

Relationship between Dark Triad, Mental Health, and Subjective Well-being Moderated by Mindfulness: A Study on Atheists and Muslim Students

 Aamer Aldbyani^{1,3},  Mohammed Hasan Ali Al-Abyadh^{2,3}

¹Shandong Normal University, China

²Prince Sattam bin Abdulaziz University, Saudi Arabia

³Tamar University, Yemen

 m.alabyadh@psau.edu.sa

Article Information:

Received April 30, 2022

Revised August 24, 2022

Accepted August 27, 2022

Keywords: dark triad; mental health; mindfulness; subjective well-being

Abstract

Research indicates that mindfulness is related to mental health (anxiety, depression, and general health) and well-being. However, its impact on individuals who have the Dark Triad (DT) personality remains unclear. We examined the relationship between the DT constructs (narcissism, psychopathy, and Machiavellianism), mental health, and subjective well-being with mindfulness as the moderator variable. A total of 764 (Atheist=412; Muslims=352) university students were recruited to complete the Dark Triad personality scale (DM), Mindful Attention Awareness Scale (MAAS), Beck Depression Inventory-II (BDI-II), Trait Anxiety scale (STAI), General Health Questionnaire (GHQ), and Subjective Well-Being scale (SWB). Pearson's correlations and PROCESS macro were used to evaluate associations between these variables and whether mindfulness moderated the associations between DT constructs, mental health, and subjective well-being. The results revealed that DT statistically significant predictor of mental health but only in low mindfulness levels. While two DT constructs, narcissism and Machiavellianism, significantly predict subjective well-being only for participants with high mindfulness levels.

INTRODUCTION

Our personalities play such an essential role in determining our thoughts and behaviors. Research has found that personality traits can be significant health predictors. For example, studies have shown that the personality traits exhibited during childhood are linked to later health and are tied to other critical health markers, while adult personality tends to remain stable over long periods (Edmonds, Goldberg, Hampson & Barckley, 2013; Jokela et al., 2013). One personality dimension that has generated much scientific interest in the past two decades is the Dark Triad (Hudek-Knežević, Kardum & Mehić, 2016). Dark Triad (DT) refers to three overlying traits of personality: narcissism, machiavellianism, and psychopathy. These three traits are overlappings but separable between them (Paulhus & Williams, 2002). To some extent, all three traits share several undesirable features, including malevolence, self-promotion, emotional coldness, hypocrisy, and aggression. Moreover, people high on these "dark" personalities are characterized by disagreeable-ness, callousness, dishonesty, duplicity, and aggressiveness; they tend to lead a fast and exploitive, rather than a caring and prosocial

How to cite:

Aldbyani, A., & Al-Abyadh, M. H. A. (2022). Relationship between Dark Triad, Mental Health, and Subjective Well-being Moderated by Mindfulness: A Study on Atheists and Muslim Students. *Islamic Guidance and Counseling Journal*, 5(1). <https://doi.org/10.25217/igcj.v5i1.2642>

E-ISSN:

2614-1566

Published by:

Institut Agama Islam Ma'arif NU (IAIMNU) Metro Lampung

life (Furnham, Richards, & Paulhus, 2013; Pabian, De Backer, & Vandebosch, 2015). These traits have often been associated with negative aspects of personality; for instance, psychopathy is related to higher levels of aggressiveness and impulsivity (Kennealy, Skeem, Walters & Camp, 2010), Machiavellianism is linked to hypocrisy and manipulation, and narcissism is linked to dominance, superiority and egocentric attitude (Gómez-Leal et al. 2019).

DT scores predict a mixture of negative and positive psychological outcomes. For example, DT personality traits negatively relate to anxiety symptoms (Birkás, Láng, Martin, & Kállai, 2016), especially with two constructs of the DT: narcissism and psychopathy (Cooke & Michie, 2001). At the same time, a study conducted by Stinson et al., (2005) that demonstrated the relationship between depressive symptoms and DT traits, found a negative relationship between depression and psychopathy. Others have found a positive relationship between depression and Machiavellianism (Al Aïn et al., 2013; Tokarev et al., 2017) and psychopathy (Jonason & Kroll, 2015). In addition, other studies found that machiavellianism was associated with higher mental toughness scores (Sabouri et al., 2016; Jonason, Baughman, Carter, & Parker, 2015), narcissism was a strong predictor of health indicators and diseases in positive and negative associations (Malesza and Kaczmarek, 2019), while psychopathy associated negatively with health outcomes (Beaver et al., 2014), stress (Noser, Zeigler-Hill, & Besser, 2014), impulsive behavior (Jones & Paulhus, 2011), cardiovascular diseases (Casey, Rogers, Burns, & Yiend, 2012), sexual behavior (Hudek-Knežević, Kardum, & Krapić, 2007), substance abuse (Jonason, Li, & Teicher, 2010), risk-taking (Adams, Luevano, & Jonason, 2014) and an exploitative mating (Kardum, Hudek-Knežević, Schmitt, & Grundler, 2015). At the same time, much of the research has linked DT traits to adverse outcomes. However, the DT managed to predict well-being. Studies such by Aghababaei & Błachnio (2015) and Aghababaei (2019) found that narcissism and psychopathy are positively related to well-being, while machiavellianism was not related to well-being outcomes. On the other hand, a study conducted by Limone, Sinatra & Monacis (2020) found no correlations between subjective well-being with Machiavellianism and psychopathy, while there is a correlation with narcissism.

Interest in the concept of mindfulness has increased over the past three decades (Bishop et al. 2004), in which mindfulness is believed to produce fundamental changes in a person's appraisal and belief systems (Kabat-Zinn, 1990). The general mindful approach of being open and accepting includes viewing oneself with openness and acceptance. In addition, people who have a high level of mindfulness often show the qualities of compassion, acceptance, and, empathy towards themselves and others, have advanced personal skills, communicate more effectively with others, and have a better lifestyle compared to those who do not have a high level of mindfulness (Burgoon et al., 2000; Feltman et al. 2009). Where individual deals with stimuli around him attentively and consciously by observing his thoughts, emotions, and feelings, living moment by moment with her, opening up to new experiences, and communicating with them, which contributes to the self-behavioral organization of the individual, and gives him the ability to make adaptive choices about different responses (Elder, 2010; Stoops, 2005). Studies consistently showed that mindfulness plays a role in physical and psychological outcomes. However, few studies have investigated mindfulness as a moderator of DT traits in psychological outcomes, especially mental health and subjective well-being.

Dark Triad

The Dark Triad (DT), which consists of narcissism, psychopathy, and machiavellianism, is linked with a ruthless method to others and gaining personal benefit at the expense of the well-being of others (Paulhus & Williams, 2002). Narcissism is the first construct of DT,

which characterizes by inflating oneself and attention-seeking, dominating interpersonal relationships, persuasion, and exploiting others (Campbell et al., 2000; Carroll, 1987; Jakobwitz & Egan, 2006; Twenge & Campbell, 2003). while the second construct of DT is psychopathy, characterized by low anxiety levels, cruelty, lack of guilt, recklessness, and antisocial (Hare et al., 1991; Jones & Paulhus, 2014; Jones & Neria, 2015; Malesza & Ostaszewski, 2016). Whereas the third construct of DT is machiavellianism which is characterized by the absence of morality, deceit, the double standard, lack of effect in social relations, love of money and power, and cynical views (Christie, 1970; McHoskey, Worzel, & Szyarto, 1998; Jones & Paulhus, 2014). The three DT traits are considered socially undesirable behaviors (Kowalski, 2001) and are marked as an essential factor leading to hostility between people (Muris et al., 2017). In this regard, people with DT traits are characterized by a fast life strategy, short-term thinking, a lack of social support, disregarding social rules, and wide risk-taking (Figueredo et al., 2006; Jonason, Koenig, & Tost, 2010). Therefore, high DT scores refer to antisocial tactics, limited self-control, and less cognitive and affective empathy (Muris et al., 2017; Jonason & Kroll, 2015).

Individuals who obtain high marks in the dark triad of personality are tended by the exploitation of others, indifference, and act in harmful ways to achieve their interests and do not respect the ideas and needs of others, do not care about the harm and pain they cause and do not give any consideration to the general moral rules (Rauthmann & Kolar, 2012; Webster & Jonason, 2013). This is confirmed by the study conducted by (Jakobwitz & Egan, 2006), which found that there is a negative relationship between the three Dark Triad traits and some standard personality traits, as individuals showed low scores in kindness, conscientiousness, and openness to experience (Jakobwitz & Egan, 2006). In addition, Individuals who score high on this variable exhibit a range of unwanted behaviors such as aggression, opportunism, and harming others, and they also exhibit a high tendency for misalignment with themselves and others, as they do not have a clear view of their selves and their abilities and capabilities. Also, they show an evident weakness in establishing stable and stable social relations with others, and they often suffer from problems with their colleagues and bosses at work, and their marital relations end in divorce (Rauthmann & Kolar, 2012). Bad behavior and relationships are closely related to physical and mental health, and that DT is likely to impact mental health and well-being, so this study aims to examine how DT traits predict mental health and well-being.

The Dark Triad and mental health

Anxiety

Anxiety is defined as an active psychophysiological and behavioral state (Spielberger, 1975; Beck, Laude & Bohnert, 1974). The literature had distinguished between trait anxiety and state anxiety. The anxiety trait means a tendency to feel anxious and not necessarily anxious at present, while anxiety states that the person suffers from anxiety (Glanzman & Laux, 1978; Spielberger, 1972; Endler & Magnusson, 1976).

It is assumed that socially aversive like DT personality traits are negatively related to anxiety symptoms (Jonason, Li & Teicher, 2010; Shostak & Peterson, 1990). However, there are also opposing views, such as Veselka et al. (2012) found that higher DT traits are related to higher anxiety. In addition, other researchers found inconsistent results for the relationship between different structures of DT and anxiety. For example, Birkás, Láng, Martin & Kállai (2016) found that psychopathy was positively associated with two dimensions of anxiety (Cognitive Concerns and Physical Concerns), while machiavellianism only associates with one dimension of anxiety (Social Concerns). In comparison, narcissism is negatively associated with two dimensions of anxiety (Cognitive Concerns and Physical Concerns). This is consistent with (Spano, 2001) who referred to those people with high degrees of narcissism

as having opportunities for self-enhancement and low levels of trait anxiety. Another study examined the relationship between DT traits, anxiety, sleep disturbances, and intolerance of uncertainty and found higher scores on DT (only machiavellianism and psychopathy) associated with higher scores on anxiety, sleep disturbances, and intolerance of uncertainty (Sabouri et al., 2016). Studies such as by (Nigro & Galli., 1985; Watson & Biderman, 1993; Cooke & Michie, 2001) found that anxiety sensitivity is negatively associated with two dimensions of the DT (narcissism and psychopathy), but positively with machiavellianism). Therefore, the relationship between DT and anxiety needs to be further tested.

Depression

Depression is a common mental disorder worldwide (Lépine & Briley, 2011). This disorder is a significant public health problem with consequences for affected people and their family members and society, with extremely high economic costs in using services and lost productivity (Cassano & Fava, 2002). The most common symptoms of depression are the mood of persistent depression that may last for a few days or perhaps months. The physical and cognitive changes that affect the individual daily include loss of general interest, exposure to stress, low self-esteem, irritability, loss of appetite, sleep disturbances and feeling tired (American Psychiatric Association, 2013).

The results of the studies demonstrated a mixed relationship between depressive symptoms and DT. Some such as (Stålenheim & Von Knorring, 1996; Stinson, Becker & Tromp, 2005) found a negative correlation between depression and psychopathy. Some have found a positive correlation between depression and machiavellianism (Tokarev et al., 2017; Al Aïn et al., 2013). Other studies such as Jonason et al. (2015) and Gómez-Leal et al. (2019) showed a positive relationship between depression and two constructs of DT (psychopathy and machiavellianism). The previous studies showed conflicting results about the relationship between DT traits and depression, so this study tried to test this relationship and determined the association of DT traits in predicting depression.

General Health

General health is one of the most mental health indicators, and DT traits improve health indicators. A study by Hudek-Knežević et al. (2016) examined how DT traits predict health indicators. The results found that psychopathy positively predicted gastrointestinal diseases, tobacco use, and injuries. Narcissism predicted skin diseases and tobacco use negatively. At the same time, machiavellianism predicted the risk of injuries, spine, an indicator of cancer and back diseases negatively. At the same time, machiavellianism predicted positively high blood pressure.

In addition, machiavellianism, narcissism, and psychopathy are associated with higher Mental toughness scores (Sabouri et al., 2016). A study conducted by Jonason, Baughman, Carter, & Parker (2015) revealed a correlation between machiavellianism and health. In comparison, narcissism relates to few adverse health effects. Another study conducted by Malesza & Kaczmarek (2019) found that narcissism was the strong predictor of health indicators and diseases in positive and negative associations, while machiavellianism and psychopathy were weak predictors of health indicators. Other studies focused on psychopathy and found that higher scores on psychopathy were associated negatively with health outcomes (Beaver et al., 2014), stress (Noser, Zeigler-Hill, & Besser, 2014), impulsive behavior (Jones & Paulhus, 2011), cardiovascular diseases (Casey, Rogers, Burns, & Yiend, 2012), sexual behavior (Hudek-Knežević, Kardum, & Krapić, 2007), substance abuse (Jonason, Li, & Teicher, 2010), risk-taking (Adams, Luevano, & Jonason, 2014) and an exploitative mating (Kardum, Hudek-Knežević, Schmitt, & Grundler, 2015).

Dark Triad and Subjective Well-Being

Subjective well-being (SWB) is the study of happiness and life satisfaction, which helps individuals know life's cognitive and emotional estimation. SWB consisted of life satisfaction, which refers to an individual's cognitive assessment of life quality. Positive emotion and negative emotion refer to an individuals' subjective emotional experience of life quality (Diener & Suh, 2000; Feng et al., 2012).

Much of the research has linked the DT traits to adverse outcomes. However, the DT managed to predict well-being. In this context, Aghababaei and Błachnio (2015) examined the differences between the DT traits and their relationships with well-being in a sample of Polish undergraduate students. They found that narcissism and psychopathy are positively related to well-being, while machiavellianism was not related to well-being outcomes. Another study conducted by Aghababaei (2019) with Iranian university students as samples found that narcissism is positively related to psychological and subjective well-being, while psychopathy and machiavellianism are associated with lower levels of well-being. On the other hand, a study conducted by Limone, Sinatra & Monacis (2020) found no correlations between subjective well-being with Machiavellianism and psychopathy, while there is a correlation with narcissism.

Mindfulness as a moderator

Mindfulness has been conceptualized as a state, a set of skills, and a trait-like tendency (Randal, Pratt, & Bucci, 2015). Dispositional mindfulness refers to paying attention and being focused non-judgmentally on the present moment (Garland & Howard, 2013). This ability can be developed through mindfulness training (Birrer, Ruthlin, & Morgan, 2012) and can also occur in different populations, regardless of mindfulness practices (Brown, Ryan, & Creswell, 2007; Kabat-Zinn, 1990). When practicing mindfulness, one focuses on the present moment experiences rather than imagining the future or rehashing the past. Sensations and emotions are perceived intentionally without judging whether they are good or bad and right or wrong. Therefore, people who have a higher level of mindfulness show higher quality of compassion, acceptance, and empathy towards themselves and others, have advanced personal skills, communicate more effectively with others, and have a better lifestyle (Burgoon, Berger, & Waldron, 2000; Feltman, Robinson, & Ode, 2009).

Mindfulness is consistently associated with reducing psychological and physical outcomes, such as depression (Barnhofer et al., 2011; Bränström et al., 2011; Jimenez et al., 2010; Marks et al., 2010), anxiety (Hou, Ng & Wan, 2015), and chronic health problems (Bédard et al., 2012; Kabat-Zinn, 1994; Keng, Smoski, & Robins, 2011) and enhancing well-being (Bajaj, Gupta, & Pande, 2016; Keng et al., 2011). Those who have high DT traits are more experience a risk for poor health (Carmody et al., 2008; Chambers, Lo, & Allen, 2008; Dekeyser et al., 2008; Jonason et al., 2015). Moreover, mindfulness is associated with better physical and mental health and weakens abusive supervision on perceived victimization when the DT traits are the predictors of this relationship (Khan et al., 2020). Studies also indicated that high mindfulness scores might associate with lowering fibromyalgia impact, pain interference, stress, anxiety, depression, and better mental health-related quality of life (Pleman et al., 2019) buffering the effects of perceived stress on anxiety and depression (Bergin and Pakenham, 2016) and could moderate the relation between Antisocial Personality Disorder and aggression (Taubner et al., 2013; Velotti & Garofalo, 2015). Therefore, it is believed that mindfulness may moderate DT traits on anxiety, depression, general health, and well-being.

The Rationale of the Study

Research on DT traits yielded mixed results. Some of them focused on the negative

consequences (Kennealy et al., 2010; Gómez-Leal et al., 2019; Birkás et al., 2016; Stinson et al., 2005); others show the advantages of scoring high on DT traits (Sabouri et al., 2016; Jonason et al., 2015). In addition, some showed a negative relationship between DT traits and psychological adjustment (Aghababaei & Błachnio, 2015; Aghababaei, 2019; Limone et al., 2020), while others showed a positive relationship between these variables (Al Aïn et al., 2013; Jonason & Kroll, 2015; Tokarev et al., 2017). However, the impact of mindfulness on the relationship between DT personalities and mental health, and subjective well-being remains unclear. In this study, we experimented with a conceptual model that through its DT will become a predictor of mental health and subjective well-being among atheists and Muslim students.

Aims and Hypotheses

In particular, the aim of this study was two folds (a) to test whether mindfulness moderates the relationship between DT and mental health in college students, and (b) to investigate whether mindfulness moderates the relationship between DT and subjective well-being among college students. Altogether, these two research questions constitute two moderation models. Figure 1 illustrates the suggested model. Founded on the literature reviewed overhead, we set forward the following hypotheses:

Hypothesis 1. DT traits (narcissism, psychopathy, and Machiavellianism) predict mental health, and mindfulness may moderate this relationship.

Hypothesis 2. DT traits (narcissism, psychopathy, and Machiavellianism) predict subjective well-being and mindfulness may moderate this relationship.

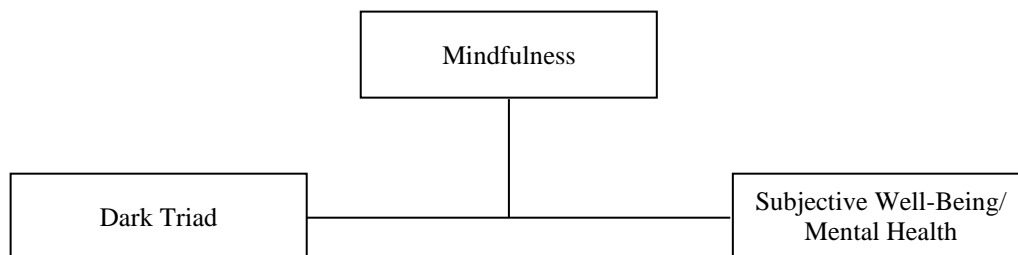


Figure 1. Conceptual model of the moderated effect

METHODS

Participants

764 undergraduate or postgraduate students (N male =348, female=416, Mage = 22.17, SD age = 4.02) from Asia participated in the study. Among them, 54% (412) were from China, 30% (229) were from Indonesia, and others were from Yemen. 54% (412) of the participants were atheists, and 46% (352) were Muslims.

Measurements

Dark Triad

The Dark Triad personality scale (DM), which contains 12 items in English version, has been used to assess the DT personality characteristic (Webster & Jonason, 2013; Klimstra, Sijtsema, Henrichs, & Cima, 2014). This scale measures three subscales of DM: Narcissism (item example “I tend to want others to admire me.”), Psychopathy (item example “I tend to be unconcerned with the morality of my actions.”), and machiavellianism (item example “I have use flattery to get my way.”); each contains four items and is rated on a 9-point scale ranging from 1 (strongly disagree) to 9 (strongly agree). Cronbach's alpha in this study for the three subscales of DM: Narcissism, Psychopathy, and machiavellianism were .81, .84, and .77.

Table 1. Descriptive statistical results and correlations among study variables ($N = 764$).

	1	2	3	4	5	6	7	8	9
1. Narcissism	1								
2. Psychopathy	.57***	1							
3. Machiavellianism	.72***	.46***	1						
4. S. Well-Being	.10**	.28***	.08*	1					
5. Anxiety	.28***	-.02	.34***	-.37***	1				
6. Depression	.24***	-.01	.23***	-.45***	.54***	1			
7. General Health	.09*	-.11**	.12**	-.66***	.40***	.61***	1		
8. Mental Health	.26***	-.04	.30***	-.56***	.82***	.88***	.75***	1	
9. Mindfulness	.05	.19***	.02	.44***	-.24***	-.27***	-.32***	-.33	1
M	11.36	15.42	1.75	17.14	39.11	3.10	2.70	89.91	54.05
SD	5.13	5.14	4.50	16.51	9.30	9.37	5.63	2.15	1.94

M: Mean; SD: Standard Deviation; $N = 807$.

** $: p < 0.01$.

Mindfulness

The Mindful Attention Awareness scale (MAAS), which contains 15 items, has been used to assess mindfulness traits (Brown & Ryan, 2003). Each item was rated using a 6-pointed Likert-type scale, ranging from 1 (almost always) to 6 (almost never). The item examples were “I tend not to notice feelings of physical tension or discomfort until they really grab my attention.” and “I find myself listening to someone with one ear, doing something else at the same time.”. Negatively worded items were reversed so that high scores indicate higher levels of mindfulness. Cronbach's alpha in this study was .77.

Depression

The Beck Depression Inventory-II (BDI-II), which contains 21 items, has been used to assess depression (Beck, Steer & Brown, 1996). Each item was rated using a 4-pointed Likert-type scale, ranging from 1 (do not feel guilty) to 4 (I feel guilty at any time). Cronbach's alpha in this study was .92.

Anxiety

The Trait Anxiety scale (STAI), which contains 20 items, has been used to assess trait anxiety (Spielberger et al., 1983). Each item was rated using a 4-pointed Likert-type scale, ranging from 1 (No or little time) to 4 (Most or all of the time). Trait anxiety items include “I worry too much over something that really doesn't matter” and “I am content.” Cronbach's alpha in this study was .88.

Subjective Well-being

The Subjective Well-being scale (SWB) contains two scales. The first scale is The Satisfaction with Life Scale (SWL; Diener et al., 1985), in which five items have been used to assess an individual's satisfaction with life. The items include “In most ways my life is close to my ideal” and “The conditions of my life are excellent.”. Each item was rated using a 7-pointed Likert-type scale, ranging from 1 (Strongly disagree) to 7 (Strongly agree). Cronbach's alpha in this study was .86. The second scale is the positive and negative emotions, which contains nine items. Each item was rated using a 7-pointed Likert-type scale, ranging from 1 (Totally inconsistent) to 7 (Totally Suitable). Cronbach's alpha in this study was .56.

General Health

The General health questionnaire also known as GHQ (Goldberg & Williams, 1988), which contains 12 items, has been used to assess general health. Each item was rated using a 4-pointed Likert-type scale, ranging from 1 (Better than usual) to 4 (Much less than usual). The item samples were “Able to concentrate” and “Able to enjoy day-to-day activities”. Cronbach's alpha in this study was .84.

Procedures

Participants were recruited through the online platform after the researcher collected their information and assured them of the privacy of their responses. Moreover, they were paid to complete a series of online measurements which took 30–45 min. The academic committee approved the study at Shandong Normal University.

Data Analysis

Before the statistical test, we combined scores for anxiety, depression, and general health to indicate mental health. A low score indicates well mental health. Peterson's correlation test was used to find correlations between variables. The PROCESS macro (version 3.5; Hayes, 2013) on SPSS was used to conduct the moderation analysis. In the model of this study, the moderated effect (model 1) was examined using 5000 bootstraps re-samples to produce 95% confidence intervals (Hayes, 2013). The statistics were mean-centered before committing analysis.

RESULTS AND DISCUSSION

Results

We explored the relationship between DT (narcissism, psychopathy, and machiavellianism), anxiety, depression, general health, well-being, and mindfulness, and here are the results.

Descriptive Statistics and Correlation Analysis

Descriptive statistics and correlations can be seen in Table 1. For the main study variables, there were significant relationships between them. Narcissism, as well as machiavellianism, is positively related to subjective well-being and mental health. Psychopaths were positively related to subjective well-being and mindfulness but not significantly related to mental health.

Moderating effect test

The simple moderation of mindfulness between Dark Triad and Mental health

Mindfulness served as a significant moderator in the relationship between narcissism and mental health ($\Delta R^2 = .06$, $F(1,760) = 62.69$, $p < .001$). Narcissism significantly positive in predicting mental health (effect = 2.28, se = .19, 95%CI[1.90, 2.66]) only in low mindfulness level. The two-way interaction of mindfulness and dark triad was shown in fig 2.

In the psychopathy-mental health model, mindfulness also moderated the relationship between them ($\Delta R^2 = .08$, $F(1,760) = 6.67$, $p < .5$). In low mindfulness level, psychopathy had a significant positive effect on mental health (effect = .49, se = .21, 95%CI[.09, .89]), while in high mindfulness level, it had a nonsignificant negative effect on mental health (effect = -.18, se = .17, 95%CI[-.53, .16]).

Similar to that in narcissism-mental health model, mindfulness served as a significant moderator in the relationship between machiavellianism and mental health ($\Delta R^2 = .05$, $F(1,760) = 45.56$, $p < .001$). In low mindfulness level, machiavellianism positively predicted

mental health (effect = 2.43, se = .21, 95% CI[2.01, 2.84]).

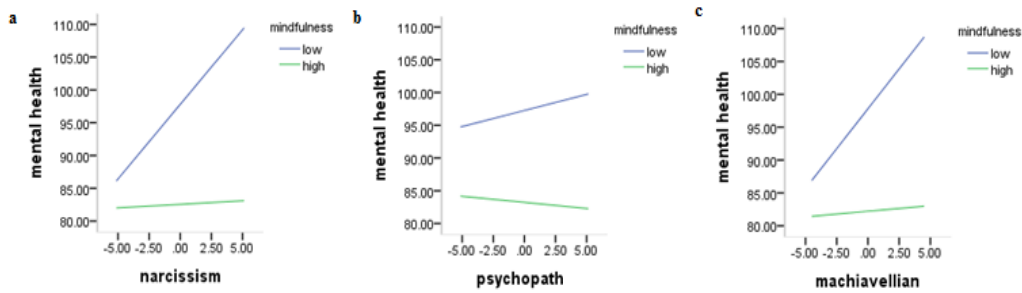


Figure 2. Interaction between mindfulness and dark triad in predicting mental health

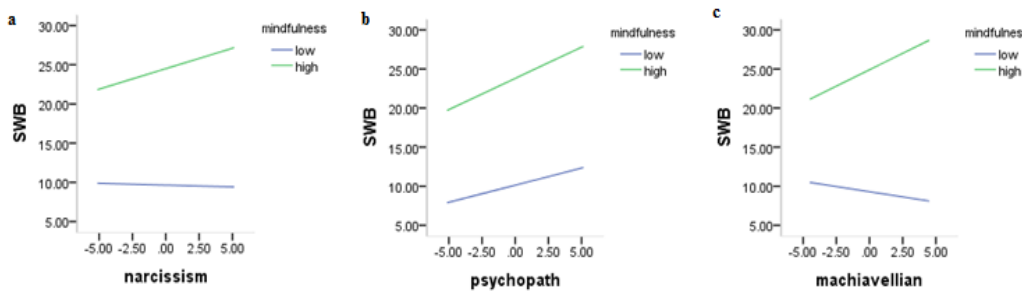


Figure 3. Interaction between mindfulness and dark triad in predicting subjective well-being (SWB)

The simple moderation of mindfulness between Dark Triad and subjective well-being

Results showed that the moderating effect of mindfulness on the relationship between narcissism and subjective well-being was significant, for there was a significant interaction effect ($\Delta R^2 = .01$, $F(1,760) = 6.09$, $p < .05$). As we can see in fig. 3, narcissism had a significant positive effect on subjective well-being (effect = .52, se = .15, 95% CI[.23, .81]) in high mindfulness level, but had a nonsignificant negative effect on subjective well-being in low mindfulness level (effect = -.05, se = .16, 95% CI[-.37, .27]).

Analogously, the moderating effect of mindfulness on the relationship between machiavellianism and subjective well-being was significant ($\Delta R^2 = .02$, $F(1,760) = 15.67$, $p < .001$). machiavellianism had a significant positive effect on subjective well-being (effect = .84, se = .19, 95% CI[.47, 1.21]), but had a nonsignificant negative effect on subjective well-being (effect = -.26, se = .17, 95% CI[-.61, .08]) in low mindfulness level.

There was not a significant moderating effect of mindfulness on the psychopathy-subjective well-being relationship ($\Delta R^2 = .003$, $F(1,760) = 3.31$, $p > .05$). Psychopathy had a positive effect on subjective well-being regardless of the mindfulness scores.

Discussion

The study aimed to explore the relationship between DT traits, mental health, subjective well-being, and mindfulness's moderating effect on this relationship. Findings showed that narcissism positively related to mental health and subjective well-being; this result consents with studies such as (Aghababaei, 2019; Aghababaei and Błachnio, 2015) which indicated that narcissism was positively associate with well-being and its relations with well-being variables significantly increased. This means that having a narcissistic personality is beneficial for the well-being of others and for living a good and full-functioning life.

Unexpectedly findings also showed that machiavellianism positively related to mental health and subjective well-being; this result can be acceptable because machiavellians plan

the future, build allies, and do their best their effort to maintain a positive life (Paulhus & Jones, 2011). Another unexpected finding showed that psychopathy is positively related to subjective well-being. This result contrast with a study conducted by Love & Holder (2014), which they found that psychopaths are associated with higher levels of depression and negative affect, and lower levels of life satisfaction, happiness, and positive affect, because psychopaths fail to explain the variance in bad or well-being.

Furthermore, the moderating analysis's results showed that narcissism, psychopathy, and machiavellianism significantly positively predict mental health; this proves our Hypothesis1 that mindfulness moderates this association of DT traits on mental health but only in low mindfulness. The results also showed that just narcissism and machiavellianism significantly positively predict subjective well-being; this proves our Hypothesis2 partially that mindfulness moderates this association of DT traits on subjective well-being but only in high mindfulness levels. The result that we achieved through this study shows that the dark personality may be three-dimensional, and that the three dimensions are not completely consistent.

Implications

The reseach results highlighted the importance of mindfulness in moderation; the associations between DT constructs impact mental health and subjective well-being. However, concerning the participants religious background, we need to be aware that the theoretical model developed is for Muslim and Atheist. Thereore, this implication can be utilized in the development theories in the field of psychology, in particular that focus in Muslim and Atheist participants.

Limitations and Future Direction

Despite providing insight on the role of mindfulness in moderating the relationship of DR, mental health, and subjective well-being, we can not avoid the limitations of this study. The limitations of our study are; First, it is adopting a cross-sectional design and uses self-report measures to collect data. Second, participants were college students in three countries; whether the research findings can be generalized to other countries is unknown. Third, only three mental health indicators were selected in this study: anxiety, depression, and general health. In addition, an argument was made to examine these variables using qualitative approach, more participants background (country, religion, culure etc.) or other indicators to represent mental health in the future studies.

CONCLUSION

Individuals who own the DT trait are not criminals. They prefer a solid hierarchy and tend to strive for high social status and personal gain at the expense of others. They work hard to achieve success like others, but in a roundabout way, and they are ready to commit crimes to achieve their interests, causing problems. They have unusual attitudes and tend to disconnect morally; They agree to ideas rejected by others as ethically unacceptable and quickly find exceptions and explanations to applying accepted moral principles. This study concludes that DT traits could be a predictor of subjective well-being and mental health among Muslim or atheist students, and mindfulness may be one of the underlying mechanisms of this relationship.

ACKNOWLEDGEMENT

No funding was received from any private or public agency for this study.

AUTHOR CONTRIBUTIONS STATEMENT

The authors contributed equally to the completion of this research.

REFERENCES

- Aghababaei, N. (2019). The relationship between the Dark Triad traits and subjective and psychological well-being among Iranian students. *International Journal of Behavioral Sciences*, 13(3), 92-96. [Google Scholar](#)
- Aghababaei, N., & Błachnio, A. (2015). Well-being and the Dark Triad. *Personality and Individual Differences*, 86, 365-368. <https://doi.org/10.1016/j.paid.2015.06.043>
- Al Aïn, S., Carré, A., Fantini-Hauwel, C., Baudouin, J.-Y., & Besche-Richard, C. (2013). What is the emotional core of the multidimensional Machiavellian personality trait?. *Frontiers in Psychology*, 4, 454. <https://doi.org/10.3389/fpsyg.2013.00454>
- Association, A. P. (2013). American Psychiatric Association: Diagnostic Statistical Manual of Mental Disorders. [Google Scholar](#)
- Bajaj, B., Gupta, R., & Pande, N. (2016). Self-esteem mediates the relationship between mindfulness and well-being. *Personality and Individual Differences*, 94, 96-100. <https://doi.org/10.1016/j.paid.2016.01.020>
- Barnhofer, T., Duggan, D. S., & Griffith, J. W. (2011). Dispositional mindfulness moderates the relation between neuroticism and depressive symptoms. *Personality and individual differences*, 51(8), 958-962. <https://doi.org/10.1016/j.paid.2011.07.032>
- Beaver, K. M., Nedelec, J. L., da Silva Costa, C., Poersch, A. P., Stelmach, M. C., Freddi, M. C., Gajos, J. M., & Boccio, C. (2014). The association between psychopathic personality traits and health-related outcomes. *Journal of Criminal Justice*, 42(5), 399-407. <https://doi.org/10.1016/j.jcrimjus.2014.05.005>
- Beck, A. T., Laude, R., & Bohnert, M. (1974). Ideational components of anxiety neurosis. *Archives of General Psychiatry*, 31(3), 319-325. <https://doi.org/10.1001/archpsyc.1974.01760150035005>
- Beck, A. T., Steer, R. A., & Brown, G. (1996). Beck depression inventory-II. *Psychological Assessment*. <https://doi.org/10.1037/t00742-000>
- Bédard, M., Felteau, M., Marshall, S., Cullen, N., Gibbons, C., Dubois, S., Maxwell, H., Mazmanian, D., Weaver, B., & Rees, L. (2014). Mindfulness-based cognitive therapy reduces symptoms of depression in people with a traumatic brain injury: results from a randomized controlled trial. *The Journal of Head Trauma Rehabilitation*, 29(4), E13-E22. <https://doi.org/10.1097/HTR.0b013e3182a615a0>
- Bergin, A. J., & Pakenham, K. I. (2016). The stress-buffering role of mindfulness in the relationship between perceived stress and psychological adjustment. *Mindfulness*, 7(4), 928-939. <https://doi.org/10.1007/s12671-016-0532-x>
- Birkás, B., Láng, A., Martin, L., & Kállai, J. (2016). Disturbing concerns for dark personalities: anxiety sensitivity and the Dark Triad. *International Journal of Advances in Psychology*, 5, 1-5. <https://doi.org/10.14355/ijap.2016.05.001>
- Birrer, D., Röthlin, P., & Morgan, G. (2012). Mindfulness to enhance athletic performance: Theoretical considerations and possible impact mechanisms. *Mindfulness*, 3(3), 235-246. <https://doi.org/10.1007/s12671-012-0109-2>
- Bishop, S. R., Lau, M., Shapiro, S., Carlson, L., Anderson, N. D., Carmody, J., ... & Devins, G. (2004). Mindfulness: A proposed operational definition. *Clinical psychology: Science and practice*, 11(3), 230-241. <https://doi.org/10.1093/clipsy.bph077>
- Bränström, R., Duncan, L. G., & Moskowitz, J. T. (2011). The association between dispositional mindfulness, psychological well-being, and perceived health in a Swedish population-based sample. *British journal of health psychology*, 16(2), 300-316. <https://doi.org/10.1348/135910710X501683>

- Brown, K. W., & Ryan, R. M. (2003). The benefits of being present: mindfulness and its role in psychological well-being. *Journal of Personality and Social Psychology*, 84(4), 822. <https://doi.org/10.1037/0022-3514.84.4.822>
- Brown, K. W., Ryan, R. M., & Creswell, J. D. (2007). Addressing fundamental questions about mindfulness. *Psychological Inquiry*, 18(4), 272-281. <https://doi.org/10.1080/10478400701703344>
- Burgoon, J., Berger, C., & Waldron, V. (2000). Mindfulness and Interpersonal Communication. *Journal of Social Issues*, 56, 105-127. <https://doi.org/10.1111/0022-4537.00154>
- Campbell, W. K., Reeder, G. D., Sedikides, C., & Elliot, A. J. (2000). Narcissism and comparative self-enhancement strategies. *Journal of Research in Personality*, 34(3), 329-347. <https://doi.org/10.1006/jrpe.2000.2282>
- Carmody, J., & Baer, R. A. (2008). Relationships between mindfulness practice and levels of mindfulness, medical and psychological symptoms and well-being in a mindfulness-based stress reduction program. *Journal of Behavioral Medicine*, 31(1), 23-33. <https://doi.org/10.1007/s10865-007-9130-7>
- Carroll, L. (1987). A study of narcissism, affiliation, intimacy, and power motives among students in business administration. *Psychological Reports*, 61(2), 355-358. <https://doi.org/10.2466/pr0.1987.61.2.355>
- Casey, H., Rogers, R. D., Burns, T., & Yiend, J. (2013). Emotion regulation in psychopathy. *Biological Psychology*, 92(3), 541-548. <https://doi.org/10.1016/j.biopsycho.2012.06.011>
- Cassano, P., & Fava, M. (2002). Depression and public health: an overview. *Journal of Psychosomatic Research*, 53(4), 849-857. [https://doi.org/10.1016/S0022-3999\(02\)00304-5](https://doi.org/10.1016/S0022-3999(02)00304-5)
- Chambers, R., Lo, B. C. Y., & Allen, N. B. (2008). The impact of intensive mindfulness training on attentional control, cognitive style, and affect. *Cognitive Therapy and Research*, 32(3), 303-322. <https://doi.org/10.1007/s10608-007-9119-0>
- Christie, R., & Geis, F. L. (1970). Why Machiavelli?. *Studies in Machiavellianism*, 1-9. <https://doi.org/10.1016/B978-0-12-174450-2.50006-3>
- Cooke, D. J., & Michie, C. (2001). Refining the construct of psychopathy: towards a hierarchical model. *Psychological Assessment*, 13(2), 171. <https://doi.org/10.1037/1040-3590.13.2.171>
- Dekeyser, M., Raes, F., Leijssen, M., Leysen, S., & Dewulf, D. (2008). Mindfulness skills and interpersonal behaviour. *Personality and Individual Differences*, 44(5), 1235-1245. <https://doi.org/10.1016/j.paid.2007.11.018>
- Diener, E. D., Emmons, R. A., Larsen, R. J., & Griffin, S. (1985). The satisfaction with life scale. *Journal of Personality Assessment*, 49(1), 71-75. https://doi.org/10.1207/s15327752jpa4901_13
- Diener, E., & Suh, E. M. (2000). Measuring subjective well-being to compare the quality of life of cultures. *Culture and Subjective Well-Being*, 3-12. [Google Scholar](https://scholar.google.com/citations?view_op=view_citation&hl=en&user=diener@stanford.edu&citation_for_view=diener@stanford.edu:3-12)
- Edmonds, G. W., Goldberg, L. R., Hampson, S. E., & Barckley, M. (2013). Personality stability from childhood to midlife: Relating teachers' assessments in elementary school to observer-and self-ratings 40 years later. *Journal of research in personality*, 47(5), 505-513. <https://doi.org/10.1016/j.jrp.2013.05.003>
- Elder, J. D. (2010). *Mindfulness: A potentially good idea*. State University of New York Empire State College. [Google Scholar](https://scholar.google.com/citations?view_op=view_citation&hl=en&user=jelder@stateuniversityofnewyork.edu&citation_for_view=jelder@stateuniversityofnewyork.edu:1-10)
- Endler, N. S., & Magnusson, D. (1976). Toward an interactional psychology of personality. *Psychological Bulletin*, 83(5), 956. <https://doi.org/10.1037/0033-2909.83.5.956>

- Feltman, R., Robinson, M. D., & Ode, S. (2009). Mindfulness as a moderator of neuroticism-outcome relations: A self-regulation perspective. *Journal of Research in Personality*, 43(6), 953-961. <https://doi.org/10.1016/j.jrp.2009.08.009>
- Figueredo, A. J., Vásquez, G., Brumbach, B. H., Schneider, S. M. R., Sefcek, J. A., & Tal, I. R. (2006). Consilience and life history theory: From genes to brain to reproductive strategy. *Developmental Review*, 26, 243-275. <https://doi.org/10.1016/j.dr.2006.02.002>
- 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>
- Garland, E. L., & Howard, M. O. (2013). Mindfulness-oriented recovery enhancement reduces pain attentional bias in chronic pain patients. *Psychotherapy and Psychosomatics*, 82(5), 311-318. <https://doi.org/10.1159/000348868>
- Glanzmann, P., & Laux, L. (1978). The effects of trait anxiety and two kinds of stressors on state anxiety and performance. *Stress and anxiety*, 5, 145-164. <https://fis.uni-bamberg.de/handle/uniba/36772>
- Goldberg, D. P., & Hillier, V. F. (1979). A scaled version of the General Health Questionnaire. *Psychological Medicine*, 9, 139-145. <https://doi.org/10.1017/S0033291700021644>
- Gómez-Leal, R., Megías-Robles, A., Gutiérrez-Cobo, M. J., Cabello, R., Fernández-Abascal, E. G., & Fernández-Berrocal, P. (2019). Relationship between the Dark Triad and depressive symptoms. *PeerJ*, 7, e8120. <https://doi.org/10.7717/peerj.8120>
- Hare, R. D., Hart, S. D., & Harpur, T. J. (1991). Psychopathy and the DSM-IV criteria for antisocial personality disorder. *Journal of Abnormal Psychology*, 100(3), 391. <https://doi.org/10.1037/0021-843X.100.3.391>
- Hayes, A. (2013). The PROCESS macro for SPSS and SAS (version 2.13)[Software]. In Heinrich, L. M., & Gullone, E. (2006). The clinical significance of loneliness: A literature review. *Clinical Psychology Review*, 26(6), 695-718. <https://doi.org/10.1016/j.cpr.2006.04.002>
- Hou, W. K., Ng, S. M., & Wan, J. H. Y. (2015). Changes in positive affect and mindfulness predict changes in cortisol response and psychiatric symptoms: A latent change score modelling approach. *Psychology & Health*, 30(5), 551-567. <https://doi.org/10.1080/08870446.2014.990389>
- Hudek-Knežević, J., Kardum, I., & Krapić, N. (2007). HIV-transmission knowledge, five-factor personality traits and psychopathy as determinants of risky sexual behaviors. *Review of Psychology*, 14(2), 139-152.
- Hudek-Knežević, J., Kardum, I., & Mehić, N. (2016). Dark triad traits and health outcomes: An exploratory study. *Psychological Topics*, 25(1), 129-156.
- Jakobwitz, S., & Egan, V. (2006). The dark triad and normal personality traits. *Personality and Individual Differences*, 40(2), 331-339. <https://doi.org/10.1016/j.paid.2005.07.006>
- Jimenez, S. S., Niles, B. L., & Park, C. L. (2010). A mindfulness model of affect regulation and depressive symptoms: Positive emotions, mood regulation expectancies, and self-acceptance as regulatory mechanisms. *Personality and individual differences*, 49(6), 645-650. <https://doi.org/10.1016/j.paid.2010.05.041>
- Jokela, M., Batty, G. D., Nyberg, S. T., Virtanen, M., Nabi, H., Singh-Manoux, A., & Kivimäki, M. (2013). Personality and all-cause mortality: individual-participant meta-analysis of 3,947 deaths in 76,150 adults. *American journal of epidemiology*, 178(5), 667-675. <https://doi.org/10.1093/aje/kwt170>
- Jonason, P. K., Koenig, B. L., & Tost, J. (2010). Living a fast life. *Human Nature*, 2, 428-442. <https://doi.org/10.1007/s12110-010-9102-4>

- Jonason, Peter K, & Kroll, C. H. (2015). A multidimensional view of the relationship between empathy and the dark triad. *Journal of Individual Differences, 36*(3), 150. <https://doi.org/10.1027/1614-0001/a000166>
- Jonason, Peter 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, Peter K, Li, N. P., & Buss, D. M. (2010). The costs and benefits of the Dark Triad: Implications for mate poaching and mate retention tactics. *Personality and Individual Differences, 48*(4), 373-378. <https://doi.org/10.1016/j.paid.2009.11.003>
- Jonason, Peter K, Li, N. P., & Teicher, E. A. (2010). Who is James Bond? The Dark Triad as an agentic social style. *Individual Differences Research, 8*(2), 111.
- Jonason, Peter K, Luevano, V. X., & Adams, H. M. (2012). How the Dark Triad traits predict relationship choices. *Personality and Individual Differences, 53*(3), 180-184. <https://doi.org/10.1016/j.paid.2012.03.007>
- Jones, D. N., & Neria, A. L. (2015). The Dark Triad and dispositional aggression. *Personality and Individual Differences, 86*, 360-364. <https://doi.org/10.1016/j.paid.2015.06.021>
- Jones, D. N., & Paulhus, D. L. (2011). The role of impulsivity in the Dark Triad of personality. *Personality and Individual Differences, 51*(5), 679-682. <https://doi.org/10.1016/j.paid.2011.04.011>
- 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>
- Kabat-Zinn, J. (1990). *Full catastrophe living: Using the wisdom of your body and mind to face stress, pain and illness*. Delacorte. [Google Scholar](#)
- Kabat-Zinn, J. (1994). *Wherever you Go, There you are: Mindfulness Meditation in Everyday Life*. NY: Hyperion Books. [Google Scholar](#)
- Kardum, I., Hudek-Knezevic, J., Schmitt, D. P., & Grundler, P. (2015). Personality and mate poaching experiences. *Personality and Individual Differences, 75*, 7-12. <https://doi.org/10.1016/j.paid.2014.10.048>
- Keng, S. L., Smoski, M. J., & Robins, C. J. (2011). Effects of mindfulness on psychological health: A review of empirical studies. *Clinical psychology review, 31*(6), 1041-1056. <https://doi.org/10.1016/j.cpr.2011.04.006>
- Kennealy, P. J., Skeem, J. L., Walters, G. D., & Camp, J. (2010). Do core interpersonal and affective traits of PCL-R psychopathy interact with antisocial behavior and disinhibition to predict violence?. *Psychological assessment, 22*(3), 569. <https://doi.org/10.1037/a0019618>
- Khan, H. S., Zhiqiang, M., Siddiqui, S. H., & Khan, M. A. S. (2020). Be Aware Not Reactive: Testing a Mediated-Moderation Model of Dark Triad and Perceived Victimization via Self-Regulatory Approach. *Frontiers in Psychology, 11*. <https://doi.org/10.3389/fpsyg.2020.02141>
- Klimstra, T. A., Sijtsema, J. J., Henrichs, J., & Cima, M. (2014). The Dark Triad of personality in adolescence: Psychometric properties of a concise measure and associations with adolescent adjustment from a multi-informant perspective. *Journal of Research in Personality, 53*, 84-92. <https://doi.org/10.1016/j.jrp.2014.09.001>
- Kowalski, R. M. (2001). *Behaving badly: Aversive behaviors in interpersonal relationships*. Washington DC: American Psychological Association. <https://doi.org/10.1037/10365-000>
- Lee, Y.-T., McCauley, C. R., & Draguns, J. G. (2013). Personality and person perception across cultures. *Psychology Press*. <https://doi.org/10.4324/9780203774700>

- Lépine, J.-P., & Briley, M. (2011). The increasing burden of depression. *Neuropsychiatric Disease and Treatment*, 7(Suppl 1), 3. <https://doi.org/10.2147/NDT.S19617>
- Limone, P., Sinatra, M., & Monacis, L. (2020). Orientations to Happiness between the Dark Triad Traits and Subjective Well-Being. *Behavioral Sciences*, 10(5), 90. <https://doi.org/10.3390/bs10050090>
- Lorber, M. F. (2004). Psychophysiology of aggression, psychopathy, and conduct problems: a meta-analysis. *Psychological Bulletin*, 130(4), 531. <https://doi.org/10.1037/0033-2909.130.4.531>
- Love, A. B., & Holder, M. D. (2014). Psychopathy and subjective well-being. *Personality and Individual Differences*, 66, 112-117. <https://doi.org/10.1016/j.paid.2014.03.033>
- Lu, Y., Nyunt, M. S. Z., Gwee, X., Feng, L., Feng, L., Kua, E. H., Kumar, R., & Ng, T. P. (2012). Life event stress and chronic obstructive pulmonary disease (COPD): associations with mental well-being and quality of life in a population-based study. *BMJ Open*, 2(6). <https://doi.org/10.1136/bmjopen-2012-001674>
- Malesza, M., & Ostaszewski, P. (2016). Dark side of impulsivity-Associations between the Dark Triad, self-report and behavioral measures of impulsivity. *Personality and Individual Differences*, 88, 197-201. <https://doi.org/10.1016/j.paid.2015.09.016>
- Malesza, Marta, & Kaczmarek, M. C. (2019). Dark side of health-predicting health behaviors and diseases with the Dark Triad traits. *Journal of Public Health*, 1-10. <https://doi.org/10.1007/s10389-019-01129-6>
- Marks, A. D., Sobanski, D. J., & Hine, D. W. (2010). Do dispositional rumination and/or mindfulness moderate the relationship between life hassles and psychological dysfunction in adolescents?. *Australian & New Zealand Journal of Psychiatry*, 44(9), 831-838. <https://doi.org/10.3109/00048674.2010.487478>
- McHoskey, J. W., Worzel, W., & Szyarto, C. (1998). Machiavellianism and psychopathy. *Journal of personality and social psychology*, 74(1), 192. <https://doi.org/10.1037/0022-3514.74.1.192>
- Muris, P., Merckelbach, H., Otgaar, H., & Meijer, E. (2017). (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/10.1177/17456916166666070>
- Nigro, G., & Galli, I. (1985). On the relationship between Machiavellianism and anxiety among Italian undergraduates. *Psychological Reports*, 56(1), 37-38. <https://doi.org/10.2466/pr0.1985.56.1.37>
- 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>
- Pabian, S., De Backer, C. J., & Vandebosch, H. (2015). Dark Triad personality traits and adolescent cyber-aggression. *Personality and Individual Differences*, 75, 41-46. <https://doi.org/10.1016/j.paid.2014.11.015>
- Paulhus, D. L., & Jones, D. N. (2015). *Measures of dark personalities*. In *Measures of personality and social psychological constructs* (pp. 562-594). Academic Press. <https://doi.org/10.1016/B978-0-12-386915-9.00020-6>
- Paulhus, D. L., & Williams, K. M. (2002). The dark triad of personality: Narcissism, Machiavellianism, and psychopathy. *Journal of Research in Personality*, 36(6), 556-563. [https://doi.org/10.1016/S0092-6566\(02\)00505-6](https://doi.org/10.1016/S0092-6566(02)00505-6)
- Pleman, B., Park, M., Han, X., Price, L. L., Bannuru, R. R., Harvey, W. F., Driban, J. B., & Wang, C. (2019). Mindfulness is associated with psychological health and moderates the impact of fibromyalgia. *Clinical Rheumatology*, 38(6), 1737-1745. <https://doi.org/10.1007/s10067-019-04436-1>

- Randal, C., Pratt, D., & Bucci, S. (2015). Mindfulness and self-esteem: a systematic review. *Mindfulness*, 6(6), 1366-1378. <https://doi.org/10.1007/s12671-015-0407-6>
- Rauthmann, J. F., & Kolar, G. P. (2012). How "dark" are the Dark Triad traits? Examining the perceived darkness of narcissism, Machiavellianism, and psychopathy. *Personality and Individual Differences*, 53(7), 884-889. <https://doi.org/10.1016/j.paid.2012.06.020>
- 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. <https://doi.org/10.2147/NDT.S97267>
- Sabouri, S., Gerber, M., Lemola, S., Becker, S. P., Shamsi, M., Shakouri, Z., Bahmani, D. S., Kalak, N., Holsboer-Trachsler, E., & Brand, S. (2016). Examining Dark Triad traits in relation to sleep disturbances, anxiety sensitivity and intolerance of uncertainty in young adults. *Comprehensive Psychiatry*, 68, 103-110. <https://doi.org/10.1016/j.comppsy.2016.03.012>
- Shostak, B. B., & Peterson, R. A. (1990). Effects of anxiety sensitivity on emotional response to a stress task. *Behaviour Research and Therapy*, 28(6), 513-521. [https://doi.org/10.1016/0005-7967\(90\)90138-9](https://doi.org/10.1016/0005-7967(90)90138-9)
- Spano, L. (2001). The relationship between exercise and anxiety, obsessive-compulsiveness, and narcissism. *Personality and Individual Differences*, 30(1), 87-93. [https://doi.org/10.1016/S0191-8869\(00\)00012-X](https://doi.org/10.1016/S0191-8869(00)00012-X)
- Spielberger, C. D. (1972). Anxiety as an emotional state. *Anxiety-Current trends and theory*, 3-20. <https://doi.org/10.1016/B978-0-12-657401-2.50009-5>
- Spielberger, C. D. (1975). Anxiety: State-trait process. *Stress and Anxiety*, 115-143. [Google Scholar](#)
- Spielberger, C. D., Gorsuch, R. L., Lushene, R., Vagg, P. R., & Jacobs, G. A. (1983). *Manual for the State-Trait Anxiety Inventory*. Palo Alto, CA: Consulting Psychologists Press. [Google Scholar](#)
- Stålenheim, E. G., & Von Knorring, L. (1996). Psychopathy and Axis I and Axis II psychiatric disorders in a forensic psychiatric population in Sweden. *Acta Psychiatrica Scandinavica*, 94(4), 217-223. <https://doi.org/10.1111/j.1600-0447.1996.tb09852.x>
- Stinson, J. D., Becker, J. V., & Tromp, S. (2005). A preliminary study on findings of psychopathy and affective disorders in adult sex offenders. *International Journal of Law and Psychiatry*, 28(6), 637-649. <https://doi.org/10.1016/j.ijlp.2004.10.001>
- Stoops, T. L. (2005). *Understanding mindfulness: Implications for instruction and learning*. West Virginia University. [Google Scholar](#)
- Tokarev, A., Phillips, A. R., Hughes, D. J., & Irwing, P. (2017). Leader dark traits, workplace bullying, and employee depression: Exploring mediation and the role of the dark core. *Journal of Abnormal Psychology*, 126(7), 911. <https://doi.org/10.1037/abn0000299>
- Twenge, J. M., & Campbell, W. K. (2003). "Isn't it fun to get the respect that we're going to deserve?" Narcissism, social rejection, and aggression. *Personality and Social Psychology Bulletin*, 29(2), 261-272. <https://doi.org/10.1177/0146167202239051>
- Velotti, P., & Garofalo, C. (2015). Personality styles in a non-clinical sample: The role of emotion dysregulation and impulsivity. *Personality and Individual Differences*, 79, 44-49. <https://doi.org/10.1016/j.paid.2015.01.046>
- 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>
- Watson, P. J., & Biderman, M. D. (1993). Narcissistic Personality Inventory factors, splitting, and self-consciousness. *Journal of Personality Assessment*, 61(1), 41-57. https://doi.org/10.1207/s15327752jpa6101_4

Webster, G. D., & Jonason, P. K. (2013). Putting the "IRT" in "Dirty": Item Response Theory analyses of the Dark Triad Dirty Dozen-An efficient measure of narcissism, psychopathy, and Machiavellianism. *Personality and Individual Differences*, 54(2), 302-306. <https://doi.org/10.1016/j.paid.2012.08.027>

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Islamic Guidance and Counseling Journal

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