumeister, R. F., & Lobbestael, J. (2011). Emotions and antisocial behavior. *The Journal of Forensic Psychiatry & Psychology, 22*(5), 635-649. https://doi.org/10.1080/14789949.2011.617535

Baumert, A., Schmitt, M., & Perugini, M. (2019). Towards an explanatory personality psychology: Integrating personality structure, personality process, and personality development. *Personality and Individual Differences, 147,* 18-27. https://doi.org/10.1016/j.paid.2019.04.016

Bauer, D. J., & Curran, P. J. (2022, October 6). *Intensive longitudinal data: A multilevel*

modeling perspective. [Lecure Notes, PDF]. Centerstat. https://centerstat.org/wp-content/uploads/2022/09/ILD-Day-2.pdf

Bender, R., & Lange, S. (2001). Adjusting for multiple testing – when and how? *Journal of Clinical Epidemiology, 54,* 343-349. https://doi.org/10.1016/s0895-4356(00)00314-0

Bertl, B., Pietschnig, J., Tran, U. S., Stieger, S., & Voracek, M. (2017). More or less than the sum of its parts? Mapping the dark triad of personality onto a single dark core. *Personality and Individual Differences, 114,* 140-144. https://doi.org/10.1016/j.paid.2017.04.002

Birkás, B., Gács, B., & Csathó, Á. (2016). Keep calm and don't worry: Different dark triad traits predict distinct coping preferences. *Personality and Individual Differences, 88,* 134-138. https://doi.org/10.1016/j.paid.2015.09.007

Birkás, B., Pátkai, G., & Csathó, Á. (2020). The mediating role of the dark triad between life history strategy and perceived stress factors. *Psychological Reports, 123*(2), 252-265. https://doi.org/10.1177/0033294118818095

Black, P. J., Woodworth, M., & Porter, S. (2014). The big bad wolf? The relation between the dark triad and the interpersonal assessment of vulnerability. *Personality and Individual Differences, 67,* 52-56. https://doi.org/j.paid.2013.10.026

Blair, R. J. R., & Mitchell, D. G. V. (2009). Psychopathy, attention and emotion. *Psychological Medicine, 39,* 543-555. https://doi.org/10.1017/S0033291708003991

Blais, J., Solodukhin, E., & Forth, A. E. (2014). A meta-analysis exploring the relationship between psychopathy and instrumental versus reactive violence. *Criminal Justice and Behavior, 41*(7), 797-821. https://doi.org/10.1177/0093854813519629

Blötner, C., & Bergold, S. (2021). To be fooled or not to be fooled: Approach and voidance

facets of Machiavellianism. *Psychological Assessment, 34*(2), 147-158. https://doi.org/10.1037/pas0001069

Bolger, N., Stadler, G., & Laurenceau, J-P. (2011). Power analysis for intensive longitudinal studies. In M. R. Mehl & T. S. Conner (Eds.), *Handbook of research methods for studying daily life* (p. 285-301). The Guilford Press.

Bolger, N., & Laurenceau, J-P. (2013). *Intensive longitudinal methods: An introduction to diary and experience sampling research.* The Guilford Press.

Book, A. S., Holden, R. R., Starzyk, K. B., Wasylkiw, L., & Edwards, M. J. (2006). Psychopathic traits and experimentally induced deception in self-report assessments. *Personality and Individual Differences, 41,* 601-608. https://doi.org/10.1016/j.paid.2006.02.011

Book, A. S., Visser, B. A., & Volk, A. A. (2015). Unpacking "evil": Claiming the core of the dark triad. *Personality and Individual Differences, 73,* 29-38. https://doi.org/10.1016/j.paid.2014.09.016

Book, A. S., Visser, B. A., Blais, J., Hosker-Field, A., Methot-Jones, T., Gauthier, N. Y., Volk, A., Holden, R. R., D'Agata, M. T. (2016). Unpacking more "evil": What is at the core of the dark tetrad? *Personality and Individual Differences, 90,* 269-272. https://doi.org/10.1016/j.paid.2015.11.009

Book, A. S., Visser, B. A., Worth, N., & Ritchie, M. (2021). Psychopathy and assumptions about vulnerability to exploitation. *Personality and Individual Differences, 168.* 110372. https://doi.org/10.1016/j.paid.2020.110372

Brantley, P. J., & Jones, G. N. (1993). Daily stress and stress-related disorders. *Annals of Behavioral Medicine, 15*(1), 17-25.

Brewer, G., & Abell, L. (2015). Machiavellianism and sexual behavior: Motivations, deception and infidelity. *Personality and Individual Differences, 74,* 186-191. https://doi.org/10.1016/j.paid.2014.10.028

Bronchain, J., Raynal, P., & Chabrol, H. (2021). Does sex influence the network structure of psychopathy? *Personality Disorders: Theory, Research, and Treatment, 12*(5), 421-427. https://doi.org/10.1037/per0000462

Buckels, E. E., Jones, D. N., & Paulhus, D. L. (2013). Behavioral confirmation of everyday sadism. *Psychological Science, 24*(11), 2201-2209. https://doi.org/10.1177/0956797613490749

Cain, N. M., Pincus, A. L., & Ansell, E. B. (2008). Narcissism at the crossroads: Phenotypic description of pathological narcissism across clinical theory, social/personality psychology, and psychiatric diagnosis. *Clinical Psychology review, 28,* 638-656. https://doi.org/10.1016/j.cpr/2007.09.006

Campbell, J. S., & Elison, J. (2005). Shame coping styles and psychopathic personality traits. *Journal of Personality Assessment, 84*(1), 96-104. https://doi.org/10.1207/s15327752jpa8401_16

Carver, C. S., & Scheier, M. F. (1981). *Attention and self-regulation: A control-theory approach to human behavior.* Springer New York. https://doi.org/10.1007/978-1-4612-5887-2

Carver, C. S., & Scheier, M. F. (1982). Control theory: A useful conceptual framework for personality-social, clinical, and health psychology. *Psychological Bulletin, 92*(1), 111-135. https://doi.org/10.1037/0033-2909.92.1.111

Carver, C. S., Scheier, M. F., & Weintraub, J. K. (1989). Assessing coping strategies: A

theoretically based approach. *Journal of Personality and Social Psychology, 56*(2), 267-283. https://doi.org/10.1037//0022-3514.56.2.267

Carver, C. S. (1997). You want to measure coping but your protocol's too long: Consider the brief COPE. *International Journal of Behavioral Medicine, 4*(1), 92-100. https://doi.org/10.1207/s15327558ijbm0401_6

Carver, C.S., Scheier, M. F., & Fulford, D. (2008). Self-regulatory processes, stress, and coping. In O. P. John, R. W. Robins, & L. A. Pervin (Eds.), *Handbook of personality: Theory and research (Third Edition)* (p. 725-743). The Guilford Press.

Carver, C. S., & Scheier, M. F. (2012). Self-regulatory perspectives on personality. In H. Tennen, J. Suls, & I. B. Weiner (Eds.), *Handbook of psychology: Personality and social psychology* (p. 119-139). John Wiley & Sons.

Cima, M., & Nicolson, N. A. (2021). Salivary cortisol patterns in psychopathic and non-psychopathic offenders. *Physiology & Behavior, 239,* 113529. https://doi.org/10.1016/j.physbeh.2021.113529

Cima, M. Tonnaer, F., & Hauser, M. C. (2010). Psychopaths know right from wrong but don't care. *Social Cognitive and Affective Neuroscience, 5*(1), 59-67. https://doi.org/10.1093/scan/nsp051

Chabrol, H., van Leeuwen, N., Ridgers, R., & Séjourné, N. (2009). Contributions of psychopathic, narcissistic, Machiavellian, and sadistic personality traits to juvenile delinquency. *Personality and Individual Differences, 47*(7), 734-739. https://doi.org/10.1016/j.paid.2009.06.020

Chan, C. Y., & Cheung, K. L. (2022). Exploring the gender difference in relationships between

narcissism, competitiveness, and mental health problems among college students. *Journal of American College Health, 70*(4), 1169-1178. https://doi.org/10.1080/07448481.2020.1788565

Chaplin, T. M. (2015). Gender and emotion expression: A developmental contextual perspective. *Emotion Review, 7*(1), 14-21. https://doi.org/10.1177/1754073914544408

Cheng, J. T., Tracy, J. L., & Miller, G. E. (2013). Are narcissists hardy or vulnerable? The role of narcissism in the production of stress-related biomarkers in response to emotional distress. *Emotion, 13*(6), 1004-1011. https://doi.org/10.10137/a0034410

Cheng, C., Lau, H-P. B., & Chan, M-P. S. (2014). Coping flexibility and psychological adjustment to stressful life changes: A meta-analytic review. *Psychological Bulletin, 140*(6), 1582-1607. https://doi.org/10.1037/a0037913

Christie, R., & Geis, F. L. (1970). *Studies in Machiavellianism.* Academic Press.

Cleckley, H. (1941). *The mask of sanity; An attempt to reinterpret the so-called psychopathic personality.* Mosby.

Cobb-Clark, D. A., & Schurer, S. (2012). The stability of big-five personality traits. *Economics Letters, 115*(1), 11-15. https://doi.org/10.1016/j.econlet.2011.11.015

Coid, J., Yang, M., Ullrich, S., Roberts, A., & Hare, R. D. (2009). Prevalence and correlates of psychopathic traits in the household population of Great Britain. *International Journal of Law and Psychiatry, 32*(2), 65-73. https://doi.org/10.1016/j.ijlp.2009.01.002

Colins, O. F., Andershed, H., & Pardini, D. A. (2015). Psychopathic traits as predictors of future criminality, intimate partner aggression, and substance use in young adult men. *Law and Human Behavior, 39*(6), 547-558. https://doi.org/10.10137/lhb0000148

Collision, K. L., South, S., Vize, C. E., Miller, J. D., & Lynam, D. R. (2021). Exploring gender

differences in Machiavellianism using a measurement invariance approach. *Journal of Personality Assessment, 103*(2), 258-266. https://doi.org/10.1080/00223891.2020.1729773

Compas, B. E., Connor-Smith, J. K., Saltzman, H., Thomsen, A. H., & Wadsworth, M. E. (2001). Coping with stress during childhood and adolescence: Problems, progress, and potential in theory and research. *Psychological Bulletin, 127*(1), 87-127. https://doi.org/10.1037/0033-2909.127.1.87

Compas, B. E., Jaser, S. S., Bettis, A. H., Watson, K. H., Gruhn, M. A., Dunbar, J. P., Williams, E., & Thigpen, J. C. (2017). Coping, emotion regulation, and psychopathology in childhood and adolescence: A meta-analysis and narrative review. *Psychological Bulletin, 143*(9), 939-991. https://doi.org/10.1037/bul0000110

Compas, B. E., Vreeland, A., & Henry, L. (2019). Coping models of stress and resilience. In K. L. Harkness & E. P. Hayden (Eds.), *The Oxford handbook of stress and mental health* (p. 585-599). Oxford University Press.

Connor-Smith, J. K., & Flachsbart, C. (2007). Relations between personality and coping: A meta-analysis. *Journal of Personality and Social Psychology, 93*(6), 1080-1107. https://doi.org/10.1037/0022-3514.93.6.1080

Costa Jr., P. T., & McCrae, R. R. (1986). Personality stability and its implications for clinical psychology. *Clinical Psychology Review, 6*(5)*,* 407-423. https://doi.org/10.1016/0272-7358(86)90029-2

Costa Jr., P. T., & McCrae, R. R. (1992a). The five-factor model of personality and its relevance to personality disorders. *Journal of Personality Disorders, 6*(4), 343-159. https://doi.org/10.1521/pedi.1992.6.4.343

Costa, Jr., P. T., & McCrae, R. R. (1992b). *NEO-PI-R Professional Manual.* Psychological Assessment Records.

Crowne, D. P., & Marlowe, D. (1960). A new scale of social desirability independent of psychopathology. *Journal of Consulting Psychology, 24*(4), 349-354. https://doi.org/10.1037/h0047358

Csordas, A., Book, A., Worth, N., & Visser, B. (2022). The WoW factor: Psychopathic traits and behavior in a massive multiplayer online role-playing game. *Personality and Individual Differences, 187,* 111443. https://doi.org/10.1016/j.paid.2021.111443

Curtis, S. R., Richards, D. K., & Jones, D. N. (2020). The association between psychopathy and influencing others to use substances. *Substance Use & Misuse, 55*(7), 1097-1105. https://doi.org/10.1080/10826084.2020.1729196

Dalkner, N., Reininghaus, E. Z., Riedrich, K., Rieger, A., Birner, A., Fellendorf, F. T., Bengesser, S. A., Queissner, R., Platzer, M., Mayr-Mauhart, M., Dorn, M., & Reininghaus, B. (2018). Psychopathic personality factor “fearless dominance” is related to low self-reported stress-levels, fewer psychiatric symptoms, and more adaptive stress coping in psychiatric disorders. *Psychiatry Research, 270,* 68-77. https://doi.org/10.1016/j.psychres.2018.09.018

Dawel, A., Wright, L., Dumbleton, R., & McKone, E. (2019). All tears are crocodile tears: Impaired perception of emotion authenticity in psychopathic traits. *Personality Disorders: Theory, Research, and Treatment, 10*(2), 185-197. https://doi.org/10.1037/per0000301

De Clercq, D., Ul Haq, I., & Azeem, M. U. (2019). Time-related work stress and

counterproductive work behavior: Invigorating role of deviant personality traits. *Personnel Review, 48*(7), 1756-1781. https://doi.org/10.1108/PR-07-2018-0241

DeLisi, M., Angton, A., Vaughn, M. G., Trulson, C. R., Caudill, J. W., & Beaver, K. M. (2014). Not my fault: Blame externalization is the psychopathic feature most associated with pathological delinquency among confined delinquents. *International Journal of Offender Therapy and Comparative Criminology, 58*(12), 1415-1430. https://doi.org/10.1177/0306624X13496543

DeLongis, A., Folkman, S., & Lazarus, R. S. (1988). The impact of daily stress on health and mood: Psychological and social resources as mediators. *Journal of Personality and Social Psychology, 54*(3), 486-495. https://doi.org/10.1037//0022-3514.54.3.486

Dedrick, R. F., Ferron, J. M., Hess, M. R., Hogarty, K. Y., Kromrey, J. D., Lang, T. R., Niles, J. D., & Lee, R. S. (2009). Multilevel modeling: A review of methodological issues and applications. *Review of Educational Research, 79*(1), 69-102. https://doi.org/10.3102/0034654308325581

DeYoung, C. G. (2015). Cybernetic big five theory. *Journal of Research in Personality, 56*, 33-58. https://doi.org/10.1016/j.jrp.2014.07.004

Dinić, B. M., Petrović, B., & Jonason, P. K. (2018). Serbian adaptations of the dark triad dirty dozen (DTDD) and short dark triad (SD3). *Personality and Individual Differences, 134,* 321-328. https://doi.org/10.1016/j.paid.2018.06.018

Dinić, B. M., Allred, T. B., Petrović, B., & Wertag, A. (2020). A test of three sadism measures: Short sadistic impulse scale, varieties of sadistic tendencies, and assessment of sadistic personality. *Journal of Individual Differences, 41*(4), 219-227. https://doi.org/10.1027/1614-0001/a000319

Dinić, B. M., Sadiković, S., & Wertag, A. (2021). Factor mixture analysis of the dark triad and dark tetrad: Could sadism make a difference? *Journal of Individual Differences, 42*(2), 74-83. https://doi.org/10.1027/1614-0001/a000331

Dinkins, B. J., & Jones, S. (2021). Psychopathy and perception of vulnerability to criminal victimization. *Journal of Interpersonal Violence, 36*(11-12), 5318-5333. https://doi.org/10.1177.0886260518805762

Driessen, J. M. A., van Baar, J. M., Sanfey, A. G., Glennon, J. C., & Brazil, I. A. (2021). Moral strategies and psychopathic traits. *Journal of Abnormal Psychology, 130*(5), 550-561. https://doi.org/10.1037/abn0000675

Dunkley, D. M., Zuroff, D. C., & BLankstein, K. R. (2003). Self-critical perfectionism and daily affect: Dispositional and situational influences on stress and coping. *Journal of Personality and Social Psychology, 84*(1), 234-252. https://doi.org/10.1037/0022-3514.84.1.234

Durand, G., & Plata, E. M. (2017). The effects of psychopathic traits on fear of pain, anxiety, and stress. *Personality and Individual Differences, 119,* 198-203. https://doi.org/10.1016/j.paid.2017.07.024

Egan, V., Chang, S., & Shorter, G. W. (2014). The dark triad, happiness and subjective well-being. *Personality and Individual Differences, 67,* 17-22. https://doi.org/10.1016/j.paid.2014.01.004

Eisenman, R. (1980). Effective manipulation by psychopaths. *Corrective & Social Psychiatry & Journal of Behavior Technology, Methods & Therapy, 26*(3), 116-118.

Emer, D. R., & Poepsel, D. L. (2021). Under the radar: Everyday sadism predicts both passive-

aggressive harms and beneficial actions after accounting for prosocial tendencies. *Personality and Individual Differences, 168,* 110321. https://doi.org/10.1016/j.paid.2020.110321

Eysenck, H. J. (1994). The big five or giant three: Criteria for a paradigm. In C. F. Halverson, Jr., G. A. Kohnstamm, & R. P. Martin (Eds.), *The developing structure of temperament and personality from infancy to adulthood* (pp. 37-51). Lawrence Erlbaum Associates, Inc.

Falcón, A. K., Dobbins, A. E., & Stickle, T. R. (2021). Gendered associations among callous-unemotional traits, emotion regulation, and antisocial behavior. *Personality and Individual Differences, 179,* 110944. https://doi.org/10.1016/j.paid.2021.110944

Fedoroff, J. P. (2008). Sadism, sadomasochism, sex, and violence. *Canadian Journal of Psychiatry, 53*(10), 637-646. https://doi.org/10.1177/070674370805301003

Feil, J., & Hasking, P. (2008). The relationship between personality, coping strategies and alcohol use. *Addiction Research and Theory, 16*(5), 526-537. https://doi.org/10.1080/16066350802025714

Fernie, B. A., Fung, A., & Nikčević, A. V. (2016). Different coping strategies amongst individuals with grandiose and vulnerable narcissistic traits. *Journal of Affective Disorders, 205,* 301-305. https://doi.org/10.1016/j.jad.2016.08.009

Fix, R. L., & Fix, S. T. (2015). Trait psychopathy, emotional intelligence, and criminal thinking: Predicting illegal behavior among college students. *International Journal of Law and Psychiatry, 42-43,* 183-188. https://doi.org/10.1016/j.ijlp.2015.08.024

Forth, A., Sezlik, S., Lee, S., Ritchie, M., Logan, J., & Ellingwood, H. (2021). Toxic

relationships: The experiences and effects of psychopathy in romantic relationships. *International Journal of Offender Therapy and Comparative Criminology, 66*(5)*,* 1-32. https://doi.org/10.1177/0306624X211049187

Foulkes, L. (2019). Sadism: Review of an elusive construct. *Personality and Individual Differences, 151,* 109500. https://doi.org/10.1016/j.paid/2019.07.010

Freire, C., del Mar Ferradás, M., Regueiro, B., Rodriguez, S., Valle, A., & Núñez, J. C. (2020). Coping strategies and self-efficacy in university students: A person-centred approach. *Frontiers in Psychology, 11,* 841. https://doi.org/10.3389/fpsyg.2020.00841

Furnham, A., Richards, S. C., & Paulhus, D. L. (2013). The dark triad of personality: A 10 year review. *Social and Personality Psychology Compass, 7*(3), 199-216. https://doi.org/10.1111/spc3.12018

Gao, Y., Raine, A., & Schug, R. A. (2012). Somatic aphasia: Mismatch of body sensations with autonomic stress reactivity in psychopathy. *Biological Psychology, 90*(3), 228-233. https://doi.org/10.1016/j.biopsycho.2012.03.015

Garofalo, C., Neumann, C. S., Zeigler-Hill, V., & Meloy, J. R. (2019). Spiteful and contemptuous: A new look at the emotional experiences related to psychopathy. *Personality Disorders: Theory, Research and Treatment, 10*(2), 173-184. https://doi.org/10.1037/per0000310

Giacomin, M., & Jordan, C. H. (2014). The wax and wane of narcissism: Grandiose narcissism as a process or state. *Journal of Personality, 84*(2), 154-164. https://doi.org/10.1111/jopy.12148

Greitemeyer, T., & Sagioglou, C. (2017). The longitudinal relationship between everyday sadism

and the amount of violent video game play. *Personality and Individual Differences, 104,* 238-242. https://doi.org/10.1016/j.paid.2016.08.021

Grijalva, E., Newman, D. A., Tay, L., Donnellan, M. B., Harms, P. D., Robins, R. W., & Yan, T. (2015). Gender differences in narcissism: A meta-analytic review. *Psychological Bulletin, 141*(2), 261-310. https://doi.org/10.1037/a0038231

Grover, S., & Furnham, A. (2021). Does emotional intelligence and resilience moderate the relationship between the dark triad and personal and work burnout? *Personality and Individual Differences, 169,* 109979. https://doi.org/10.1016/j.paid.2020.109979

Gobin, R. L., Reddy, M. K., Zlotnick, C., & Johnson, J. E. (2015). Lifetime trauma victimization and PTSD in relation to psychopathy and antisocial personality disorder in a sample of incarcerated women and men. *International Journal of Prisoner Health, 11*(2), 64-74. https://doi.org/10.1108/ijph-06-2014-0016

Hampson, S. E., & Goldberg, L. R. (2006). A first large cohort study of personality trait stability over the 40 years between elementary school and midlife. *Journal of Personality and Social Psychology, 91*(4), 763-779. https://doi.org/10.1037/0022-3514.91.4.763

Hancock, J. T., Woodworth, M., & Boochever, R. (2018). Psychopaths online: The linguistic traces of psychopathy in email, text messaging and Facebook. *Media and Communication, 6*(3), 83-92. https://doi.org/10.17645/mac.v6i3.1499

Hare, R. D. (1993). *Without conscience: The disturbing world of the psychopaths among us.* Simon & Schuster.

Hare, R. D. (2003). *Manual for the revised psychopathy checklist* (2nd Edition). Multi-Health Systems, Toronto.

Hart, W., Tortoriello, G. K., & Richardson, K. (2021). Provoked narcissistic aggression:

Examining the role of de-escalated and escalated provocations. *Journal of Interpersonal Violence, 36*(9-10), 4832-4853. https://doi.org/10.1177/0886260518789901

Hayes, A. F. (2013). *Introduction to mediation, moderation, and conditional process analysis: A regression-based approach.* New York, NY: Guilford Press.

Hayes, N. L., Marsee, M. A., & Russell, D. W. (2021). Latent profile analysis of traditional cyber-aggression and victimization: Associations with dark triad traits and psychopathology symptoms. *Journal of Psychopathology and Behavioral Assessment, 43*, 399-412. https://doi.org/10.1007/s10862-020-09835-2

Hecht, M., & Zitzmann, S. (2021). Sample size recommendations for continuous-time models: Compensating shorter time series with larger numbers of persons and vice versa. *Structural Equation Modeling: A Multidisciplinary Journal, 28*(2), 229-236. https://doi.org/10.1080/10705511.2020.1779069

Hemphill, S. A., Tollit, M., & Herrenkohl, T. I. (2014). Protective factors against the impact of school bullying perpetration and victimization on young adult externalizing and internalizing problems. *Journal of School Violence, 13*(1), 125-145. https://doi.org/10.1080/15388220.2013.844072

Hicks, B. M., Markon, K. E., Patrick, C. J., Krueger, R. F., & Newman, J. P. (2004). Identifying psychopathy subtypes on the basis of personality structure. *Psychological Assessment, 16*(3), 276-288. https://doi.org/10.1037/1040-3590.16.3.276

Hilbig, B. E., & Moshagen, M. (2020). All models (of basic personality structure) are wrong, but some are useful. *European Journal of Personality, 34*(4), 527-528.

Hoff, K. A., Song, Q. C., Einarsdóttir, S., Briley, D. A., & Rounds, J. (2020). Developmental

structure of personality and interests: A four-wave, 8-year longitudinal study. *Journal of Personality and Social Psychology, 118*(5), 1044-1064. https://doi.org/10.1037/pspp0000228

Hox, J., & McNeish, D. (2020). Small samples in multilevel modeling. In R. van de Schoot & M. Miočević (Eds.), *Small sample size solutions: A guide for applied researchers and practitioners* (p. 215-225). Routledge.

Huda, N., Yen, Y., Deli, H., Shaw, M. K., Huang, T-W., & Chang, H-J. (2021). Mediation of coping strategies among patients with advanced cancer. *Clinical Nursing Research, 30*(8), 1153-1163. https://doi.org/10.1177/10547738211003276

Jauk, E., Freudenthaler, H. H., & Neubauer, A. C. (2016). The dark triad and trait versus ability emotional intelligence: Emotional darkness differs between women and men. *Journal of Individual Differences, 37*(2), 112-118. https://doi.org/10.1027/1614-0001/a000195

Jauk, E., & Dieterich, R. (2019). Addiction and the dark triad of personality. *Frontiers in Psychiatry, 10,* 662. https://doi.org/10.3389/fpsyt.2019.00662

Johnson, L. K., Plouffe, R. A., & Saklofske, D. H. (2019). Subclinical sadism and the dark triad: Should there be a dark tetrad? *Journal of Individual Differences, 40*(3), 127-133. https://doi.org/10.1027/1614-0001/a000284

Jonason, P. K. & Webster, G. D. (2010). The Dirty Dozen: A concise measure of the dark triad. *Psychological Assessment, 22*(2), 420-432. https://doi.org/10.1037/a0019265

Jonason, P. K., & Luévano, V. X. (2013). Walking the thin line between efficiency and accuracy: Validity and structural properties of the Dirty Dozen. *Personality and Individual Differences, 55*, 76-81. https://doi.org/10.1016/j.paid.2013.02.010

Jonason, P. K., Baughman, H. M., Carter, G. L., & Parker, P. (2015). Dorian Gray without his

portrait: Psychological, social, and physical health costs associated with the dark triad. *Personality and Individual Differences, 78,* 5-13. https://doi.org/10.1016/j.paid.2015.01.008

Jonason, P. K., Talbot, D., Cunningham, M. L., & Chonody, J. (2020). Higher-order coping strategies: Who uses them and what outcomes are linked to them. *Personality and Individual Differences, 155,* 109755. https://doi.org/10.1016/j.paid.2019.109755

Jones, D. N., & Paulhus, D. L. (2009). Machiavellianism. In M. R. Leary & R. H. Hoyle (Eds.), *Individual differences in social behaviour* (pp. 93-108). The Guilford Press.

Jones, D. N., & Paulhus, D. L. (2014). Introducing the Short Dark Triad (SD3): A brief measure of dark personality traits. *Assessment, 21*(1), 28-41. https://doi.org/10.1177/1073191113514105

Jordan, D., Jonason, P. K., Zeigler-Hill, V., Winer, E. S., & Fletcher, S. (2022). A dark web of personality: Network analyses of dark personality features and pathological personality traits. *Journal of Psychopathology and Behavioral Assessment, 44,* 186-201. https://doi.org/10.1007/s10862-021-09882-3

Kato, T. (2021). Effects of waiting patiently as coping strategy for an interpersonal stressor on depressive symptoms. *Anxiety, Stress & Coping, 34*(1), 51-65. https://doi.org/10.1080/10615806.2020.1795139

Katz, L., Harvey, C., Baker, I. S., & Howard, C. (2022). The dark side of humanity scale: A reconstruction of the dark tetrad constructs. *Acta Psychologica, 222,* 103461. https://doi.org/10.1016/j.actpsy.2021.103461

Kajonius, P. J., & Björkman, T. (2020). Dark malevolent traits and everyday perceived stress. *Current Psychology, 39,* 2351-2356. https://doi.org/10.1007/s12144-018-9948-x

Kaubrys, M., Baker, M. R., Frazier, P. A., & Nguyen-Feng, V. N. (2021). Relations among daily stressors, childhood maltreatment, and sleep in college students. *Journal of Counseling Psychology, 64*(4), 489-500. https://doi.org/10.1037/cou0000549

Kaufman, S. B., Yaden, D. B., Hyde, E., & Tsukayama, E. (2019). The light vs. dark triad of personality: Contrasting two very different profiles of human nature. *Frontiers in Psychology, 10.* https://doi.org/10.3389/fpsyg.2019.00467

Kauten, R., Barry, C. T., & Leachman, L. (2013). Do perceived social stress and resilience influence the effects of psychopathy-linked narcissism and CU traits on adolescent aggression? *Aggressive Behavior, 39,* 381-390. https://doi.org/10.1002/ab.21483

Kealy, D., Ogrodniczuk, J. S., Rice, S. M., & Oliffe, J. L. (2017). Pathological narcissism and maladaptive self-regulatory behaviours in a nationally representative sample of Canadian men. *Psychiatry Research, 256,* 156-161. https://doi.org/10.1016/j.psychres.2017.06.009

Kelsey, R. M., Ornduff, S. R., McCann, C. M., & Reiff, S. (2001). Psychophysiological characteristics of narcissism during active and passive coping. *Psychophysiology, 38*(2), 292-303.

Kesimci, A., Göral, F. S., & Gençöz, T. (2005). Determinants of stress-related growth: Gender, stressfulness of the event, and coping strategies. *Current Psychology, 24*(1), 68-75. https://doi.org/10.1007/s12144-005-1005-x

Kiehl, K. A. (2006). A cognitive neuroscience perspective on psychopathy: Evidence for paralimbic system dysfunction. *Psychiatry Research, 142,* 107-128. https://doi.org/10.1016/j.psychres.2005.09.013

Kircaburun, K., & Griffiths, M. D. (2018). The dark side of internet: Preliminary evidence for

the associations of dark personality traits with specific online activities and problematic internet use. *Journal of Behavioral Addictions, 7*(4), 993-1003. https://doi.org/10.1556/2006.7.2018.109

Kirsch, L. G., & Becker, J. V. (2007). Emotional deficits in psychopathy and sexual sadism: Implications for violent and sadistic behavior. *Clinical Psychology Review, 27,* 904-922. https://doi.org/10.1016/j.cpr/2007.01.011

Kjærvik, S. L., & Bushman, B. J. (2021). The link between narcissism and aggression: A meta-analytic review. *Psychological Bulletin, 147*(5), 477-503. https://doi.org/10.1037/bul0000323

Klimstra, T. A., Bleidorn, W., Asendorpf, J. B., van Aken, M. A. G., & Denissen, J. J. A. (2013). Correlated change of Big Five personality traits across the lifespan: A search for determinants. *Journal of Research in Personality, 47,* 768-777. https://doi.org/10.1016/j.jrp.2013.08.004

Lafit, G., Adolf, J. K., Dejonckheere, E., Myin-Germeys, I., Viechtbauer, W., & Ceulemans, E. (2021). Selection of the number of participants in intensive longitudinal studies: A user-friendly shiny app and tutorial for performing power analysis in multilevel regression models that account for temporal dependencies. *Advances in Methods and Practices in Psychological Science, 4*(1), 1-24. https://doi.org/10.1177/2515245920978738

Lambe, S., Hamilton-Giachritsis, C., Garner, E., & Walker, J. (2018). The role of narcissism in aggression and violence. *Trauma, Violence & Abuse, 19*(2), 209-230. https://doi.org/10.1177/1524838016650190

Lane, S. P., & Hennes, E. P. (2018). Power struggles: Estimating sample size for multilevel

relationships research. *Journal of Social and Personal Relationships, 35*(1), 7-31. https://doi.org/10.1177/0265407517710342

Láng, A. (2015). Machiavellianism and early maladaptive schemas in adolescents. *Personality and Individual Differences, 87,* 162-165. https://doi.org/10.1016/j.paid.2015.07.039

Lazarus, R. S. (1966). *Psychological stress and the coping process.* McGraw-Hill.

Lazarus, R. S., & Folkman, S. (1984). *Stress, appraisal, and coping.* Springer.

Lazarus, R. S., & Smith, C. A. (1988). Knowledge and appraisal in the cognition-emotion relationship. *Cognition and Emotion, 2*, 281-300. https://doi.org/10.1080/02699938808412701

Laurenceau, J-P., & Bolger, N. (2021, June 21-25). *Analyzing intensive longitudinal data.* [Lecture Notes, PDF]. CenterStat. https://centerstat.org/analyzing-intensive-longitudinal-data-async/

Lee-Baggley, D., Preece, M., & DeLongis, A. (2005). Coping with interpersonal stress: Role of big five traits. *Journal of Personality, 73*(5), 1141-1180. https://doi.org/10.1111/j.1467-6494.2005.00345.x

Lee, K., & Ashton, M. C. (2014). The dark triad, the big five, and the HEXACO models. *Personality and Individual Differences, 67,* 2-5. https://doi.org/10.1016/j.paid.2014.01.048

Lee, Z., & Salekin, R. T. (2010). Psychopathy in a noninstitutional sample: Differences in primary and secondary subtypes. *Personality Disorders: Theory, Research and Treatment, 1*(3), 153-169. https://doi.org/10.1037/a0019269

Levi, E., & Bachar, E. (2019). The moderating role of narcissism on the relationship between

posttraumatic growth and PTSD symptoms. *Personality and Individual Differences, 138,* 292-297. https://doi.org/10.1016/j.paid.2018.10.022

Linton, D. K., & Power, J. L. (2013). The personality traits of workplace bullies are often shared by their victims: Is there a dark side to victims? *Personality and Individual Differences, 54,* 738-743. https://doi.org/10.1016/j.paid.2012.11.026

Little, R. J. A. (1988). A test of missing completely at random for multivariate data with missing values. *Journal of the American Statistical Association, 83*(404), 1198-1202. doi: 10.1080/01621459.1988.10478722

Lukić, P., & Živanović, M. (2021). Sheeding light on the Light Triad: Further evidence on structural, construct, and predictive validity of the Light Triad. *Personality and Individual Differences, 178,* Article 110876. https://doi.org/10.1016/j.paid.2021.110876

Lyons, M., Evans, K., & Helle, S. (2019). Do "dark" personality features buffer against adversity? The associations between cumulative life stress, the dark triad, and mental distress. *SAGE Open,* 1-13. https://doi.org/10.1177/2158244018822383

Maas, C. J. M., & Hox, J. J. (2005). Sufficient sample sizes for multilevel modeling. *Methodology, 1*(3), 86-92. https://doi.org/10.1027/1614-1881.1.3.86

MacNeil, B. M., & Holden, R. R. (2006). Psychopathy and the detection of faking on self-report inventories of personality. *Personality and Individual Differences, 41*, 641-651. https://doi.org/10.1016/j.paid.2006.03.004

Malesza, M., Ostaszewski, P., Büchner, S., & Kaczmarek, M. C. (2017). The adaptation of the short dark triad personality measure – Psychometric properties of a German sample. *Current Psychology, 38*(3)*,* 855-864. https://doi.org/10.1007/s12144-017-9662-0

Mansell, W. (2020). Changing behavior using control theory. In M. S. Hagger, L. D., Cameron,

K. Hamilton, N., Hankonen, & T. Lintunen (Eds.), *The handbook of behavior change* (pp. 120-135). Cambridge University Press.

Maples, J. L., Lamkin, J., & Miller, J. D. (2014). A test of two brief measures of the dark triad: The dirty dozen and short dark triad. *Psychological Assessment, 26*(1), 326-331. https://doi.org/10.1037/a0035084

McAdams, D. P., & Olson, B. D. (2010). Personality development: Continuity and change over the life course. *Annual Review of Psychology, 61,* 517-542. https://doi.org/10.1146/annurev.psych.093008.100507

McCrae, R. R., & Costa, P. T. (1990). *Personality in adulthood.* The Guilford Press.

Meddeb, A., Garofalo, C., Karlén, M. H., & Wallinius, M. (2023). Emotion dysregulation – A bridge between ACE and aggressive antisocial behavior. *Journal of Criminal Justice, 88*, 102110. https://doi.org/10.1016/j.jcrimjus.2023.102110

Meere, M., & Egan, V. (2017). Everyday sadism, dark triad, personality and disgust sensitivity. *Personality and Individual Differences, 112,* 157-161. https://doi.org/10.1016/j.paid.2017.02.056

Miller, J. D., & Lynam, D. R. (2003). Psychopathy and the five-factor model of personality: A replication and extension. *Journal of Personality Assessment, 81*(2), 168-178. https://doi.org/10.1207/S15327752JPA8102_08

Miller, J. D., Hoffman, B. J., Gaughan, E. R., Gentile, B., Maples, J., & Campbell, W. K. (2011). Grandiose and vulnerable narcissism: A nomological network analysis. *Journal of Personality, 79*(5), 1013-1042. https://doi.org/10.1111/j.1467-6494.2010.00711.x

Moor, L., & Anderson, J. R. (2019). A systematic literature review of the relationship between

dark personality traits and antisocial online behaviours. *Personality and Individual Differences, 144,* 40-55. https://doi.org/10.1016/j.paid.2019.02.027

Moreira, D., Moreira, D. S., Oliveira, S., Ribeiro, F. N., Barbosa, F., Fávero, M., & Gomes, V. (2020). Relationship between adverse childhood experiences and psychopathy: A systematic review. *Aggression and Violent Behavior, 53,* 101452. https://doi.org/10.1016/j.avb.2020.101452

Moshagen, M., Hilbig, B. E., & Zettler, I. (2018). The dark core of personality. *Psychological Review, 125*(5), 656-688. https://doi.org/10.1037/rev0000111

Mroczek, D. K., & Almeida, D. M. (2004). The effect of daily stress, personality, and age on daily negative affect. *Journal of Personality, 72*(2), 355-378. https://doi.org/10.1111/j.0022-3506.2004.00265.x

Muris, P., Merckelbach, H., Otgaar, H., & Meijer, E. (2017). The malevolent side of human nature: A meta-analysis and critical review of the literature on the dark triad (narcissism, Machiavellianism, and psychopathy). *Perspectives on Psychological Science, 12*(2), 183-204. https://doi.org/10.1177/1745691616666070

Mushtaq, A., Inam, A., Najmussaqib, A., Afshan, A., & Ermagan-Caglar, E. (2022). Mediating role of psychological maladjustment in relation between dark triad, psychological distress and subjective happiness of Pakistani emerging adults. *Frontiers in Psychology, 13,* 906334. https://doi.org/10.3389/fpsyg.2022.906334

Neumann, C. S., Jones, D. N., & Paulhus, D. L. (2022). Examining the short dark tetrad (SD4) across models, correlates, and gender. *Assessment, 29*(4), 651-667. https://doi.org/10.1177/1073191120986624

Newman, M. L., Holden, G. W., & Delville, Y. (2011). Coping with the stress of being bullied:

Consequences of coping strategies among college students. *Social Psychological and Personality Science, 2*(2), 205-211. https://doi.org/10.1177/1948550610386388

Ng, H. K. S., Cheung, R. Y-H., & Tam, K-P. (2014). Unraveling the link between narcissism and psychological health: New evidence from coping flexibility. *Personality and Individual Differences, 70,* 7-10. https://doi.org/10.1016/j.paid.2014.06.006

Nolen-Hoeksema, S. (2012). Emotion regulation and psychopathology: The role of gender. *Annual Review of Clinical Psychology, 8.* https://doi.org/10.1146/annurev-clinpsy-032511-143109

Noser, A. E., Zeigler-Hill, V., & Besser, A. (2014). Stress and affective experiences: The importance of dark personality features. *Journal of Research in Personality, 53*, 158-164. https://doi.org/10.1016/j.jrp.2014.10.007

NovoPsych. (n. d.). *Coping Orientation to Problems Experienced Inventory (Brief-COPE).* NovoPsych. https://novopsych.com.au/assessments/formulation/brief-cope/

Ok, E., Qian, Y., Strejcek, B., & Aquino, K. (2020). Signaling virtuous victimhood as indicators of dark triad personalities. *Journal of Personality and Social Psychology, 120*(6), 1634-1661. https://doi.org/10.1037/pspp0000329

O'Leary, M. M., Taylor, J., & Eckel, L. (2010). Psychopathic personality traits and cortisol response to stress: The role of sex, type of stressor, and menstrual phase. *Hormones and Behavior, 58,* 250-256. https://doi.org/10.1016/j.yhbeh.2010.03.009

O'Meara, A., Davis, J., & Hammond, S. (2011). The psychometric properties and utility of the short sadistic impulse scale (SSIS). *Psychological Assessment, 23*(2), 523-531. https://doi.org/10.1037/a0022400

O'Neill, M. L., Nenzel, M. E., & Caldwell, W. (2009). Intrusive thoughts and psychopathy in a

student and incarcerated sample. *Journal of Behavior Therapy and Experimental Psychiatry, 40,* 147-157. https://doi.org/10.1016/j.jbtep/2008.07.004

Osborne, J. W. (2013). *Best practices in data cleaning: A complete guide to everything you need to do before and after collecting your data*. Sage Publications Inc.

O'Toole, M., Logan, M., & Smith, S. (2012). Looking behind the mask: Implications for interviewing psychopaths. *FBI Law Enforcement Bulletin, 81*(7), 14-19.

Palermo, G. B. (2013). The various faces of sadism. *International Journal of Offender Therapy and Comparative Criminology, 57*(4), 399-401. https://doi.org/10.1177/0306624X13480125

Papageorgiou, K. A., Wong, B., & Clough, P. (2017). Beyond good and evil: Exploring the mediating role of mental toughness on the dark triad of personality traits. *Personality and Individual Differences, 119,* 19-23. https://doi.org/10.1016/j.paid.2017.06.031

Papageorgiou, K. A., Malanchini, M., Denovan, A., Clough, P. J., Shakeshaft, N., Schofield, K., & Kovas, Y. (2018). Longitudinal associations between narcissism, mental toughness and school achievement. *Personality and Individual Differences, 131,* 105-110. https://doi.org/10.1016/j.paid.2018.04.024

Papageorgiou, K. A., Benini, E., Dilello, D., Gianniou, F-M., Clough, P. J., & Costantini, G. (2019a). Bridging the gap: A network approach to dark triad, mental toughness, the big five and perceived stress. *Journal of Personality, 87*(6), 1250-1263. https://doi.org/10.1111/jopy.12472

Papageorgiou, K. A., Gianniou, F-M., Wilson, P., Moneta, G. B., Bilello, D., & Clough, P. J.,

(2019b). The bridge side of dark: Exploring the positive effect of narcissism on perceived stress through mental toughness. *Personality and Individual Differences, 139,* 116-124. https://doi.org/j.paid.2018.11.004

Paulhus, D. L., & Williams, K. M. (2002). The dark triad of personality: Narcissism, Machiavellianism, and psychopathy. *Journal of Research in Personality, 36,* 556-563. https://doi.org/10.1016/S0092-6566(02)00505-6

Paulhus, D. L. (2014). Toward a taxonomy of dark personalities. *Current Directions in Psychological Science, 23*(6), 421-426. https://doi.org/10.1177.0963721414547737

Paulhus, D. L., Curtis, S. R., & Jones, D. N. (2018). Aggression as a trait: the dark tetrad alternative. *Current Opinion in Psychology, 19,* 88-92. https://doi.org/10.1016/j.copsyc.2017.04.007

Paulhus, D. L., Buckels, E. J., Trapnell, P. D., & Jones, D. N. (2021). Screening for dark personalities: The short dark tetrad (SD4). *European Journal of Psychological Assessment, 37*(3), 208-222. https://doi.org/10.1027/a000001

Paunonen, S. V., & Ashton, M. C. (2001). Big five factors and facets and the prediction of behavior. *Journal of Personality and Social Psychology, 81*(3), 524-539. https://doi.org/10.1037//0022-3514.81.3.524

Paunonen, S. V., & Jackson, D. N. (2001). What is beyond the big five? Plenty! *Journal of Personality, 68*(5), 821-835. https://doi.org/10.1111/1467-6494.00117

Pechorro, P., Caramelo, V., Oliveira, J. P., Nunes, C., Curtis, S. R., & Jones, D. N. (2018). The short dark triad (SD3): Adaptation and psychometrics among at-risk male and female youths. *Deviant Behavior, 40*(3), 273-286. https://doi.org/10.1080/01639625.2017.1421120

Petrides, K. V., Vernon, P. A., Schermer, J. A., & Veselka, L. (2011). Trait emotional intelligence and the dark triad traits of personality. *Twin Research and Human Genetics, 14*(1), 35-41. https://doi.org/10.1375/twin.14.1.35

Pham, T. H. (2012). Psychopathy and traumatic stress. *Journal of Personality Disorders, 26*(2), 213-225. https://doi.org/10.1521/pedi.2012.26.2.213

Plouffe, R. A., Saklofske, D. H., & Smith, M. M. (2017). The assessment of sadistic personality: Preliminary psychometric evidence for a new measure. *Personality and Individual Differences, 104,* 166-171. https://doi.org/10.1016/j.paid.2016.07.043

Plouffe, R. A., Kowalski, C. M., Papageorgiou, K. A., Dinić, M. B., Artamonova, E., Dagnall, N., Denovan, A., Gianniou, F-M., Kyriazos, T., Saklofske, D. H., & Stalikas, A. (2021). The revised assessment of sadistic personality (ASP-8): Evidence for validity across four countries. *Journal of Personality Assessment.* https://doi.org/10.1080/00223891.2022.2055476

Rauthmann, J. F. (2011). Acquisitive or protective self-presentation of dark personalities? Associations among the dark triad and self-monitoring. *Personality and Individual Differences, 51*, 502-508. https://doi.org/j.paid.2011.05.008

Ray, J. V., Hall, J., Rivera-Hudson, N., Poythress, N. G., Lilienfeld, S. O., & Morano, M. (2013). The relation between self-reported psychopathic traits and distorted response styles: A meta-analytic review. *Personality Disorders, 4*(1), 1-14. https://doi.org/10.1037/a0026482

Reed, P., Alenazi, Y., & Potterton, F. (2009). Effect of time in prison on prisoners' use of coping strategies. *International Journal of Prisoner Health, 5*(1), 16-24. https://doi.org/10.1080/17449200802692060

Reynolds, W. M. (1982). Development of reliable and valid short forms of the Marlow-Crowne social desirability scale. *Journal of Clinical Psychology, 38*(1), 119-125. https://doi.org/10.1002/1097-4679(198201)38:1<119::AID-JCLP2270380118>3.0.CO;2-I

Richardson, C. M. E. (2017). Emotion regulation in the context of daily stress: Impact on daily affect. *Personality and Individual Differences, 112,* 150-156. https://doi.org/10.1016/j.paid.2017.02.058

Richardson, E. N., & Boag, S. (2016). Offensive defenses: The mind beneath the mask of the dark triad traits. *Personality and Individual Differences, 92,* 148-152. https://doi.org/10.1016/j.paid.2015.12.039

Richardson, C. M. E., & Rice, K. G. (2015). Self-critical perfectionism, daily stress, and disclosure of daily emotional events. *Journal of Counseling Psychology, 62*(4), 694-702. https://doi.org/10.1037/cou000010

Rim, Y. (1992). Machiavellianism and coping styles. *Personality and Individual Differences, 13*(4), 487-489. https://doi.org/10.1016/0191-8869(92)90079-5

Ritchie, M. B., Blais, J., & Forth, A. E. (2019). "Evil" intentions: Examining the relationship between the dark tetrad and victim selection based on nonverbal gait cues. *Personality and Individual Differences, 138,* 126-132. https://doi.org/10.1016/j.paid.2018.09.013

Roesch, S. C., Duangado, K. M., Vaughn, A. A., Aldridge, A. A., & Villodas, F. (2010). Dispositional hope and the propensity to cope: A daily diary assessment of minority adolescents. *Cultural Diversity and Ethnic Minority Psychology, 16*(2), 191-198. https://doi.org/10.1037/a0016114

Rogoza, R., & Cieciuch, J. (2020). Dark triad traits and their structure: An empirical approach.

Current Psychology, 39, 1287-1302. https://doi.org/10.1007/s12144-018-9834-6

Rogoza, R., Żemojtel-Piotrowska, M., Jonason, P. K., Piotroski, J., Campbell, K. W., Gebauer, J. E., Maltby, J., Sedikides, C., Adamovic, M., Adams, B. G., Ang, R. P., ardi, R., Atitsogbe, K. A., Baltatescu, S., Bilić, S., Bodroža, B., Brulin, J. G., Poonoosamy, H. Y. B., Chaleeraktrakoon, T., …, Włodarczyk, A. (2021). Structure of dark triad dirty dozen across eight world regions. *Assessment, 28*(4), 1125-1135. https://doi.org/10.1177/1073191120922611

Russ, E., Shedler, J., Bradley, R., & Westen, D. (2008). Refining the construct of narcissistic personality disorder: Diagnostic criteria and subtypes. *American Journal of Psychiatry, 165*(11), 1473-1481. https://doi.org/10.1176/appi.ajp.2008.07030376

Sabouri, S., Gerber, M., Bahmani, D. S., Lemola, S., Clough, P. J., Kalak, N., Shamsi, M., Holsboer-Trachsler, E., & Brand, S. (2016). Examining dark triad traits in relation to mental toughness and physical activity in young adults. *Neuropsychiatric Disease and Treatment, 12,* 229-235. https://doi.org/10.2147/NDT.S97267

Saltoglu, S., & Irak, D. U. (2020). Primary versus secondary psychopathy: Coping styles as a mediator between psychopathy and well-being. *Current Psychology, 41*(1). https://doi.org/10.1007/s12144-020-01155-8

Samuel, D. B., Carroll, K. M., Rounsaville, B. J., & Ball, S. A. (2013). Personality disorders as maladaptive, extreme variants of normal personality: Borderline personality disorder and neuroticism in a substance using sample. *Journal of Personality Disorders, 27*(5), 625-635. https://doi.org/10.1521/pedi.2013.27.5.625

Sandvik, A. M., Hansen, A. L., Hystad, S. W., Johnsen, B. H., Bartone, P. T. (2015).

Psychopathy, anxiety, and resiliency – Psychological hardiness as a mediator of the psychopathy-anxiety relationship in a prison setting. *Personality and Individual Differences, 72,* 30-34. https://doi.org/10.1016/j.paid.2014.08.009

Sârbescu, P., Costea, I., & Rusu, S. (2011). Psychometric properties of the Marlowe-Crowne social desirability scale in a Romanian sample. *Procedia – Social and Behavioral Sciences, 33*, 707-711. https://doi.org/10.1016/j.sbspro.2012.01.213

Sato, T. (1996). Type I and type II error in multiple comparisons. *The Journal of Psychology, 130*(3), 293-302. https://doi.org/10.1080/00223980.1996.9915010

Schimmenti, A., Di Carlo, G., Passanisi, A., & Caretti, V. (2015). Abuse in childhood and psychopathic traits in a sample of violent offenders. *Psychological Trauma, 7*(4), 340-347. https://doi.org/10.1037/tra0000023

Schonbrodt, F. D., & Perugini, M. (2013). At what sample size do correlations stabilize? *Journal of Research in Personality, 47*(5), 609-612. https://doi.org/10.1016/j.jrp.2013.05.009

Shafer, W. E., & Simmons, R. S. (2008). Social responsibility, Machiavellianism and tax avoidance. *Accounting Auditing & Accountability, 21,* 695-720. https://doi.org/10.1108/09513570810872978

Sideridis, G. D. (2006). Coping is not an 'either' 'or': The interaction of coping strategies in regulating affect, arousal and performance. *Stress and Health, 22,* 315-327. https://doi.org/10.1002/smi.1114

Singer, J. D. & Willett, J. B. (2003). *Applied longitudinal data analysis: Modeling change and event occurrence*. Oxford university press.

Smith, C. V., Øverup, C. S., & Webster, G. D. (2019). Sexy deeds done dark? Examining the

relationship between dark personality traits and sexual motivation. *Personality and Individual Differences, 146,* 105-110. https://doi.org/10.1016/j.paid.2019.04.003

Snijders, T. A. B. (2005). Power and sample size in multilevel modeling. In B. S. Everitt & D. C. Howell (Eds.), *Encyclopedia of statistics in behavioral science* (vol. 3) (p. 1570-1573). Wiley.

Suls, J., David, J. P., & Harvey, J. H. (1996). Personality and coping: Three generations of research. *Journal of Personality, 64*(4), 711-735. https://doi.org/10.1111/j.1467-6494.1996.tb00942.x

Szabó, E., & Jones, D. N. (2019). Gender differences moderate Machiavellianism and impulsivity: Implications for dark triad research. *Personality and Individual Differences, 141,* 160-165. https://doi.org/10.1016/j.paid.2019.01.008

Takamatsu, R. (2018). Turning off the empathy switch: Lower empathic concern for the victim leads to utilitarian choices of action. *PLoS ONE, 13*(9), e0203826. https://doi.org/10.1371/journal.pone.0203826

Tao, Y., Yu, H., Liu, S., Wang, C., Yan, M., Sun, L., Chen, Z., & Zhang, L. (2022). Hope and depression: The mediating role of social support and spiritual coping in advanced cancer patients. *BMC Psychiatry, 22*, 345. https://doi.org/10.1186/s12888-022-03985-1

Tetreault, C., & Hoff, E. (2019). Influence of everyday stress: Mechanisms that elicit excitation transfer and dark behavior. *Journal of Aggression, Conflict and Peace Research, 11*(3), 169-179. https://doi.org/10.1108/JACPR-11-2018-0390

Thayer, J. F., Rossy, L. A., Ruiz-Padial, E., & Johnsen, B. H. (2003). Gender differences in the relationship between emotional regulation and depressive symptoms. *Cognitive Therapy and Research, 27*(3), 349-364. https://doi.org/10.1023/A:1023922618287

Thissen, D., Steinberg, L., & Kuang, D. (2002). Quick and easy implementation of the Benjamini-Hochberg procedure for controlling the false positive rate in multiple comparisons. *Journal of Educational and Behavioral Sciences, 27*(1), 77-83. https://doi.org/10.3102/10769986027001077

Thomas, L., & Egan, V. (2022). A systematic review and meta-analysis examining the relationship between everyday sadism and aggression: Can subclinical sadistic traits predict aggressive behavior within the general population? *Aggression and Violent Behavior, 65,* 101750. https://doi.org/10.1016/j.avb.2022.101750

Tobin, D. L., Holroyd, K. A., Reynolds, R. V., & Wigal, J. K. (1989). The hierarchical factor structure of the coping strategies inventory. *Cognitive Therapy and Research, 13*(4), 343-161. https://doi.org/10.1007/BF01173478

Troop, N. A. (1998). Theoretical note: When is a coping strategy not a coping strategy? *Anxiety, Stress and Coping, 11,* 81-87.

Twisk, J. W. R. (2003). *Applied longitudinal data analysis for epidemiology: A practical guide.* Cambridge University Press.

Veselka, L., Schermer, J. A., & Vernon, P. A. (2012). The dark triad and an expanded framework of personality. *Personality and Individual Differences, 53*(4), 417-425. https://doi.org/10.1016/j.paid.2012.01.002

Visser, B. A., Bay, D., Cook, G. L., & Myburgh, J. (2010). Psychopathic and antisocial, but not emotionally intelligent. *Personality and Individual Differences, 48*(5), 644-648. https://doi.org/10.1016/j.paid.2010.01.003

Visser, B. A., Ashton, M. C., & Pozzebon, J. A. (2012). Is low anxiety part of the psychopathy

construct? *Journal of Personality, 80*(3), 725-747. https://doi.org/10.1111/j.1467-6494.2011.00745.x

Vollrath, M. (2001). Personality and stress. *Scandinavian Journal of Psychology, 42*(4)*,* 335-347. https://doi.org/10.1111/1467-9450.00245

Waddell, C., Van Doorn, G., March, E., & Grieve, R. (2020). Dominance or deceit: The role of the dark triad and hegemonic masculinity in emotional manipulation. *Personality and Individual Differences, 166,* 110160. https://doi.org/10.1016/j.paid.2020.110160

Wall, T. D., Wygant, D. B., & Sellbom, M. (2015). Boldness explains a key difference between psychopathy and antisocial personality disorder. *Psychiatry, Psychology and Law, 22*(1), 94-105. https://doi.org/10.1080/13218719.2014.919627

Walters, G. D. (2003a). Predicting criminal justice outcomes with the psychopathy checklist and lifestyle criminality screening form: A meta-analytic comparison. *Behavioral Sciences & the Law, 21,* 89-102. https://doi.org/10.1002/bsl.519

Walters, G. D. (2003b). Predicting institutional adjustment and recidivism with the psychopathy checklist factor scores: A meta-analysis. *Law and Human Behavior, 27,* 541-558. https://doi.org/10.1023/A:1025490207678

Watt, B. D., & Brooks, N. S. (2012). Self-report psychopathy in an Australian community sample. *Psychiatry, Psychology and Law, 19*(3), 389-401. https://doi.org/10.1080/13218719.2011.585130

Waugh, C. E., Shing, E. Z., & Furr, R. M. (2020). Not all disengagement coping strategies are created equal: Positive distraction, but not avoidance, can be an adaptive coping strategy for chronic life stressors. *Anxiety, Stress, & Coping, 33*(5), 511-529. https://doi.org/10.1080/10615806/2020/1755820

Wendt, G. W., & Bartoli, A. J. (2019). Understanding the psychopathy-stress association in typical developing adults: The role of emotional deficits. *Personality and Individual Differences, 149,* 296-301. https://doi.org/10.1016/j.paid.2019.06.016

Wheeler, S., Book, A., & Costello, K. (2009). Psychopathic traits and perception of victim vulnerability. *Criminal Justice and Behavior, 36*(6), 635-648. https://doi.org/10.1177/0093854809333958

Widiger, T. A., Lynam, D. R., Miller, J. D., & Oltmanns, T. F. (2012). Measures to assess maladaptive varients of the five-factor model. *Journal of Personality Assessment, 94*(5), 450-455. https://doi.org/10.1080/00223891.2012.677887

Widiger, T. A., Crego, C., Rojas, S. L., & Oltmanns, J. R. (2018). Basic personality model. *Current Opinion in Psychology, 21,* 18-22. https://doi.org/j.copsyc.2017.09.007

Willemsen, J., De Ganck, J., & Verhaeghe, P. (2012). Psychopathy, traumatic exposure, and lifetime posttraumatic stress. *International Journal of Offender Therapy and Comparative Criminology, 56*(4), 505-524. https://doi.org/10.1177/0306624X11407443

Wink, P. (1991). Two faces of narcissism. *Journal of Personality and Social Psychology, 61*(4), 590-597. https://doi.org/10.1037/0022-3514.61.4.590

Wright, M. F., Wachs, S., Huang, Z., Kamble, S. V., Soudi, S., Bayraktar, F., Li, Z., Lei, L., & Shu, C. (2022). Longitudinal associations among Machiavellianism, popularity goals, and adolescents' cyberbullying involvement: The role of gender. *The Journal of Genetic Psychology, 183*(5), 482-493. https://doi.org/10.1080/00221325.2022.2095251

Yap, Y., Bei, B., & Wiley, J. F. (2021). Daily coping moderates the relations between stress and actigraphic sleep: A daily intensive longitudinal study with ecological momentary assessments. *Sleep Medicine, 88,* 231-240. https://doi.org/10.1016/j.sleep.2021.10.012

Young, A. C., & Kyranides, M. N. (2022). Understanding emotion regulation and humor styles in individuals with callous-unemotional traits and alexithymic traits. *The Journal of Psychology, 156*(2), 147-166. https://doi.org/10.1080/00223980.2021.2017831

Zettler, I., Moshagen, M., & Hilbig, B. E. (2020). Stability and change: The dark factor of personality shapes dark traits. *Social Psychological & Personality Science, 12*(6). https://doi.org/10.1177/1948550620953288

Zhang, H., Luo, Y., Zhao, Y., Zhang, R., & Wang, Z. (2017). Differential relations of grandiose narcissism and vulnerable narcissism to emotion dysregulation: Self-esteem matters. *Asian Journal of Social Psychology, 20,* 232-237. https://doi.org/10.1111/ajsp.12191

Zhang, J., Ziegler, M., & Paulhus, D. L. (2020). Development and evaluation of the short dark triad – Chinese version (SD3-C). *Current Psychology, 39*(5). https://doi.org/10.1007/s12144-019-00272-3

Zhu, X., Wang, F., & Geng, Y. (2021). Machiavellianism on quality of life: The role of lifestyle, age, gender, social support. *Personality and Individual Differences, 173,* 110609. https://doi.org/10.1016/j.paid.2020.110609

Zimmer-Gembeck, M. J., & Skinner, E. A. (2016). The development of coping: Implications for psychopathology and resilience. In D. Cicchetti (Ed.), *Developmental psychopathology: Risk, resilience, and intervention* (pp.485-545). John Wiley & Sons, Inc. https://doi.org/10.1002/9781119125556.devpsy410

Zook, A., & Sipps, G. J. (1985). Cross-validation of a short form of the Marlow-Crowne social desirability scale. *Journal of Clinical Psychology, 41*(2), 236-238. https://doi.org/10.1002/1097-4679(198503)41:2<236::AID-JCLP2270410217>3.0.CO;2-H

Table 1

Means, standard deviations, and internal consistency for study measures.

Measure	M (*SD*)	Cronbach's alpha
Short Dark Triad (SD3)		
Total	67.40 (*14.03*)	0.85
Psychopathy	18.06 (*5.50*)	0.71
Narcissism	24.18 (*6.02*)	0.73
Machiavellianism	25.16 (*6.30*)	0.79
Assessment of Sadistic Personality (ASP)	1.53 (*0.57*)	0.78
Daily Stress	2.91 (*0.72*)	0.73
Daily Coping		
Problem-Focused	18.36 (*5.49*)	0.82
Emotion-Focused	17.65 (*5.73*)	0.78
Avoidant	12.10 (*4.40*)	0.68

Note. The following are the ranges of scores: SD3 Total = 27-135; SD3 Psychopathy = 9-45; SD3 Narcissism = 9-45; SD3 Machiavellianism = 9-45; ASP = 1-5.

Table 2

Bivariate correlations

	SD3	PP	NA	MC	SA	DST	PFC	EFC	AVC	SDR
SD3	1									
PP	**.80***	1								
NA	**.78***	**.45***	1							
MC	**.79***	**.48***	**.37***	1						
SA	**.54***	**.58***	**.30***	**.40***	1					
DST	**.18***	**.17***	**.12***	**.15***	**.07***	1				
PFC	**.10***	**.05***	**.16***	.03	**.04***	**.21***	1			
EFC	**.14***	**.11***	**.17***	**.06***	**.10***	**.24***	**.60***	1		
AVC	**.14***	**.12***	**.18***	**.10***	**.10***	**.30***	**.39***	**.54***	1	
SDR	**-.27***	**-.35***	.004	**-.29***	**-.28***	**-.07***	**.11***	**.06***	**-.04***	1

Note. Pearson's *r.* Bolded is significant. SD3 = Short Dark Triad total score; PP = Psychopathy; NA = Narcissism; MC = Machiavellianism; SA = everyday Sadism; DST = Daily Stress total score; PFC = Problem-Focused Coping; EFC = Emotion-Focused Coping; AVC = Avoidant Coping; SDR = Socially Desirable Responding.

**p < 0.01*

Table 3a

Coefficients and standard errors of the multilevel models for problem-focused coping

Parameter	Model 1: Personality Only	Model 2: Personality & Daily Stress	Model 3: Personality, Daily Stress, & Interaction
Fixed Effects			
PP Intercept	18.29 (0.29)***	16.92 (0.38)***	16.93 (0.38)***
PP	0.05 (0.04)	0.03 (0.04)	-0.05 (0.07)
Daily Stress		0.54 (0.12)***	0.54 (0.12)***
PP x DS			0.03 (0.02)
Random Effects			
DS Variance		0.22 (0.11)	0.22 (0.11)
Intercept	12.25 (1.03)	10.08 (1.22)	9.99 (1.21)
Residual	17.10 (0.38)	15.72 (0.36)	15.72 (0.36)
Fixed Effects			
NA Intercept	18.28 (0.19)***	16.88 (0.37)***	16.88 (0.37)***
NA	0.14 (0.03)***	0.14 (0.03)***	0.17 (0.06)**
Daily Stress		0.55 (0.12)***	0.55 (0.12)***
NA x DS			-0.01 (0.02)
Random Effects			
DS Variance		0.22 (0.11)	0.22 (0.11)
Intercept	11.58 (0.98)	9.39 (1.15)	9.43 (1.16)
Residual	17.09 (0.38)	15.71 (0.36)	15.71 (0.36)
Fixed Effects			
MA Intercept	18.29 (0.20)***	16.92 (0.38)***	16.92 (0.38)***
MA	0.02 (0.03)	0.02 (0.03)	0.06 (0.06)
Daily Stress		0.54 (0.12)***	0.54 (0.12)***

MA x DS			-0.02 (0.02)
Random Effects			
DS Variance		0.23 (0.11)	0.22 (0.11)
Intercept	12.31 (1.03)	10.03 (1.22)	10.09 (1.22)
Residual	17.09 (0.38)	15.71 (0.36)	15.71 (0.36)
Fixed Effects			
SA Intercept	18.32 (0.20)***	16.91 (0.38)***	16.92 (0.38)***
SA	0.34 (0.35)	0.28 (0.34)	0.14 (0.63)
Daily Stress		0.56 (0.12)***	0.55 (0.12)***
SA x DS			0.05 (0.20)
Random Effects			
DS Variance		0.26 (0.11)	0.26 (0.11)
Intercept	12.79 (1.07)	10.21 (1.25)	10.20 (1.25)
Residual	17.04 (0.38)	15.65 (0.36)	15.65 (0.36)

Note: PP = Psychopathy, NA = Narcissism, MA = Machiavellianism, SA = Sadism, DS = Daily Stress
**p < .05, **p <.01, ***p<.001*

Table 3b

Coefficients and standard errors of the multilevel models for emotion-focused coping

Parameter	Model 1: Personality Only	Model 2: Personality & Daily Stress	Model 3: Personality, Daily Stress, & Interaction
Fixed Effects			
PP Intercept	17.57 (0.23)***	16.85 (0.38)***	16.84 (0.38)***
PP	0.11 (0.04)**	0.10 (0.04)**	0.14 (0.07)*[1]
Daily Stress		0.28 (0.11)**	0.29 (0.11)***
PP x DS			-0.01 (0.02)
Random Effects			
DS Variance		5.35e-07 (0.00)	1.26e-07 (0.00)
Intercept	16.65 (1.34)	15.70 (1.33)	15.74 (1.32)
Residual	14.11 (0.31)	13.88 (0.32)	13.88 (0.32)
Fixed Effects			*Convergence not achieved*
NA Intercept	17.57 (0.22)***	16.83 (0.38)***	16.80 (0.38)***
NA	0.16 (0.04)***	0.16 (0.04)***	0.25 (0.06)***
Daily Stress		0.29 (0.11)***	0.30 (0.11)**
NA x DS			-0.03 (0.02)
Random Effects			
DS Variance		0.03 (0.11)	0.001 (0.05)
Intercept	16.10 (1.30)	14.95 (1.48)	15.16 (1.39)
Residual	14.11 (0.31)	13.83 (0.32)	13.87 (0.32)
Fixed Effects			
MA Intercept	17.58 (0.23)***	16.85 (0.38)***	16.86 (0.38)***
MA	0.05 (0.04)	0.06 (0.04)	0.14 (0.06)*
Daily Stress		0.28 (0.11)**	0.28 (0.11)**

MA x DS			-0.03 (0.02)
Random Effects			
DS Variance		0.008 (0.11)	1.19e-07 (0.00)
Intercept	16.91 (1.36)	15.81 (1.53)	15.90 (1.33)
Residual	14.11 (0.31)	13.88 (0.32)	13.87 (0.32)
Fixed Effects			
SA Intercept	17.64 (0.22)***	16.87 (0.39)***	16.86 (0.39)***
SA	0.89 (0.41)*	0.90 (0.40)*	1.21 (0.65)
Daily Stress		0.30 (0.11)**	0.30 (0.11)**
SA x DS			-0.11 (0.18)
Random Effects			
DS Variance		0.08 (0.13)	0.08 (0.13)
Intercept	18.16 (1.45)	16.54 (1.67)	16.54 (1.68)
Residual	14.07 (0.31)	13.80 (0.32)	13.80 (0.32)

Note: PP = Psychopathy, NA = Narcissism, MA = Machiavellianism, SA = Sadism, DS = Daily Stress

**p < .05, **p <.01, ***p<.001*

1. Adjusted *p*-value is 0.06 – not significant.

Table 3c

Coefficients and standard errors of the multilevel models for avoidant coping

Parameter	Model 1: Personality Only	Model 2: Personality & Daily Stress	Model 3: Personality, Daily Stress, & Interaction
Fixed Effects			
Intercept	12.06 (0.17)***	10.92 (0.31)***	11.91 (0.32)***
PP	0.09 (0.03)**	0.09 (0.03)**	0.13 (0.05)*
Daily Stress		0.41 (0.09)***	0.41 (0.09)***
PP x DS			-0.02 (0.02)
Random Effects			
DS Variance		0.16 (0.08)	0.15 (0.08)
Intercept	8.81 (0.73)	7.14 (0.87)	7.19 (0.88)
Residual	9.91 (0.22)	9.74 (0.23)	9.74 (0.23)
Fixed Effects			
Intercept	12.06 (0.17)***	10.90 (0.30)***	10.89 (0.30)***
NA	0.08 (0.03)**	0.08 (0.03)**	0.10 (0.05)*
Daily Stress		0.42 (0.09)***	0.42 (0.09)***
NA x DS			-0.01 (0.02)
Random Effects			
DS Variance		0.15 (0.08)	0.15 (0.08)
Intercept	8.83 (0.73)	7.14 (0.88)	7.14 (0.88)
Residual	9.91 (0.22)	9.74 (0.23)	9.74 (0.23)
Fixed Effects			
Intercept	12.07 (0.17)***	10.92 (0.30)***	10.93 (0.30)***
MA	0.06 (0.03)*	0.07 (0.03)**	0.18 (0.05)***
Daily Stress		0.41 (0.09)***	0.41 (0.09)***

MA x DS			-0.04 (0.01)**
Random Effects			
DS Variance		0.18 (0.08)	0.16 (0.08)
Intercept	8.90 (0.73)	6.99 (0.88)	7.02 (0.88)
Residual	9.91 (0.22)	9.74 (0.23)	9.73 (0.23)
Fixed Effects			
Intercept	12.10 (0.17)***	10.91 (0.30)***	10.89 (0.30)***
SA	0.71 (0.30)*	0.78 (0.29)**	1.41 (0.51)**
Daily Stress		0.42 (0.09)***	0.43 (0.09)***
SA x DS			-0.24 (0.16)
Random Effects			
DS Variance		0.19 (0.08)	0.19 (0.08)
Intercept	9.27 (0.76)	7.22 (0.91)	7.23 (0.91)
Residual	9.87 (0.22)	9.70 (0.22)	9.69 (0.22)

Note: PP = Psychopathy, NA = Narcissism, MA = Machiavellianism, SA = Sadism, DS = Daily Stress
**p < .05, **p <.01, ***p<.001*

Table 4

Simple slopes and standard errors of daily stress at differing levels of Machiavellianism from the avoidant coping interaction

Machiavellianism Score	Slope of Daily Stress (Standard Error)	*p*-Value
18.86 (one standard deviation below)	0.66 (0.13)	< .001
25.16 (mean)	0.41 (0.09)	< .001
31.46 (one standard deviation above)	0.15 (0.13)	0.26

Table 5

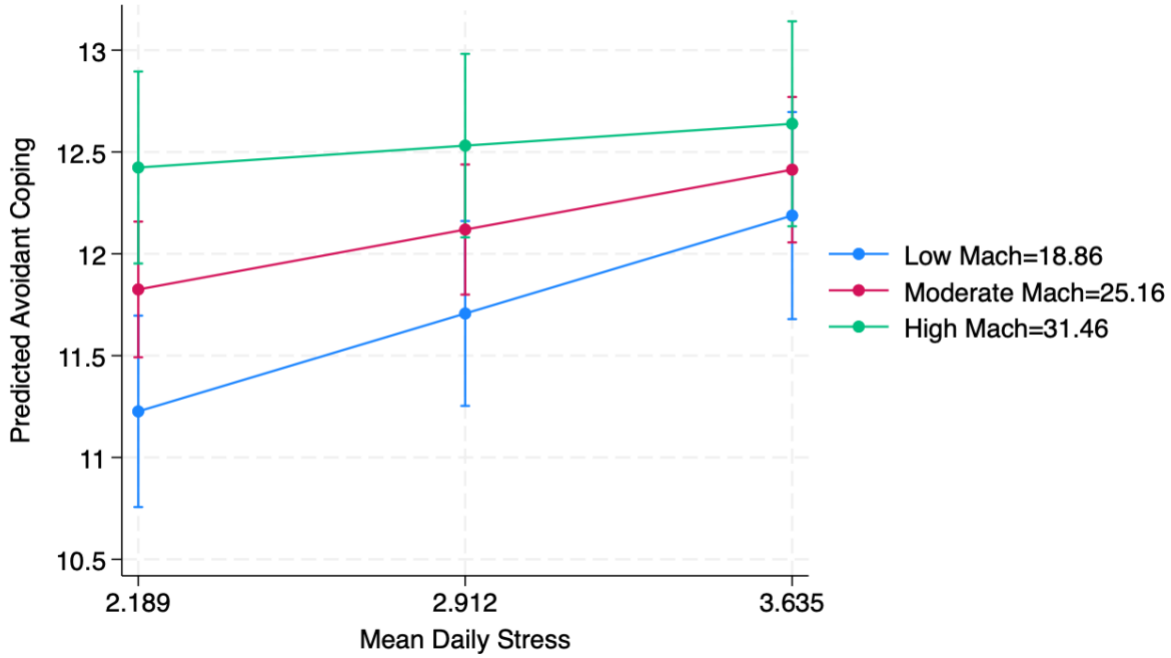
Measure means and standard deviations for men and women

Measure	Men	Women
Short Dark Triad		
Total	71.86 (*13.97*)	65.68 (*13.54*)
Psychopathy	19.75 (*6.00*)	17.29 (*5.06*)
Narcissism	25.78 (*5.84*)	23.64 (*5.93*)
Machiavellianism	26.32 (*6.35*)	24.74 (*6.14*)
Assessment of Sadistic Personality	1.73 (*0.64*)	1.42 (*0.49*)
Daily Stress	2.75 (*0.74*)	2.99 (*0.70*)
Daily Coping		
Problem-Focused	18.30 (*5.48*)	18.45 (*5.56*)
Emotion-Focused	18.19 (*6.38*)	17.44 (*5.42*)
Avoidant	12.51 (*4.73*)	11.90 (*4.25*)

Note. The following are the ranges of scores: SD3 Total = 27-135; SD3 Psychopathy = 9-45; SD3 Narcissism = 9-45; SD3 Machiavellianism = 9-45; ASP = 1-5.

Figure 1

Plotted interaction between Machiavellianism and daily stress to predict avoidant coping with 95% confidence intervals



Appendix A – Poster Advertisement

CALLING ALL UNDERGRADUATES: WE WANT YOU!

DAILY COPING STUDY

WHAT IS THE STUDY CALLED?
DAILY STRESS AND COPING IN UNIVERSITY STUDENTS

TO QUALIFY FOR THE STUDY, YOU MUST:
- BE AN UNDERGRADUATE BETWEEN AGES 18-29
- HAVE INTERNET ACCESS
- SPEAK/READ FLUENTLY IN ENGLISH

PARTICIPATION WILL INVOLVE:
- ATTENDING AN INTRODUCTION SESSION VIA ZOOM TO BECOME FAMILIAR WITH THE STUDY AND TO COMPLETE BASELINE SURVEYS* (APPROX. 1-HOUR)
- COMPLETING **ONE DAILY SURVEY EACH EVENING FOR 14-DAYS** (APPROX. 15-MINUTES EACH DAY)

FOR PARTICIPATING, YOU WOULD RECEIVE:
- UP TO **$75** IN CASH; OR
- UP TO **4.5 BONUS POINTS** TOWARDS AN ELIGIBLE PSYCHOLOGY COURSE

If interested, sign up on **SONA** or email the research team at **daily.coping.study@gmail.com**

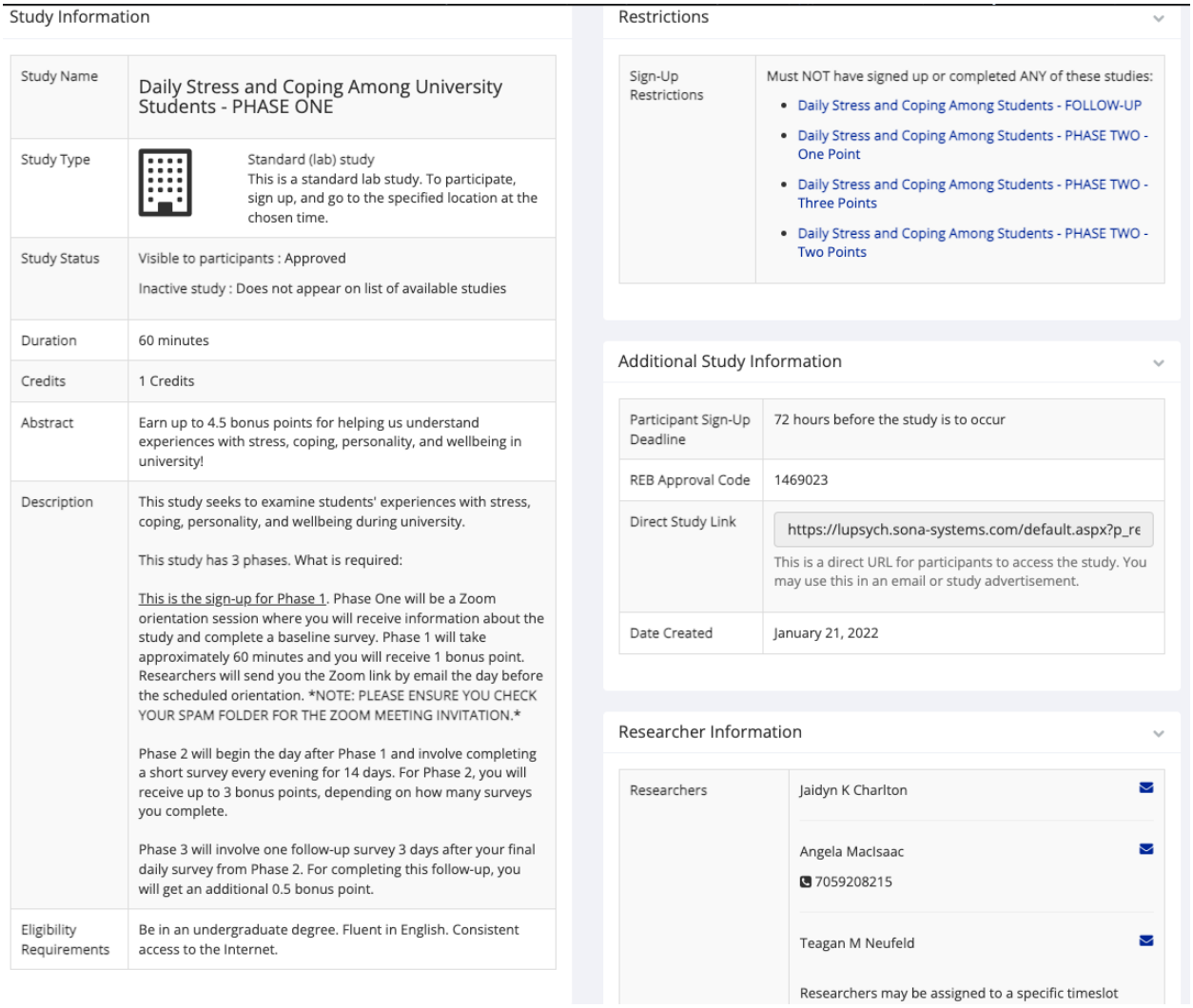
*ONE SURVEY DURING PHASE 1 ASKS ABOUT DIFFICULT EXPERIENCES YOU MAY HAVE HAD IN YOUR LIFE. SOME OF THESE QUESTIONS MAY BE DIFFICULT FOR SOME PEOPLE TO THINK ABOUT OR MAY CAUSE SOME TEMPORARY DISTRESS. PARTICIPANTS ARE NOT REQUIRED TO ANSWER ALL QUESTIONS AND CAN FEEL FREE TO SKIP QUESTIONS THEY ARE NOT COMFORTABLE ANSWERING. IF PARTICIPANTS FEEL UPSET DURING THE STUDY, WE HAVE INFORMATION AVAILABLE ON RELEVANT SUPPORTS.

Lakehead UNIVERSITY

PRINCIPAL INVESTIGATOR
DR. AISLIN MUSHQUASH, PHD., C.PSYCH.
ASSISTANT PROFESSOR, DEPARTMENT OF PSYCHOLOGY
AISLIN.MUSHQUASH@LAKEHEADU.CA

coping research lab

Appendix B1 – SONA Advertisement (Open Recruitment)



Study Information

Study Name	Daily Stress and Coping Among University Students - PHASE ONE
Study Type	Standard (lab) study This is a standard lab study. To participate, sign up, and go to the specified location at the chosen time.
Study Status	Visible to participants : Approved Inactive study : Does not appear on list of available studies
Duration	60 minutes
Credits	1 Credits
Abstract	Earn up to 4.5 bonus points for helping us understand experiences with stress, coping, personality, and wellbeing in university!
Description	This study seeks to examine students' experiences with stress, coping, personality, and wellbeing during university. This study has 3 phases. What is required: This is the sign-up for Phase 1. Phase One will be a Zoom orientation session where you will receive information about the study and complete a baseline survey. Phase 1 will take approximately 60 minutes and you will receive 1 bonus point. Researchers will send you the Zoom link by email the day before the scheduled orientation. *NOTE: PLEASE ENSURE YOU CHECK YOUR SPAM FOLDER FOR THE ZOOM MEETING INVITATION.* Phase 2 will begin the day after Phase 1 and involve completing a short survey every evening for 14 days. For Phase 2, you will receive up to 3 bonus points, depending on how many surveys you complete. Phase 3 will involve one follow-up survey 3 days after your final daily survey from Phase 2. For completing this follow-up, you will get an additional 0.5 bonus point.
Eligibility Requirements	Be in an undergraduate degree. Fluent in English. Consistent access to the Internet.

Restrictions

Sign-Up Restrictions	Must NOT have signed up or completed ANY of these studies: • Daily Stress and Coping Among Students - FOLLOW-UP • Daily Stress and Coping Among Students - PHASE TWO - One Point • Daily Stress and Coping Among Students - PHASE TWO - Three Points • Daily Stress and Coping Among Students - PHASE TWO - Two Points

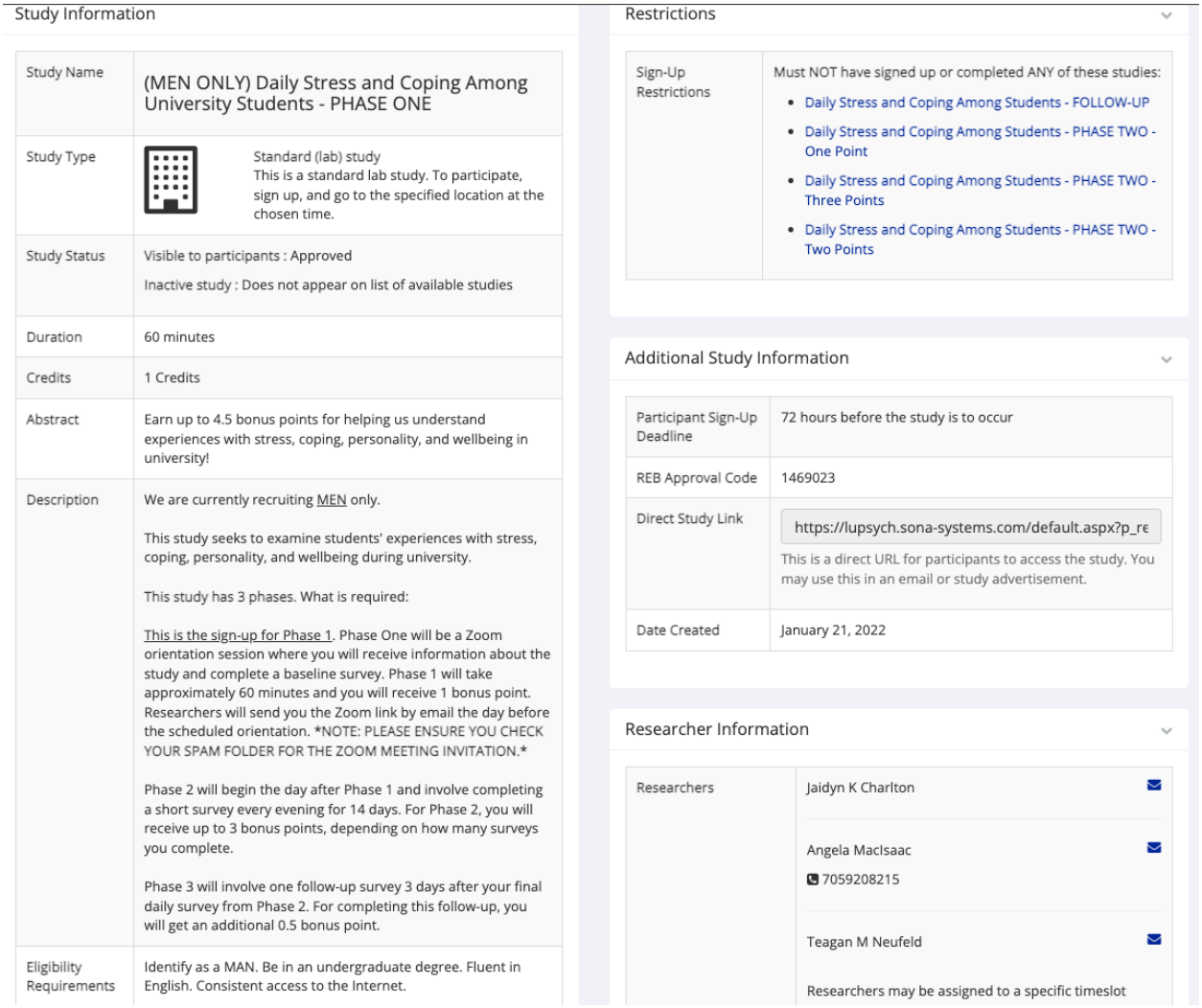
Additional Study Information

Participant Sign-Up Deadline	72 hours before the study is to occur
REB Approval Code	1469023
Direct Study Link	https://lupsych.sona-systems.com/default.aspx?p_re This is a direct URL for participants to access the study. You may use this in an email or study advertisement.
Date Created	January 21, 2022

Researcher Information

Researchers	Jaidyn K Charlton Angela MacIsaac 7059208215 Teagan M Neufeld Researchers may be assigned to a specific timeslot

Appendix B2 – SONA Advertisement (Men-Only Recruitment)



Study Information

Study Name	(MEN ONLY) Daily Stress and Coping Among University Students - PHASE ONE
Study Type	Standard (lab) study This is a standard lab study. To participate, sign up, and go to the specified location at the chosen time.
Study Status	Visible to participants : Approved Inactive study : Does not appear on list of available studies
Duration	60 minutes
Credits	1 Credits
Abstract	Earn up to 4.5 bonus points for helping us understand experiences with stress, coping, personality, and wellbeing in university!
Description	We are currently recruiting MEN only. This study seeks to examine students' experiences with stress, coping, personality, and wellbeing during university. This study has 3 phases. What is required: This is the sign-up for Phase 1. Phase One will be a Zoom orientation session where you will receive information about the study and complete a baseline survey. Phase 1 will take approximately 60 minutes and you will receive 1 bonus point. Researchers will send you the Zoom link by email the day before the scheduled orientation. *NOTE: PLEASE ENSURE YOU CHECK YOUR SPAM FOLDER FOR THE ZOOM MEETING INVITATION.* Phase 2 will begin the day after Phase 1 and involve completing a short survey every evening for 14 days. For Phase 2, you will receive up to 3 bonus points, depending on how many surveys you complete. Phase 3 will involve one follow-up survey 3 days after your final daily survey from Phase 2. For completing this follow-up, you will get an additional 0.5 bonus point.
Eligibility Requirements	Identify as a MAN. Be in an undergraduate degree. Fluent in English. Consistent access to the Internet.

Restrictions

Sign-Up Restrictions	Must NOT have signed up or completed ANY of these studies: • Daily Stress and Coping Among Students - FOLLOW-UP • Daily Stress and Coping Among Students - PHASE TWO - One Point • Daily Stress and Coping Among Students - PHASE TWO - Three Points • Daily Stress and Coping Among Students - PHASE TWO - Two Points

Additional Study Information

Participant Sign-Up Deadline	72 hours before the study is to occur
REB Approval Code	1469023
Direct Study Link	https://lupsych.sona-systems.com/default.aspx?p_re This is a direct URL for participants to access the study. You may use this in an email or study advertisement.
Date Created	January 21, 2022

Researcher Information

Researchers	Jaidyn K Charlton Angela MacIsaac 7059208215 Teagan M Neufeld Researchers may be assigned to a specific timeslot

Appendix C1 – Class Email (Open Recruitment)

The following email was sent to students in undergraduate courses (following approval from course instructors).

Subject Line:
Opportunity – Daily Stress-Coping Study

Email Body:

Hello,

My name is ____ and I am part of Dr. Aislin Mushquash's research team in the Department of Psychology. This email is to let you know about a research study we are conducting on emerging adults' experiences with stress, coping, and wellbeing while in university.

To qualify for the study, you must:

- Be an undergraduate student between ages of 18-29
- Have Internet access
- Speak/read fluently in English

Participation will involve:

- Phase 1: Attending an introduction session (via Zoom or in person) to become familiar with the study and to complete baseline surveys* (approx. 1-hour)
- Phase 2: Completing **one daily survey each evening** for **14-days** (approx. 15-minutes each day)
- *Phase 3 (Optional)*: completing one additional survey three days later (approx. 10-15 minutes)

*One survey during Phase 1 asks about difficult experiences you may have had in your life. Some of these questions may be difficult for some people to think about or may cause some temporary distress. Participants are not required to answer all questions and can feel free to skip questions they are not comfortable answering. If participants feel upset during the study, we have information available on relevant supports.

For participating, you would receive:

- Up to $75 in cash; or
- Up to 4.5 bonus points towards an eligible psychology course

Your participation in this study is entirely voluntary and confidential. Whether you choose to participate or not will not impact your academic standing in this or any other course.

If you are interested, you can sign up via SONA systems at **http://lupsych.sona-systems.com/** to participate for bonus points **or** by emailing the research team at **coping.research@lakeheadu.ca** to participate for cash compensation.

Thank you for your time.
Sincerely,
The Coping Research Team
coping.research@lakeheadu.ca

Principal Investigator
Dr. Aislin Mushquash, Ph.D., C.Psych.
Associate Professor, Department of Psychology
Lakehead University
955 Oliver Road
Thunder Bay, ON P7B5E1
t: (807) 343-8771
f: (807) 346-7734
e: aislin.mushquash@lakeheadu.ca

Appendix C2 – Class Email (Men Only Recruitment)

The following email was sent to students in undergraduate courses (following approval from course instructors).

Subject Line:
Opportunity – Daily Stress-Coping Study

Email Body:

Hello,

My name is ____ and I am part of Dr. Aislin Mushquash's research team in the Department of Psychology. This email is to let you know about a research study we are conducting on emerging adults' experiences with stress, coping, personality, and wellbeing while in university.

To qualify for the study, you must:

- Identify as a **male/man**
- Be an undergraduate student between ages of 18-29
- Have consistent Internet access
- Speak/read fluently in English

Participation will involve:

- Phase 1: Attending an introduction session (via Zoom or in person) to become familiar with the study and to complete baseline surveys* (approx. 1-hour)
- Phase 2: Completing **one daily survey each evening** for **14-days** (approx. 15-minutes each day)
- Phase 3: completing one additional survey three days later (approx. 10-15 minutes)

*One survey during Phase 1 asks about difficult experiences you may have had in your life. Some of these questions may be difficult for some people to think about or may cause some temporary distress. Participants are not required to answer all questions and can feel free to skip questions they are not comfortable answering. If participants feel upset during the study, we have information available on relevant supports.

For participating, you would receive:

- Up to $75 in cash; or
- Up to 4.5 bonus points towards an eligible psychology course

Your participation in this study is entirely voluntary and confidential. Whether you choose to participate or not will not impact your academic standing in this or any other course.

If you are interested, you can sign up via SONA systems at **http://lupsych.sona-systems.com/** to participate for bonus points in an eligible psychology course **OR** by emailing the research team at **coping.research@lakeheadu.ca** to participate for cash compensation.

Thank you for your time.
Sincerely,
The Coping Research Team

coping.research@lakeheadu.ca

Principal Investigator
Dr. Aislin Mushquash, Ph.D., C.Psych.
Associate Professor, Department of Psychology
Lakehead University
955 Oliver Road
Thunder Bay, ON P7B5E1
t: (807) 343-8771
f: (807) 346-7734
e: aislin.mushquash@lakeheadu.ca

Appendix D – Demographics

1. Your age: _____ years

2. Your biological sex: _____

3. Your gender identity: _____ 4. Your sexual orientation: _____ 5. Your ethnicity: _____ 6. Your country of birth: _____ 7. How long have you lived in Canada? _____ years 8. Your year of study in university (e.g., 1st): _____

9. Your major in university: _____

Note: "undecided" or "undeclared" may be listed as a Major

10. Current educational situation:
- I am a part-time student
- I am a full-time student
- other (please specify) _____

. Current employment situation (in addition to school): I work full-time (30+ hours/week)
- I work part-time (<30 hours/week)
- I am not working
- I am retired
- other (please specify) _____

12. Are you an international student?
- yes
- no

13. Your current romantic relationship status (check all that apply):
- single
- dating one person
- dating multiple people
- separated
- married
- divorced
- cohabiting (i.e., living with your partner) widowed
- other (please specify)

_____

14. Are you currently receiving treatment from a mental health professional (e.g., counsellor, social worker, psychologist, psychotherapist, psychiatrist, etc.)? yes
- no

Appendix E – The Short Dark Triad (SD3)

Instructions: *Please indicate how much you agree with each of the following statements.*

	Disagree strongly	Disagree	Neither agree nor disagree	Agree	Agree strongly
Machiavellianism					
1. It's not wise to tell your secrets.	1	2	3	4	5
2. I like to use clever manipulation to get my way.	1	2	3	4	5
3. Whatever it takes, you must get the important people on your side.	1	2	3	4	5
4. Avoid direct conflict with others because they may be useful in the future.	1	2	3	4	5
5. It's wise to keep track of information that you can use against people later.	1	2	3	4	5
6. You should wait for the right time to get back at people.	1	2	3	4	5
7. There are things you should hide from other people to preserve your reputation.	1	2	3	4	5
8. Make sure your plans benefit yourself, not others.	1	2	3	4	5
9. Most people can be manipulated.	1	2	3	4	5
Narcissism					
10. People see me as a natural leader.	1	2	3	4	5
11. I hate being the center of attention. (R)	1	2	3	4	5
12. Many group activities tend to be dull without me.	1	2	3	4	5
13. I know that I am special because everyone keeps telling me so.	1	2	3	4	5
14. I like to get acquainted with important people.	1	2	3	4	5
15. I feel embarrassed if someone compliments me. (R)	1	2	3	4	5
16. I have been compared to famous people.	1	2	3	4	5
17. I am an average person. (R)	1	2	3	4	5

18. I insist on getting the respect I deserve.	1	2	3	4	5
Psychopathy					
19. I like to get revenge on authorities.	1	2	3	4	5
20. I avoid dangerous situations. (R)	1	2	3	4	5
21. Payback needs to be quick and nasty.	1	2	3	4	5
22. People often say I'm out of control.	1	2	3	4	5
23. It's true that I can be mean to others.	1	2	3	4	5
24. People who mess with me always regret it.	1	2	3	4	5
25. I have never gotten into trouble with the law. (R)	1	2	3	4	5
26. I enjoy having sex with people I hardly know.	1	2	3	4	5
27. I'll say anything to get what I want.	1	2	3	4	5

Appendix F – Assessment of Sadistic Personality (ASP)

Please indicate the extent to which you agree or disagree with each statement.

	Strongly disagree	Disagree	Neutral	Agree	Strongly agree
1. I have made fun of people so that they know I am in control.	1	2	3	4	5
2. I never get tired of pushing people around.	1	2	3	4	5
3. I would hurt somebody if it meant that I would be in control.	1	2	3	4	5
4. When I mock someone, it is funny to see them get upset.	1	2	3	4	5
5. Being mean to others can be exciting.	1	2	3	4	5
6. I get pleasure from mocking people in front of their friends.	1	2	3	4	5
7. Watching people get into fights excites me.	1	2	3	4	5
8. I think about hurting people who irritate me.	1	2	3	4	5
9. I would not purposely hurt anybody, even if I didn't like them. (R)	1	2	3	4	5

Appendix G – Marlowe-Crown Social Desirability Index (MCSDI)

Listed below are a number of statements concerning personal attitudes and traits. Read each item and decide whether the statement is *true* (T) or *false* (F) as it pertains to you personally.

1. It is sometimes hard for me to go on with my work if I am not encouraged.	T	F
2. I sometimes feel resentful when I don't get my way.	T	F
3. On a few occasions, I have given up doing something because I thought too little of my ability.	T	F
4. There have been times when I felt like rebelling against people in authority even though I knew they were right.	T	F
5. No matter who I'm talking to, I'm always a good listener.	T	F
6. There have been occasions when I took advantage of someone.	T	F
7. I'm always willing to admit it when I make a mistake.	T	F
8. I sometimes try to get even rather than forgive and forget.	T	F
9. I am always courteous, even to people who are disagreeable.	T	F
10. I have never been irked when people expressed ideas very different from my own.	T	F
11. There have been times when I was quite jealous of the good fortune of others.	T	F
12. I am sometimes irritated by people who ask favors of me.	T	F
13. I have never deliberately said something that hurt someone's feelings.	T	F

Appendix H – Daily Stressor Checklist

Think back to the last 24 hours. Check any of the following stressors that you experienced in the last 24 hours.

Yes	No	Too much school work (e.g., major assignment or deadline, large workload)
Yes	No	Preparing for/taking tests, exams, or quizzes
Yes	No	Balancing school and other responsibilities
Yes	No	Preparing for your future/career path (e.g., filling out applications, finding/losing a job, not getting into major)
Yes	No	Issues at/with your job
Yes	No	Receiving lower grade than you want
Yes	No	Financial problems (e.g., rent or bills due, being broke)
Yes	No	Interpersonal problem (e.g., with prior/current romantic partner(s), roommate, family member, boss) *[If "Yes" selected, the following question will appear:]* How many *different* interpersonal problems did you experience in the past 24 hours? _____
Yes	No	Other, if applicable (please describe here) _____

How stressful were these stressor(s) for you?

[List of stressors endorsed "Yes" repeated]

1 = Not at all stressful 2 = Not very stressful 3 = Somewhat stressful 4 = Very stressful

Appendix I – Daily Coping

Think about the situation you have just described, and how you reacted to it. Then indicate the extent to which you did whatever each of the following statements say.
1 = I didn't do this at all; 2 = I did this a little bit; 3 = I did this a medium amount; 4 = I did this a lot

1. Thought about what I need to know to solve the problem
2. Thought about which things are best to do to handle the problem
3. Did something to solve the problem
4. Did something to make things better
5. Thought about why it happened
6. Tried to figure out why things like this happen
7. Tried to think about or notice only the good things in life
8. Remind myself that things could be worse
9. Cried to myself
10. Let my feelings out
11. Laughed about the situation
12. Tried to find humor in the situation
13. Went and exercised
14. Went and played sports
15. Watched television and/or listened to music
16. Played a video game or hobby
17. Tried to stay away from things that made me upset
18. Tried to stay away from the problem
19. Tried to put it out of my mind
20. Wished that things were better
21. Figured out what I could do by talking to my family
22. Figured out what I could do by talking to my friends
23. Talked to my family about how I was feeling
24. Talked to my friends about how I was feeling
25. Learned to live with it
26. Just accepted the fact that this is the way it is

Appendix J – Information Letter

Daily Stress and Coping in University Students

Dear Potential Participant:

You are invited to participate in our research study titled: **Daily Stress and Coping in University Students**. Your participation in this study is entirely voluntary, and whether you choose to participate or not will not impact your academic standing at Lakehead University. Before you decide whether or not you would like to take part, please read this letter carefully to understand what is involved. After you have read the letter, please email any questions you may have.

PURPOSE

The purpose of this research is to examine the relationships between emerging adults' experiences with stress, coping, personality and wellbeing while they are enrolled in university. Emerging adults (spanning roughly 18-29 years old) represent a distinct developmental stage associated with unique opportunities and challenges.

The Principal Investigator of the research is Dr. Aislin Mushquash, Associate Professor, Department of Psychology, Lakehead University. Dr. Abby Goldstein, Associate Professor, Department of Psychology, University of Toronto, is the Co-Investigator. Ms. Cheryl D'Angelo and Ms. Irene Pugliese are knowledge-users/collaborators from Lakehead University's Student Health and Wellness Centre. Shivangi Khosla is the research coordinator from Lakehead University's Department of Psychology. Angela MacIsaac, Jaidyn Charlton, and Shaelynn Cross are student investigators from Lakehead University's Department of Psychology.

WHAT IS REQUESTED OF ME AS A PARTICIPANT? AND WHAT INFORMATION WILL BE COLLECTED?

The study has three phases. A description, the duration, and the associated compensation (either cash or bonus points) of each are described below.

	Description	**Duration**	**Compensation (Cash)**	**Compensation (Bonus points)**
Phase 1	You will be asked to attend an information session to learn about the study's details, practice completing a daily survey, and complete baseline surveys about your mental health/personality/well-being and your stress/coping.	Approx. 1-hour	$20	1 bonus point

Phase 2	You will complete **one daily survey, each evening** for **14 days**. In the surveys, you will be asked to complete a checklist of stressful events that might have occurred that day, and then briefly describe the most stressful, upsetting, or bothersome event that occurred. You will be asked to rate how much stress that event caused, how you dealt with the event, and to evaluate your wellbeing.	Approx. 15-minutes per daily survey entry, totalling approx. 3.5 hours over the entire 14 days.	Up to $50: $20 if 25-50% of the daily surveys are completed; $30 if 51-90% of the daily surveys are completed; and $50 if 91-100% of the daily surveys are completed	Up to 3 bonus points 1 bonus point if 25-50% of the daily surveys are completed; 2 bonus points if 51-90% of the daily surveys are completed; 3 bonus points if 91-100% of the daily surveys are completed
Phase 3	Three days after the end of Phase 2, you will complete one additional survey asking you to write in detail about a stressful interpersonal event experienced during Phase 2.	Approx. 10-15 minutes.	$5	0.5 a bonus point
	Total:	4.5 hours	Up to $75	Up to 4.5 bonus points

One survey during Phase 1 asks about difficult experiences you may have had in your life. Some of these questions may be difficult for some people to think about or may cause some temporary distress. You are not required to answer all questions and can feel free to skip questions that you are not comfortable answering.

WHAT ARE MY RIGHTS AS A PARTICIPANT?

As a participant, you are under no obligation to participate and you have the right to withdraw your data up until the data collection phase of the study is complete. Your decision to participate will not affect your academic status at Lakehead University.

WHAT ARE THE RISKS AND BENEFITS?

There are no known harms associated with participating in the study. There is minimal risk associated with participating in this research. Some questions will ask you to report on recent stressful events or difficult childhood experiences which may be upsetting to think about. You are not required to answer all questions and can feel free to skip questions that you are not comfortable answering. Should you feel upset during or after the study, we encourage you to contact any of the following support services:

Lakehead University Thunder Bay Counselling Centre Good2Talk 24-hr Thunder Bay 24-hr Student Health and Counselling Walk-In Counselling Student Helpline Crisis Response (807) 343-8361 (807) 684-1880 1-866-925-5454 (807) 346-8282

Participating in in-person research during the COVID-19 pandemic carries greater or additional risk. The research team has taken all of the necessary precautions against spreading the virus (e.g., mandatory masking and proof of vaccination for researchers and participants, disinfecting all surfaces between participants, maintaining physical distancing).

The information that you provide will not be shared with anyone outside of the research team. Your name will not be included on the surveys. All information will be stored on a password protected computer.

The primary benefits of the proposed study are for society and for the advancement of knowledge. Specifically, this study will allow us to evaluate the experiences of stress and coping among emerging adults.

For participating in the study, you will receive up to $75 in compensation, or up to 4.5 bonus points towards an eligible psychology course.

HOW WILL MY CONFIDENTIALITY BE MAINTAINED?

All participants will be provided an ID number at the beginning of their participation. All data will contain only this ID number. The list linking participant ID numbers to participant names will only be retained for the period of data collection. This list will be kept on a password protected computer in the possession of either the Principal Investigator or the research coordinator. The list will be deleted once the data collection phase of the study is complete. Thus, participants' identifying information (i.e., name) will not be part of study datafiles. Information provided as part of this study will not be shared with any third parties.
Please note that the online survey tool used in the study, SurveyMonkey, is hosted by a server located in the USA. The US Patriot Act permits U.S. law enforcement officials, for the purpose of antiterrorism investigation, to seek a court order that allows access to the personal records of any person without the person's knowledge. In view of this we cannot absolutely guarantee the full confidentiality and anonymity of your data. With your consent to participate in this study, you acknowledge this.

WHERE WILL MY DATA BE STORED?

Data will be stored on a password-protected computer in the possession of either the Principal Investigator or the research coordinator. In accordance with Lakehead University's policy, data will be retained for at least 5 years following the completion of the research.

HOW CAN I RECEIVE A COPY OF THE RESEARCH RESULTS?

All findings will be presented in summary. If you would like to receive a summary of the findings following the completion of the study, follow the link at the end of the study and enter your email address. Your email address will not be associated with your study data.

RESEARCHER CONTACT INFORMATION:

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The Coping Lab
Department of Psychology
Lakehead University
daily.coping.study@gmail.com

RESEARCH ETHICS BOARD REVIEW AND APPROVAL:

This research study has been reviewed and approved by the Lakehead University Research Ethics Board. If you have any questions related to the ethics of the research and would like to speak to someone outside of the research team, please contact Sue Wright at the Research Ethics Board at (807) 343-8283 or research@lakeheadu.ca.

Appendix K – Consent Form

Daily Stress and Coping in University Students

MY CONSENT:

I agree to the following:

- I have read and understand the information contained in the Information Letter
- I agree to participate
- I understand the risks and benefits to the study
- That I am a volunteer and can withdraw from the study up until the end of the data collection phase of the study, and may choose not to answer any question
- That the data will be securely stored on a password protected computer for a minimum period of 5 years following completion of the research project
- I understand that the research findings will be made available to me upon request
- That my name will not be included on my survey and that it is entirely confidential
- All of my questions have been answered and I can contact the Principal Investigator with further questions

By consenting to participate, I have not waived any rights to legal recourse in the event of research-related harm.

Please note that the online survey tool used in the study, (SurveyMonkey), is hosted by a server located in the USA. The US Patriot Act permits U.S. law enforcement officials, for the purpose of anti-terrorism investigation, to seek a court order that allows access to the personal records of any person without the person's knowledge. In view of this we cannot absolutely guarantee the full confidentiality and anonymity of your data. With your consent to participate in this study, you acknowledge this.

My consent has been given by clicking "CONSENT" below and continuing on to the survey.

Appendix L – Daily Survey Email Reminder

Email Reminder:

Subject Line:

Daily Stress-Coping Study – Reminder

Email Body:

Good day,

You are currently enrolled in the study titled: Daily Stress and Coping among University Students. This is a reminder to log on and complete your daily survey using your personal ID code. It should take approximately 10-minutes to complete. Thank you for your participation!

https://www.surveymonkey.com/r/DailyCopeDAILY

If you have any questions or concerns, please contact the research team at daily.coping.study@gmail.com or the Principal Investigator, Dr. Aislin Mushquash, at aislin.mushquash@lakeheadu.ca.

Sincerely,

The Coping Research Lab Team