**ORIGINAL ARTICLE**

# Work Addiction and Its Relation with Dark Personality Traits: A Cross-sectional Study with Private Sector Employees

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## Abstract
Personality traits have been extensively studied to understand different behavioral addictions. However, less is known about the relationship of employees' dark personality traits and work addiction. The purpose of the present study was to examine the associations between the Big Five personality traits (i.e., extroversion, neuroticism, agreeableness, openness, conscientiousness) and dark personality traits (i.e., narcissism, Machiavellianism, psychopathy, sadism, and spitefulness) with work addiction. A total of 514 private sector employees completed a survey that included psychometric assessment tools for the aforementioned variables. Hierarchical regression analysis indicated that lower extroversion, lower openness to experience, higher narcissism, and higher spitefulness were positively associated with work addiction among private sector employees. The findings of the present study suggest that dark personality traits should also be taken into account in order to better understand work addiction among employees.

**Keyword** Work addiction · Dark triad · Spitefulness · Sadism · Big Five personality traits

In the few past decades, increasing attention has been devoted to the phenomenon of work addiction (Atroszko et al., 2019). Work addiction was first described over 50 years ago, where Oates described the construct as "addiction to work, the compulsion or

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uncontrollable need to work incessantly" (Oates, 1971, p.11). Since then, it has been discussed whether it should be understood as a positive (Machlowitz, 1980; Ng et al., 2007) or a negative type of behavioral pattern (Andreassen et al., 2014). Taris and colleagues argued that work addiction is driven by a compulsion to work hard, not as a wish to work hard (Taris et al., 2005), and emphasizing that work addiction is a negative aspect of hard work. Work addiction has been referred to as *"being overly concerned about work, being driven by an uncontrollable work motivation, and spending so much energy and effort on work that it impairs private relationships, spare-time activities and/or health"* (Andreassen et al., 2012a, 2012b; p.265). Excessive and/or compulsive work behavior has been conceptualized as a syndrome, a stable behavior pattern, a personality trait, and an attitude toward work (Aziz & Zickar, 2006; Clark et al., 1993; Kubota et al., 2014). Ng et al. (2007) proposed an updated conceptualization and concluded that the behavioral dimension (excessive working), the cognitive dimension (obsessive or compulsive working), and the affective dimension (joy in the act of working) were the most important factors characterizing work addiction.

The term "workaholism" was first introduced by Oates (1968, 1971) based on the term "alcoholism" and which many scholars have equated to "work addiction" (Andreassen et al., 2012a, 2012b; Quinones et al., 2015). However, a number of scholars view "workaholism" and "work addiction" as two different constructs (e.g., Griffiths et al., 2018) given that some definitions of workaholism include positive aspects and enjoyment of working excessively (e.g., Bonebright et al., 2000; Killinger, 1992; Machlowitz, 1980; Spence & Robbins, 1992), rather than purely negative consequences associated with genuine addictions. The present authors take the view that "workaholism" and "work addiction" are two different constructs although there are clearly behavioral overlaps in terms of working excessively. Most of the literature to date has tended to use the term "workaholic" rather than "work addict" but the present paper uses the term "work addiction" which is broadly defined as excessive work behavior that results in clinical impairment of the individual's life and includes core components of addiction (e.g., salience, mood modification, tolerance, withdrawal symptoms, conflict, and relapse; Griffiths, 2011).

Like other types of addiction, work addiction, which includes maladaptive patterns, refers to the fact that an individual's mind is constantly on work-related issues and that they compulsively work outside of formal working hours (Griffiths et al., 2018). Although long working hours (other than institutional expectations) are an indicator for understanding work addiction, it is a multidimensional phenomenon that cannot be explained by long working hours alone. Especially in jobs requiring cognitive effort, an individual can stay busy with work in leisure time or in other areas outside of work. One of the indicators of work addiction is the inability to concentrate on different areas, even on holidays, with family members and friends, and constantly thinking about work-related issues. Here, the main emphasis of compulsive work is individuals keeping their minds busy with work-related issues in situations where they do not have to work (Özsoy, 2019).

Without external pressure and economic necessities, work addicts tend to work excessively and compulsively to be promoted faster, to gain higher prestige, and to satisfy their basic psychological needs (Andreassen, 2014; Özsoy, 2019; Schaufeli et al., 2006; Sussman, 2012). Although (as aforementioned) workaholism has be considered as a positive attribute by a small number of researchers (e.g., Bonebright et al., 2000; Killinger, 1992; Machlowitz, 1980; Spence & Robbins, 1992), empirical findings shows that in the case of work addiction, the social consequences (Bakker et al., 2009), organizational consequences (Andreassen et al., 2011; Jenaabadi et al., 2016; Schaufeli et al., 2008; Shimazu & Schaufeli, 2009), and individual consequences (Aziz & Zickar, 2006; Shimazu &

Schaufeli, 2009; Taris et al., 2005) are predominantly negative. For this reason, in order to manage the undesirable effects of work addiction on society, organizations, and individual, as well as to develop effective intervention strategies, it is worthwhile examining the antecedents of work addiction (Özsoy, 2018).

In this respect, work passion, engagement, and work addiction are different concepts. In particular, work passion and engagement typically refer to high motivation, dedication, absorption, and vigor of the individual's work with high efficiency (Forest et al., 2011; Schaufeli et al., 2006; Shimazu et al., 2015). Individuals with high work passion and engagement may also work excessively in their jobs. However, work addicts have difficulty controlling the physical or mental energy spent on work, even if there is no productivity and pleasure in work engagement (Schaufeli et al., 2008).

Workaholism and work addiction began to gain more empirical attention since the 1990s (Kanai et al., 1996; Robinson, 1999) and today, scholarly interest in work addiction is increasing (Torp et al., 2020). However, there is arguably not enough empirical research on the antecedents of work addiction (Andreassen et al., 2010; Bovornusvakool et al., 2012; Özsoy, 2019). Work addiction research has basically focused on the causes (Andreassen et al., 2016; Spurk et al., 2015), consequences (Atroszko et al., 2020; Burke & Fiskenbaun, 2009), and measurement issues (Andreassen et al., 2012a, 2012b; Robinson, 1999; Schaufeli et al., 2006). Studies examining the consequences of work addiction have mainly found it destructive in terms of psychological health (Clark et al., 2014), social life (Aziz & Zickar, 2006), attitudes towards work (Andreassen et al., 2018), and work performance (Shimazu & Schaufeli, 2009). Also, various scales have been developed to assess work addiction (Andreassen et al., 2012a, 2012b; Robinson, 1999; Schaufeli et al., 2006). The biggest empirical deficiency in work addiction studies concerns the causes of work addiction (Kun et al., 2021; Sussman, 2012). Studies focusing on the antecedents of work addiction in the micro-context have largely focused on the effect of personality traits on work addiction. The personality traits that come to the fore at this point are the big five (Andreassen et al., 2016; Atroszko et al., 2017). However, it is also necessary to examine the effect of other personality traits on work addiction (e.g., manipulative, ambitious, power-oriented, and malicious personality traits). Also, while dark personality traits have mainly been discussed in the context of the Dark Triad, here, the present study's focus is on all dark personality traits. Consequently, the antecedents of work addiction comprise a number of distinct areas including macro environmental factors (Andreassen, 2014; Griffiths & Karanika-Murray, 2012), social factors (Aziz & Zickar, 2006), family life-related issues (Clark et al., 2014), organizational practices (Griffiths & Karanika-Murray, 2012; Ng et al., 2007), and individual differences (Clark et al., 2010).

Personality traits play an important role in the context of individual difference correlates of work addiction (Andreassen, 2014; Burke et al., 2006; Liang & Chu, 2009; Özsoy, 2018). However, studies examining individual antecedents of work addiction in the context of personality differences are predominantly examined in terms of Big Five personality traits (e.g., Andreassen et al., 2014; Aziz et al., 2011; Burke et al., 2006; Kun et al., 2021). In several studies, a higher level of extraversion, neuroticism, and conscientiousness have been reported to be personality risk factors of work addiction (e.g., Andreassen et al., 2010; Burke et al., 2006). Negative affectivity has also frequently been assumed as an individual risk factor of work addiction (e.g., Ng et al., 2007; Scott et al., 1997). Patel et al. (2012) found a weak positive correlation between work addiction and agreeableness, conscientiousness, extraversion, and self-efficacy. Another meta-analysis study that included 28 correlational examinations reported that perfectionism, self-esteem, and negative affect had strong and robust relationships with work addiction, whereas extraversion, conscientiousness, and intellect/imaginations had weaker associations with work addiction (Kun et al., 2021).

In just a few studies, work addiction has been studied together with personality traits beyond the Big Five (e.g., narcissism, perfectionism, dispositional affect) (Clark et al., 2010). Although the number of studies examining the association between narcissism and work addiction is relatively higher compared to other dark personality traits (Andreassen et al., 2012a, 2012b; Clark et al., 2010), the relationship of all dark personality traits with work addiction has yet to be investigated. Therefore, studies are needed to examine the relationship between work addiction and dark personality traits (Özsoy, 2019), which have been widely studied in many areas of behavioral addictions especially in recent years (Balta et al., 2019; Furnham et al., 2013; Kircaburun & Griffiths, 2018; Kircaburun et al., 2018; Sindermann et al., 2018).

Furthermore, considering that typical behavioral patterns of work addicts are related to dark personality traits (e.g., trying to gain power, pursuing prestige, not being able to satisfy their basic psychological needs sufficiently, having high desire to be promoted and praised, being overly ambitious, obsessed and having superficial human relations and problems in social life; Jones & Paulhus, 2014; Schaufeli et al., 2006; Shimazu & Schaufeli, 2009; Shimazu et al., 2015), being a work addict and having dark personality traits may be overlapping constructs (Andreassen et al., 2012a, 2012b; Sussman, 2012). In addition, both work addicts and individuals displaying dark personality traits tend to be promoted faster to higher levels in the organizational hierarchy (Nevicka et al., 2011; Özsoy, 2018). Therefore, it is critical to examine the relationship between dark personality traits and work addiction which has lacked empirical attention. In addition, Big Five and dark personality traits have been shown to be correlated (Özsoy et al., 2017). In this respect, it is expected that examining the associations of work addiction with dark personality traits while including Big Five traits will contribute to a better understanding of the individual antecedents of work addiction.

In work life, narcissistic individuals have high desire to be praised and they are power-oriented and self-oriented, and they have a high tendency to get promoted in a short time and to rise in organizational hierarchy (Blair et al., 2008; Campbell et al., 2010; Khoo & Burch, 2008; Rosenthal & Pittinsky, 2006). Also, it has been found that narcissists have a high tendency to rise to managerial positions, and there are high levels of narcissism among chief executive officers (Resick et al., 2009). The aforementioned tendencies of narcissists may trigger individual difference factors to become a work addict (Andreassen et al., 2012a, 2012b).

Machiavellians are very cautious in managing relationships in working life, tend to manipulate interviews during recruitment (Levashina & Campion, 2007), and have a tendency to get promoted and increase their power in organizations (Kessler et al., 2010; O'Boyle et al., 2012). In addition, Machiavellians have a high tendency to appear diligent and successful in an organizational environment with high motivation to succeed and to get as high as they can in their career (Özsoy et al., 2018). These possible behavioral patterns may effect high Machiavellian individuals to have higher level of work addiction. In organizational life, psychopaths are usually cold-blooded, selfish, and self-confident (Babiak et al., 2006; Boddy, 2010). Similar to other dark personality traits, they usually have high desire to rise to the top management positions in organizations (Boddy et al., 2010). In this respect, it could be expected that psychopaths will be at the forefront of organizations and exhibit behavioral patterns related to work addiction.

Sadistic impulses may also be related to work addiction given that sadism is associated with being goal-oriented, hard-working, and competitive (O'Meara et al., 2011). Furthermore, sadistic individuals share common variance with other dark personality traits including narcissism, Machiavellianism, and psychopathy that could

lead to elevated work addiction (O'Meara et al., 2011). Spiteful individuals possess selfish, sadistic, hostile, and aggressive traits and are prone to bring self-harm in order to harm others (Marcus et al., 2014). Spitefulness also overlaps with other personality traits including aggression, narcissism (i.e., leadership/authority, grandiose exhibitionism, entitlement), psychopathy, Machiavellianism, lower agreeableness, and lower openness to experience, in which having all these traits may lead spite individuals to experience work addiction (Andreassen et al., 2012a, 2012b; Boddy et al., 2010; Özsoy et al., 2018).

Although several research studies have been conducted to examine the relationship between the Big Five traits and work addiction, the consistency level of the findings obtained in previous research is not very high (Aziz & Tronzo, 2011; Clark et al., 2010). One of the reasons for this could be the psychometric scales used in the assessment of work addiction as the extant work addiction scales includes diverging and insufficiently overlapping factors (Özsoy, 2020). Some studies have found that conscientiousness, extraversion, neuroticism, and lower openness to experience were positively associated with work addiction (Burke et al., 2006), while others reported that higher openness and lower extraversion were related to elevated work addiction (Andreassen et al., 2010; Babalhavaeji et al., 2016; Jackson et al., 2016). A longitudinal study showed that only neuroticism was significantly positively related to an increase in work addiction over time (Andreassen et al., 2016).

It can be said that extroverts devote more time to personal relationships in both work and social life and that they are more cheerful and tend to enjoy different aspects of life. For this reason, extroverts are more satisfied with life and they have higher level of psychological well-being (Harris et al., 2017) and job satisfaction (Judge et al., 2002). However, work addicts continue to work obsessively and their interpersonal relationships are typically more conflicted (Porter, 2001). Therefore, work addiction has mainly been found to be negatively related to life satisfaction (Aziz & Zickar, 2006) and job satisfaction (Shimazu & Schaufeli, 2009). In this respect, a negative relationship is expected between work addiction and extraversion.

Neurotics are insecure, restless, shy, and feel worthless (Widiger and Smith, 2008). These characteristics indicate that these individuals cannot adequately meet their basic psychological needs (i.e., autonomy, competence, relatedness, etc.) (Baumeister & Leary, 1995). A negative relationship is expected between neuroticism and work addiction because unsatisfied basic psychological needs is one of the main individual correlates of work addiction (Andreassen et al., 2010).

Agreeable individuals are calm and cheerful who can establish warm relationships with others and avoid severe conflict. These individuals are unlikely to display hostile attitudes, impulsive behavior, or aggressive behavior, and they are expected to have a low power obsession and low desire to come to the fore (Graziano & Tobin, 2009). These features, on the other hand, reduce the possibility of the individual to have power fantasies and obsessive tendencies to be addicted to work. In this respect, a negative relationship is expected between agreeableness and work addiction.

Individuals with a high level of openness to experience are more interested in different aspects of life and they typically prefer variety as opposed to sameness in life (Dollinger, 1993). Individuals with these characteristics have a high willingness to socialize, spend time with friends, discover new places, and gain new experiences in their lives (George & Zhou, 2001). However, work addicts have limited activities outside of work, and they are mentally and physically engaged in a compulsive manner towards their work (Bakker et al., 2009). Therefore, a negative relationship is expected between openness to experience and work addiction.

Individuals with a high level of conscientiousness manage their lives in a planned and disciplined manner (Roberts et al., 2009). Work addicts generally try to do many things at once, and be perceived as successful by those in their social environment. Therefore, they are less likely to perform their work properly because of the high desire to be promoted quickly. In this respect, work addiction is expected to be negatively related to conscientiousness, as work addiction is a different concept from work engagement and being a hardworking person (Schaufeli et al., 2008; Shimazu and Schaufeli, 2009). Based on the aforementioned theoretical and empirical rationale, the following hypotheses ($H_s$) were examined. The first set of hypotheses relate to dark personality traits and work addiction, and the second set of hypotheses relate to the Big Five personality traits and work addiction. More specifically, it was hypothesized that:

- $H_{1a}$: Narcissism would be positively associated with work addiction.
- $H_{1b}$: Machiavellianism would be positively associated with work addiction.
- $H_{1c}$: Psychopathy would be positively associated with work addiction.
- $H_{1d}$: Sadism would be positively associated with work addiction.
- $H_{1e}$: Spitefulness would be positively associated with work addiction.
- $H_{2a}$: Extroversion would be negatively associated with work addiction.
- $H_{2b}$: Neuroticism would be positively associated with work addiction.
- $H_{2c}$: Agreeableness would be negatively associated with work addiction.
- $H_{2d}$: Openness to experience would be negatively associated with work addiction.
- $H_{2e}$: Conscientiousness would be negatively associated with work addiction.

## Methods

### Participants and Procedure

A total of 514 Turkish private sector employees (41% female), aged older than 21 years, completed a paper-and-pencil survey. The study was promoted by the research team in different textile goods and industrial production factories by handing out the survey to employees. All of the participants were informed about the details of the study and that participation was anonymous and voluntary. Participants' informed consent was taken before they completed the questionnaire. Ethical approval for the study was received from the first author's university ethical board before the recruitment of the participants, and complied with the Helsinki declaration.

### Measures

### Demographics

Participants first answered demographic questions indicating their gender (1=male, 2=female); age (1=between 21 and 30 years, 2=between 31 and 40 years, 3=between 41 and 50 years, 4=older than 51 years); education level (1=primary school, 2=high school and equivalent, 3=university, 4=masters, 5=PhD); position (1=employee, 2=junior administrative officer, 3=middle level manager, 4=top executive); number of years working in the same company (1=less than one year, 2=1–3 years, 3=4–6 years, 4=7–9 years, 5=more than 10 years); total number of working years (1=1–5 years, 2=6–10 years, 3=11–20 years, 4=more than 20 years).

## BWAS

The Turkish form (Özsoy, 2020) of the unidimensional Bergen Work Addiction Scale (BWAS) (Andreassen, et al., 2012a, 2012b) was used to assess work addiction. The scale comprises seven items rated on a 5-point Likert scale ranging from *"never"* to *"always"*, and assesses seven symptoms of addiction (i.e., salience, mood modification, tolerance, withdrawal, conflict, relapse, and problems). The internal consistency coefficient was acceptable in the present study (Cronbach's $\alpha = 0.69$; based on the guidelines according to Sekaran and Bougie (2016)).

## Dark Personality Traits

The Turkish version of the Single Item Narcissism Scale (Özsoy et al., 2017) was adapted for all personality traits in order to assess dark personality traits, including narcissism, Machiavellianism, psychopathy, sadism, and spitefulness. Widely used definitions were used to define each personality dimension (Jonason & Webster, 2010; Marcus et al., 2014; O'Meara et al., 2011; Özsoy et al., 2017) and participants rated the items ranging from 1 (*absolutely disagree*) to 7 (*absolutely agree*) (e.g., *"I am spiteful"* = willing to harm oneself in order to hurt others; *"I am sadistic"* = enjoying inflicting pain on others, tend to intentionally hurt others; *"I am psychopathic"* = callous, insensitive, lack remorse, not concerning about morality of their actions; *"I am Machiavellian"* = manipulate and exploit others towards their own end, deceit or lie to get their way; *"I am narcissistic"* = selfish, self-centered). Single items were used to diminish survey fatigue given that assessing personality traits using single items has been suggested to be as valid as using longer scales (Özsoy et al., 2017).

## Big-Five Personality Traits

Single items for each personality dimension were used to assess the dimensions of the Big Five personality traits (i.e., extroversion, neuroticism, agreeableness, openness, conscientiousness). Widely used definitions were used to define each personality dimension (Gosling et al., 2003) and participants rated the items ranging from 1 (*absolutely disagree*) to 7 (*absolutely agree*) (e.g., *extraversion* = I see myself as extraverted, enthusiastic; *neuroticism* = I see myself as anxious, easily upset; *agreeableness* = I see myself as sympathetic, warm; *conscientiousness* = I see myself as dependable, self-disciplined; *openness to experience* = I see myself as open to new experiences, complex). Single items were again applied to diminish survey fatigue.

# Results

The demographic statistics, *t*-tests, and analysis of variance comparing BWAS scores ($N = 514$) are presented in Table 1. There were no significant differences in BWAS scores according to gender, age group, number of years working for the same company, and total number of working years. Only those with primary education scored significantly higher on work addiction than those with high school and equivalent education and masters levels. However, eta squared indicated a very small effect size for this difference. Therefore, none of the demographic variables were included into further analyses.

**Table 1** Demographic statistics, *t*-tests, and analyses of variance comparing BWAS scores

| Variable | | $N$ | % | Mean | $t$ (or $F$) | $\eta^2$ |
|---|---|---|---|---|---|---|
| Gender | Males | 303 | 59 | 2.70 | $-.09$ | .00 |
| | Females | 211 | 41 | 2.70 | | |
| Age | 21–30 years | 139 | 27 | 2.71 | .43 | .00 |
| | 31–40 years | 232 | 45 | 2.66 | | |
| | 41–50 years | 110 | 21 | 2.75 | | |
| | Older than 51 | 33 | 7 | 2.74 | | |
| Education level[a] | Primary | 83 | 16 | 2.94 | 3.29* | .03 |
| | High school and equivalent | 215 | 42 | 2.65 | | |
| | University | 177 | 34 | 2.69 | | |
| | Masters | 32 | 6 | 2.49 | | |
| | PhD | 7 | 2 | 2.55 | | |
| Position | Employee | 326 | 63 | 2.71 | .45 | .00 |
| | Junior administrative executive | 99 | 19 | 2.71 | | |
| | Middle level manager | 72 | 14 | 2.63 | | |
| | Top executive | 17 | 4 | 2.84 | | |
| In the same company | Less than 1 year | 72 | 14 | 2.63 | 1.04 | .01 |
| | 1–3 years | 144 | 28 | 2.71 | | |
| | 4–6 years | 137 | 27 | 2.64 | | |
| | 7–9 years | 95 | 18 | 2.72 | | |
| | More than 10 years | 66 | 13 | 2.84 | | |
| Total experience | 1–5 years | 124 | 24 | 2.71 | 2.54 | .01 |
| | 6–10 years | 199 | 39 | 2.60 | | |
| | 11–20 years | 149 | 29 | 2.81 | | |
| | More than 20 years | 42 | 8 | 2.76 | | |

[a]Those with primary education scored significantly higher on work addiction than those with high school and equivalent education and masters; $\eta^2$=eta squared; *$p$<.05, **$p$<.01, ***$p$<.001

Mean scores, standard deviations, and correlations among work addiction, Big Five personality traits, and dark personality traits are shown in Table 2. Work addiction was negatively correlated with extroversion ($r=-0.29$, $p<0.001$), openness ($r=-0.29$, $p<0.001$), and conscientiousness ($r=-0.20$, $p<0.001$), whereas neuroticism ($r=0.13$, $p<0.01$), narcissism ($r=0.28$, $p<0.001$), Machiavellianism ($r=0.20$, $p<0.001$), psychopathy ($r=0.24$, $p<0.001$), sadism ($r=0.20$, $p<0.001$), and spitefulness ($r=0.23$, $p<0.001$) were positively correlated with it. However, all correlation coefficients were small ($r<0.30$). *t*-tests were used to compare score differences of study variables between males and females (not depicted as a table). There were no significant gender differences detected on any scores. Therefore, gender was not considered in further analysis.

Hierarchical regression analysis (Table 3) was applied to investigate Big Five and dark personality correlates of work addiction. Extroversion, neuroticism, agreeableness, openness, and conscientiousness were included into Block 1. Narcissism, Machiavellianism, psychopathy, sadism, and spitefulness were included in Block 2. VIF and tolerance values, being lower than 5 and higher than 0.20 respectively (Kline, 2011), indicated that multi-collinearity and auto-correlation were non-existent in the regression model. In the final model, extroversion ($\beta=-0.19$, $p<0.001$) and openness ($\beta=-0.16$, $p<0.01$) were

**Table 2** Mean scores, standard deviations, and Pearson's correlations of the study variables

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1. Work addiction | - | | | | | | | | | | |
| 2. Extroversion | −.29*** | - | | | | | | | | | |
| 3. Neuroticism | .13** | −.14** | - | | | | | | | | |
| 4. Agreeableness | −.05 | .03 | −.08 | - | | | | | | | |
| 5. Openness | −.29*** | .20*** | −.14** | .17*** | - | | | | | | |
| 6. Conscientiousness | −.20*** | .07 | −.21*** | .16*** | .36*** | - | | | | | |
| 7. Narcissism | .28*** | −.15** | −.07 | −.01 | −.27*** | −.26*** | - | | | | |
| 8. Machiavellianism | .20*** | −.21*** | .03 | −.11* | −.28*** | −.23*** | .29*** | - | | | |
| 9. Psychopathy | .24*** | −.27*** | .13** | −.22*** | −.26*** | −.24*** | .36*** | .38*** | - | | |
| 10. Sadism | .20*** | −.36*** | −.05 | −.18*** | −.31*** | −.27*** | .34*** | .57*** | .50*** | - | |
| 11. Spitefulness | .23*** | −.30*** | .19*** | −.15** | −.13** | −.09 | .18*** | .22*** | .33*** | .31*** | - |
| *M* | 2.70 | 5.94 | 2.29 | 4.91 | 5.90 | 5.90 | 1.50 | 1.56 | 1.41 | 1.34 | 1.60 |
| *SD* | .73 | 1.64 | 1.83 | 1.92 | 1.36 | 1.42 | 1.04 | 1.32 | 1.06 | .99 | 1.27 |

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

**Table 3** Hierarchical regression analysis predicting work addiction

| Model | $B$ | $SE$ | $\beta$ | $t$ | $\Delta R^2$ |
|---|---|---|---|---|---|
| Block 1 ($F_{(5,508)} = 17.83$; $p < .001$) | | | | | .15 |
| Extroversion | −.09 | .02 | −.19 | −4.32*** | |
| Neuroticism | .02 | .02 | .05 | 1.09 | |
| Agreeableness | .01 | .02 | .02 | .40 | |
| Openness | −.08 | .02 | −.16 | −3.43** | |
| Conscientiousness | −.03 | .02 | −.07 | −1.43 | |
| Block 2 ($F_{(10,503)} = 12.33$; $p < .001$) | | | | | .05 |
| Narcissism | .12 | .03 | .17 | 3.77*** | |
| Machiavellianism | .03 | .03 | .05 | .95 | |
| Psychopathy | .04 | .03 | .05 | 1.05 | |
| Sadism | -.06 | .04 | −.08 | −1.38 | |
| Spitefulness | .06 | .03 | .11 | 2.34* | |

$B$ = unstandardized regression coefficient; $SE$ = standard error; $\beta$ = standardized regression coefficient; *$p < .05$, **$p < .01$, ***$p < .001$

negatively with work addiction, and narcissism ($\beta = 0.17$, $p < 0.001$) and spitefulness ($\beta = 0.11$, $p < 0.05$) were positively associated with work addiction. The significant negative relationship of conscientiousness with work addiction became non-significant when dark personality traits were included in the second step. Consequently, the hypotheses concerning narcissism, spitefulness, extroversion, and openness ($H_{1a}$, $H_{1e}$, $H_{2a}$, and $H_{2d}$) were supported. However, the hypotheses concerning Machiavellianism, psychopathy, sadism, agreeableness, and conscientiousness ($H_{1b}$, $H_{1c}$, $H_{1d}$, $H_{2b}$, $H_{2c}$, and $H_{2e}$) were not supported. The final model explained 18% of the variance in work addiction.

## Discussion

The present study examined the association of Big Five personality traits and dark personality traits of narcissism, Machiavellianism, psychopathy, sadism, and spitefulness with work addiction among the Turkish private sector employees. Partially consistent with the hypotheses, extroversion and openness to experience were associated with more work addiction. Furthermore, narcissism and spitefulness were positively related to elevated work addiction.

As hypothesized ($H_{1a}$), narcissism was positively related to work addiction. Individuals with elevated narcissistic traits had more proneness to become work addicts. This result is consistent with the small extant literature that has identified narcissism as one of the important individual difference correlates of work addiction (Clark et al., 2010). Narcissistic individuals are susceptible to become work addicts in a demanding work environment in an attempt to fulfill their need for being powerful, superior, and admired (Falco et al., 2020). Furthermore, narcissism is related to workaholism components including enjoyment of work, work engagement, and compulsion to work (Andreassen et al., 2012a, 2012b; Clark et al., 2010), suggesting that narcissistic individuals can become work addicts or workaholics by both adaptive and maladaptive outcomes of narcissism (Falco et al., 2020).

Spitefulness was another dark personality trait that was positively associated with work addiction in the present study. Spiteful individuals scored higher on work addiction. This preliminary finding is in line with previous studies that identified spitefulness as one of

the correlates of other behavioral addictions including problematic internet use and problematic smartphone use (Balta et al., 2019; Kircaburun & Griffiths, 2018). Spitefulness has been associated with other dark personality traits and emotion dysregulation (Rogier et al., 2020). It may be that spiteful individuals who are struggling with their emotional wellbeing use excessive and compulsive work engagement as a maladaptive coping strategy in an attempt to regulate their emotions or avoid facing up to their negative feelings.

Contradicting the hypotheses ($H_{1b}$, $H_{1c}$, and $H_{1d}$) — even though all dark personality traits were positively correlated with work addiction in correlation analysis — Machiavellianism, sadism, and psychopathy were not associated with it in hierarchical regression analysis when all personality traits were included into the model. This may be that, despite the common essential features that all dark personality traits share (e.g., callousness, interpersonal manipulation; Marcus et al., 2018), motivations arise from specific traits of narcissism and spitefulness led to greater work addiction (e.g., entitlement, grandiosity, selfishness; Marcus et al., 2014). The results with the present sample suggest a more robust effect for narcissism and spitefulness on work addiction when compared to other dark personality traits. Consequently, more research is needed to replicate the present findings using more robust assessment tools for dark personality traits.

Supporting $H_{2a}$, extroversion was negatively associated with work addiction. This result is consistent with the findings of previous studies reporting that lower extroversion was related to elevated work addiction (Andreassen et al., 2010; Babalhavaeji et al., 2016; Jackson et al., 2016) while contradicting other studies that found extroversion was positively related to work addiction (Burke et al., 2006; Kun et al., 2021) or was not significantly related (Andreassen et al., 2016). Introverts have more negative moods, less satisfaction with their job, and are less social when compared to extroverts which could be a motivator for higher work involvement for the present sample of textile/industrial production factory employees (Aziz & Tronzo, 2011), given that they need to be more focused on what they do than socializing with their co-workers in order to be successful at their work.

Openness to experience was negatively related to work addiction (supporting $H_{2d}$). The more participants were closed to new experiences the more they are at risk for being a work addict. This is consistent with the findings of a previous study (Burke et al., 2006) while contradicting with others that indicated positive relationship between openness to experience and work addiction (Jackson et al., 2016; Kun et al., 2021) or no significant associations (Andreassen et al., 2016). With regard to the relationships of Big Five personality traits with work addiction, the results were somewhat unexpected. Neuroticism and conscientiousness have been consistently associated with (and linked to) elevated work addiction in both correlational and longitudinal studies (Andreassen et al., 2016; Burke et al., 2006). However, contradicting $H_{2b}$, $H_{2c}$, and $H_{2e}$, the present study failed to identify these traits as correlates of work addiction. This may be related to the different assessment tools and samples used in previous studies. Further studies are needed to better establish the role of personality dimensions with work addiction while controlling other work-related variables that influence work addiction including work stressors, work overcommitment, overwork climate in organizations, cultural factors, performance demands, and rigid personal beliefs on work performance (see Griffiths and Karanika-Murray, 2012, and Andreassen et al., 2018 for commentaries on these issues). For instance, the psychological variables regarding the features of dark/callous personality and associated psychological vulnerabilities of these aforementioned traits may be investigated with regard to their relationship with work addiction. It has been established that dark personality traits are related to specific susceptibilities including elevated depression, anxiety, and aggression, as well as diminished psychological resilience, stress coping abilities, and ability to deal with

psychosocial problems (Harms & Spain, 2015). Furthermore, future studies should investigate the association of dark personality traits with work addiction using more in-depth personality assessment tools, for instance, the assessment tools that can assess facets of narcissism (i.e., leadership/authority, superiority/arrogance, self-absorption/self-admiration, exploitativeness/entitlement) and psychopathy (i.e. primary psychopathy, secondary psychopathy). These would all help obtain better understanding concerning the relationship between personality and work addiction.

Since the difference between work addiction and workaholism have not been fully clarified (Griffiths et al., 2018), it is possible to talk about managers or employees who brag about being workaholics or work addicts in working life. Organizational and social support and individual efforts are necessary to reduce the level of work addiction. However, it is possible to argue that some practices and management approaches still lead to results that increase work addiction, especially because some employers and managers do not know enough about work addiction or its downsides. In this respect, first of all, it is necessary to increase awareness of work addiction and reduce organizational practices that increase work addiction. To balance work practices with the personal initiatives of the individual, it is necessary for individuals to continue their life in a balanced way with other dimensions in their lives, focus on non-work issues during vacation and leisure time, direct more energy to areas which are outside of work, acquire hobbies that will increase well-being, and devote more time to social and family relationships (Sussman, 2012).

One of the main goals of the field of organizational and industrial psychology is to provide a scientific base to employ the right person for the right job. At this point, interviews and personality tests in recruitment provide critical contributions. Considering the current empirical findings regarding the attitudes and behaviors of individuals with high dark personality traits, such people have the potential to harm the organizational climate and organizational performance to some extent. In this respect, it is recommended that organizations run a multidimensional evaluation process (such as a personality test and interview with expert participation) in personality evaluation, especially in recruitment for important and critical positions. More specifically, the study findings show that narcissism and spitefulness tendencies might trigger work addiction. Since individuals in both profiles are ego-oriented and desire power, they can be expected to see work as a tool to satisfy these motives. Therefore, more careful evaluation of such individuals during recruitment may contribute to organizational effectiveness in the long run.

## Limitations and Conclusion

The present study is not without its limitations. One of the important limitations of this study might be that all the personality traits were assessed using single-item scales. Widely used definitions were used to define each personality dimension (Gosling et al., 2003; Jonason & Webster, 2010; Marcus et al., 2014; O'Meara et al., 2011; Özsoy et al., 2017). Previous literature has argued that using brief scales can lead to limitations in capturing the essential content of the traits (Jones & Paulhus, 2014) although others have argued single items to be as valid as using longer scales (Özsoy et al., 2017). Moreover, convergent validity assessment in correlation analysis demonstrated that the single-item scales adequately assessed each personality dimension. Consequently, the present results should be replicated in future studies using assessment scales with larger numbers of items. Second, the sample comprised only the factory employees, which limits the generalizability of the results. The

present results should be replicated using larger samples from other parts of the world as well as among different types of employees and the general population. Third, self-report surveys were used to collect data for the present study which are subject to well-known methods biases. The present results should be replicated using more in-depth methodologies including qualitative examinations. Fourth, cross-sectional design prevents the determination of causal relationships among variables. Future studies should replicate present findings using longitudinal designs.

Despite its limitations, the present study is the first to examine the dark personality traits correlates of work addiction. The present preliminary findings suggest that lower extroversion, lower openness to experience, higher narcissism, and higher spitefulness were positively associated with elevated work addiction. It appears that dark personality traits explain an additional variance (to Big Five personality traits) in work addiction, and, in addition to the Big Five personality traits, these traits should also be taken into account when considering work addiction.

## Declarations

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