

ORIGINAL ARTICLE

The Dark Triad, goal achievement and work engagement as predictors of counterproductive work behaviors among IT employees

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BACKGROUND

The main purpose of this article is to analyze mechanisms associated with counterproductive work behaviors. This entails actions directed against the employer's interest such as theft, slowing the work down, and avoiding professional responsibilities. This paper analyzes Dark Triad traits of psychopathy, Machiavellianism and narcissism, achievement motivation and work engagement as counterproductive work behavior predictors.

PARTICIPANTS AND PROCEDURE

The study included 115 people, 92 men and 23 women, who were employees of technology departments. The average age of respondents is 27.41 ($M_e = 26$). Participants were surveyed using the online questionnaire method.

RESULTS

Statistical analysis validates all three hypotheses. Achievement motivation, the Dark Triad and work engagement are

predictors of counterproductive work behavior; the Dark Triad is a moderator of the relationship with achievement motivation and counterproductive work behaviors; work engagement is a moderator of the Dark Triad's relationship with counterproductive work behaviors.

CONCLUSIONS

All predictors were proven to significantly explain the level of counterproductive behavior. It was also found that work engagement and achievement motivation can weaken the influence of the Dark Triad on counterproductive behaviors at work. It is suggested to perform more studies to confirm these results and investigate differences between professions.

KEY WORDS

work engagement; IT; Dark Triad of personality; counterproductive work behaviors; goal achievement motivation

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BACKGROUND

Companies that attempt to increase their profit margin by amending internal issues typically try to investigate flaws in management, operating routines, and employee qualifications. Understanding of these areas is crucial to address shortcomings in business processes. Detrimental employee conduct as a potential factor should also be included in research. Dark Triad (DT) personality comprising Machiavellianism, narcissism and psychopathy (Paulhus & Williams, 2002) may provide a valid explanation of undesired work-related behaviors. Work engagement understood as a positive emotional association with profession should also be included among the predictors (Bakker, Schaufeli, Leiter, & Taris, 2008). Behaviors destructive to the organization and other employees may also be related to individual work motivation. Intensity of desire for professional success and preferred strategies of achieving it are well described in the model of goal achievement motivation (Elliot & McGregor, 2001). This paper follows previous works (Derbis & Filipkowski, 2018) on the relationship between presented variables and counterproductive behavior by examining habits and practices of IT professionals.

WORK ENGAGEMENT

Work engagement research includes examination of differences in physical, cognitive, and emotional commitment to the assigned occupational role (Kahn, 1990). The traditional approach associated these differences with emotional assessment of events and factual qualities of the work itself (Kahn, 1990). Organizational commitment is a similar, yet slightly different concept (Meyer & Allen, 1991). It is defined as a willingness to remain in the current workplace. Work engagement is also an important element of the theory of professional burnout. According to Maslach and Leiter (1997), high work commitment is the initial employee state – he is energetic, strongly involved in the life of the organization and highly effective. This eagerness may drop with time in response to work environment conditions and relations with co-workers. Employees who are overburdened, underpaid, or have little control over their own situation, effectively will get exhausted, cynical, and ineffective.

Schaufeli, Bakker, and Salanova (2006) argue against this approach, by defining engagement as an affective-cognitive state of self-fulfillment and satisfaction with individual's work. The described state of mind is relatively stable and not related to any specific object or activity. Work engagement in this model consists of: vigor – putting a lot of energy into work; dedication – commitment to an organiza-

tion related to pride, high self-esteem and inspiration; absorption – a state of full concentration on a current task. The present study uses this approach. Although vigor and dedication, both in theory and practice, are related negatively with two traits of occupational burnout (exhaustion and cynicism), the rest of the listed properties are independent of each other (Maslach, Schaufeli, & Leiter, 2001). Therefore, occupational burnout and work engagement, as described by Schaufeli et al. (2006), should not be treated as opposing dimensions of the same phenomenon.

Work engagement has become a significant and useful psychological construct. Contemporary studies focus on measuring changes in engagement in different time ranges, employee's own influence over it and the role of leadership in fostering engagement (Bakker & Albrecht, 2018). Empirical studies suggest that work engagement is negatively associated with counterproductive work behavior (CWB) and DT (Brunetto, Teo, Shacklock, & Farr-Wharton, 2012; Derbis & Filipkowski, 2018). In addition to listed benefits, work engagement allows one to predict CWB variance and lends credence to the assertion that maintaining it at a high level would limit actions harmful to the organization in individuals with high DT scores.

ACHIEVEMENT MOTIVATION

Research on achievement motivation results from observation of individual differences in commitment to achieving success. As it turns out, achievement motivation significantly affects employee's performance. Researchers found that limiting this feature to a one-dimensional construct is insufficient; therefore they decided to introduce new variables characterizing the level of commitment such as encouragement coming from success, and subjective estimates of how likely the success is (Atkinson, 1957); being set on achieving mastery and maladjustment (Dweck, 1991); and evaluation of one's proficiency in the discipline the task belongs to (Morris, 1966). It was decided to use, due to its multidimensional nature, the theory based on the three-factor model of achievement motivation in the reported study (Elliot & Church, 1997). At first, two types of motives were highlighted in this approach: mastery goals and motive of comparison with others. The latter was divided into groups as per pursuing and avoiding goal fulfilment. In this way, a matrix of the four motives based on the 2 × 2 scheme described above was established. It consists of: pursuing mastery (mastery approach) as a path to success, expecting failure and escaping incompetence (mastery avoidance), aiming to complete the assignment (performance approach) and avoiding assignment completion (performance avoidance)

because of the fear of disgrace. Interestingly, studies conducted in sports (Ring & Kavussanu, 2018) indicate that relentless pursuit of success may lead to the acceptance of cheating. Empirical studies also show that people focused on results were less inclined to share information that would make a task easier than those engaged in achieving mastery (Poortvliet, Jansen, Van Yperen, & Van de Vliert, 2007). It seems that the mastery approach should not be connected with underhanded practices and that being focused on producing results to impress others may make fraud be perceived as too risky.

However, high DT scores are connected with a lower anxiety level and morally ambivalent activities (Paulhus & Williams, 2002), which means that DT may moderate the relation between achievement motivation and counterproductive behaviors. It is easy to imagine that individuals with strong achievement motivation, who are not bound with conventional morality and anxiety, may ease their way to success with measures commonly perceived as reprehensible.

THE DARK TRIAD

The Dark Triad contains three traits that, quite effectively, sum up the “dark side” of human nature. Creators of the DT model believe that psychopathy, narcissism and Machiavellianism, which are treated as separate properties in a nonclinical sample, in reality are one (Paulhus & Williams, 2002). It was found that although DT traits correlate with each other, it is not possible to confirm that they are different manifestations of the same phenomenon. Although the main assumption on which the DT model stands has not been verified and controversies pervade the topic of its factorial structure (Rogoza & Ciecuch, 2018), the DT variable still receives attention from researchers (Dinić & Jevremov, 2019).

Traits forming DT have disparate origins. The first notions of psychopathy and narcissism come from clinical practice, where they were known as forms of antisocial and narcissistic personality disorder (APA, 2013). Machiavellianism from the very beginning has been conceived as a trait present in an average population and, as such, is an object of study of social psychology (Christie & Geis, 1970). Of course, over the years, since the first descriptions of discussed constructs, researchers have been operationalizing them in different ways. Paulhus and Williams (2002) accept specific definitions thereof. According to Hare and his commonly used Psychopathy Checklist diagnostic tool, psychopathy is characterized by impulsiveness, a tendency to look for strong sensations, and a deficit of empathy and anxiety (Hare, 1985, 1991). Although, since the beginning of interest in psychopathy this trait was directly connected with criminal

behaviors, modern research indicates that criminal behavior is not necessarily such an important element in psychopathy assessment (Boduszek et al., 2019). The definition of narcissism comes from the Narcissistic Personality Inventory (Raskin & Hall, 1979). Traits indicating a narcissistic personality are exaggerated feeling of self-importance, a sense of one’s own superiority, and a belief that one deserves special treatment. Machiavellianism is defined as a tendency to manipulate others, a low opinion of others, and a belief that unfair practices are necessary for success (Christie & Geis, 1970).

DT correlates positively with CWB (DeShong, Grant, & Mullins-Sweatt, 2015). Psychopathy, narcissism and Machiavellianism affect behavior in a workplace (Forsyth, Banks, & McDaniel, 2012), mainly by increasing the probability of occurrence of behaviors which go against the regulations; thus it is plausible that DT traits may provide a significant correlate of CWB and may interact with achievement motivation and work engagement in relation to CWB.

COUNTERPRODUCTIVE BEHAVIORS

It is difficult to circumscribe a precise moment when the interest in undesired work behaviors emerged in social sciences, but it is at least possible to trace a few events significant to the work psychology development. The work inspection conducted by Robin (1969) discovered that 1681 employees of three US department stores had committed internal theft. Contemporary science found the results surprising, also because apparently women had been stealing company property equally often as men. The conclusion was drawn that too much attention had been devoted to unethical practices of employers in comparison with similar behaviors among employees (Robin, 1969). Other early papers extended the lexicon of employee misconduct, by introducing concepts of sabotage (Taylor & Walton, 1971), work absence (Porter & Steers, 1973) and work avoidance (Hanisch & Hulin, 1990).

The first attempt to scientifically synthesize knowledge about undesired work behavior (Giacalone & Greenberg, 1997) introduced the concept of antisocial work behavior defined as an intentional action against the interest of a company, co-workers or clients. Spector and Fox (2005) advance Giacalone and Greenberg’s research (1997) by introducing the Stressor-Emotion Model of Counterproductive Work Behavior. This model emphasizes the role of intent in CWB and differentiates between unintentional and intentional actions. CWB encompasses intentional activities both meant and not meant to do harm.

The revenge model (Biess, Tripp, & Kramer, 1997) examines motivations for behaviors that go against work regulations. According to it, CWBs stem from

disturbances in an individual's "thermodynamics" induced by unfair treatment in a workplace. Negative emotions accumulate in the psyche – a person "warms up", in the authors' own words – and an excess of "heat" must find its outlet. If this does not happen, revenge behaviors may follow. Spector and Fox (2005) argue that CWB is rather the result of negative emotions moderated by individual traits, which arise from frustration. This paper follows the broad CWB definition and aims to complement the recognized body of personality factors with new traits.

Contemporary research seems to confirm the theoretical premises behind the CWB model (Spector & Fox, 2005). The HEXACO model (Anglim, Lievens, Everton, Grant, & Marty, 2018) was found to be a valid predictor of counterproductive behavior. It is to be observed that a feature specific to this model, i.e. Honesty-Humility, constitutes a strong negative correlate of DT (Lee & Ashton, 2014) and achievement motivation (Dinger et al., 2015). There are researchers who suggest the near perfect overlap of DT and Honesty-Humility and the distinction between both variables is moot (Hodson et al., 2018). The Dark Triad (Paulhus & Williams, 2002), which describes the conglomerate of traits, combining a tendency to manipulation, empathy deficit, anxiety deficit and aggression, seems to be a good personality predictor of CWB. Both empirical data (Fox, Spector, & Miles, 2001; Derbis & Filipkowski, 2018) and model assumptions (Spector & Fox, 2005) indicate this.

Assuming that personality is a moderator of CWB, it is justified to believe that traits that lead to undesired behavior in interpersonal relations would have the same effect in the work environment. In addition to measuring the intensity of the need for success in individuals, achievement motivation in the Elliot and McGregor model (2001) also allows differentiation between various attribution styles. People derive motivation for performing their duties from different sources, such as striving for personal perfection or searching for affirmation. The aforementioned type of motivation should be negatively related to CWB, as such behaviors might lead to losing an employer's trust, exclusion from a co-workers' social circle or losing a job, which would effectively jeopardize further development. However, the question should also be posed whether a strong pursuit of achievement moderated by high DT scores may result in intensification of CWB.

Work engagement defined as the predominance of positive work-related emotions (Bakker et al., 2008) associated with a sense of responsibility and loyalty toward organization should correlate negatively with CWB. Presumably, high work commitment should lower CWB scores in the condition of high DT. The high level of loyalty toward an individual's own occupational group and direct associates combined

with a low level of loyalty towards the organization (Rosiński, 2012) is observed in the group of IT professionals.

HYPOTHESES

This study aimed to verify the dependencies between achievement motivation, Dark Triad traits and work engagement with counterproductive behaviors. In the proposed model, the basic explanatory variable is achievement motivation. Other variables – DT traits and work engagement – appear in a dual role, specifically as predictors and relationship moderators.

H1: Achievement motivation, Dark Triad traits and work engagement are predictors of counterproductive behavior.

H2: Dark Triad traits are moderators of the relationship of achievement motivation and counterproductive behavior.

H3: Work engagement is a moderator of the Dark Triad trait's relationship with counterproductive behavior.

PARTICIPANTS AND PROCEDURE

PARTICIPANTS

The study included 115 people, 92 men and 23 women who were employees of technology departments in business, i.e. IT specialists, programmers, and technicians. The average age of respondents was 27.41 ($Me = 26$). The average seniority of respondents in their current place of employment is 2.78 years ($Me = 2$), and the overall seniority is 5.97 years ($Me = 5.97$). 18 people declared that they held managerial positions; the other 97 people did not maintain managerial responsibilities. The selection of this specific group was by virtue of the development of new technologies and the necessity to assess the needs and problems of this branch's employees. Earlier literature indicates that employees of IT departments display a peculiarly negative attitude towards the employer (Rosiński, 2012). People who took part in the present study were acquired via social media along with industry websites. They completed questionnaires online. Regression power analysis for a small effect ($R^2 = .09$, $\alpha = .05$) showed that a sample size of 109 people is enough to reject an incorrect zero hypothesis with a .902 power. Visual examination of the scatter chart suggested 4 subjects whose results can be considered as outliers. Further analysis showed that in the data they delivered there were a significant amount of missing values and answers that may suggest unreliability in filling the questionnaire. Deletion of these cases did not significantly affect the results.

TOOLS

Measurement of counterproductive work behaviors. The Counterproductive Work Behaviors Checklist (CWB-C; Baka, Derbis, & Walczak, 2015), is the Polish version of the tool for measuring counterproductive behavior. It consists of 32 items formed by four factors – sabotage, abuse, theft, and withdrawal. There is a 5-step answer scale, ranging from 1 (*never*) to 5 (*every day*). The tool is characterized by satisfactory internal consistency – total score $\alpha = .93$, sabotage $\alpha = .84$, abuse $\alpha = .89$, theft $\alpha = .86$, withdrawal $\alpha = .71$ (Baka et al., 2015). In this study, total score $\alpha = .95$, sabotage $\alpha = .87$, abuse $\alpha = .91$, theft $\alpha = .73$, withdrawal $\alpha = .78$.

Measurements of goal achievement motivation. The Achievement Goal Questionnaire Revised (AGQ-R; Elliot & Murayama, 2008) in Polish translation (Lipowska, 2016) was used to measure the four types of achievement motivation in a work-related context: performance approach, mastery approach, mastery avoidance and performance avoidance (Elliot & McGregor, 2001; Elliot & Murayama, 2008). It contains 12 statements in four scales. The answer scale is seven-point: from 1 (*not at all true of me*) to 7 (*very true of me*). In the original Polish translation the study questionnaire shows sufficient internal consistency – mastery approach $\alpha = .79$, performance approach $\alpha = .74$, mastery avoidance $\alpha = .49$, performance avoidance $\alpha = .88$ (Lipowska, 2016). The following reliability ratios were obtained in the reported study: mastery approach $\alpha = .93$, performance approach $\alpha = .77$, mastery avoidance $\alpha = .59$, performance avoidance $\alpha = .90$. Due to a low Cronbach's α , mastery avoidance scores were excluded from further analyses.

Measurement of work engagement. The UWES scale (Schaufeli & Bakker, 2003) in Polish translation (Szabowska-Walaszczyk, Zawadzka, & Wojtaś, 2011) was used to measure work engagement. It contains 17 items making up three scales and the overall result: vigor, dedication, and absorption. The answer scale is seven-point: from 1 (*never*) to 7 (*always*). The tool has satisfactory internal consistency – engagement $\alpha = .88$ -.95, vigor $\alpha = .66$ -.87, dedication $\alpha = .83$ -.92, absorption $\alpha = .79$ -.88. The tool is characterized by similar reliability as in the present study – total score $\alpha = .92$, vigor $\alpha = .78$, dedication $\alpha = .87$, absorption $\alpha = .86$.

Measurement of the Dark Triad. The “Parszywa Dwunastka” scale (Czarna, Jonason, Dufner, & Kosowska, 2016) is a Polish adaptation of the Dirty Dozen scale (Jonason & Webster, 2010). The tool aims to measure psychopathy, narcissism and Machiavellianism treated as traits. It contains twelve items, four for each DT component. The answer scale is five-point: from 1 (*not at all*) to 5 (*very*). The Polish version of the questionnaire has good internal consistency –

Machiavellianism $\alpha = .83$, psychopathy $\alpha = .64$ -.68, narcissism $\alpha = .81$ -.84. In this study, sufficiently satisfactory reliability indicators were obtained – Machiavellianism $\alpha = .84$, psychopathy $\alpha = .72$, narcissism $\alpha = .79$.

RESULTS

HYPOTHESIS 1

To verify the first hypothesis, it was initially decided to test whether there are correlative connections between the explanatory variables and the explained variable. For this purpose, Pearson's r correlation coefficient analysis was performed. All the proposed variables were found to correlate statistically significantly with CWB.

The next step was to check whether the predictors involved in the study significantly explain the variance of the CWB variable. To this end, a separate regression analysis was conducted for each variable regardless of the relationship with CWB (Table 1). All variables statistically significantly explained the CWB variance. Psychopathy proved to be the strongest predictor ($R^2 = .23$, $SE = .33$, $p < .01$).

Furthermore, for the purpose of more in-depth exploration of the proposed relationship, we decided to generate a model that would best clarify the explained variable using stepwise regression. In these calculations, total variables were excluded due to collinearity with the variables constituting their subscales. It was found that the model made up only of significant predictors explains over 39% of variance ($R^2 = .40$, $F = 18.07$, $p < .01$) and consists of psychopathy, dedication, performance-approach and narcissism (Table 2).

Additionally, a series of partial correlation analyses of all predictors with CWB was performed to gain more information about the specificity of traits that constitute higher-order constructs. It was found that only 2 predictors can be considered as significant when the effect of other variables belonging to the same construct is removed. UWES subscale – dedication, is negatively correlated with CWB ($r = -.27$, $p = .001$, 95% CI = $-.58$; $-.07$) and a part of DT – narcissism is positively correlated with CWB ($r = .33$, $p = .001$, 95% CI = $.13$; $.48$).

HYPOTHESIS 2

The second hypothesis deals with the interactive effect of DT traits and achievement motivation in relation to CWB. Moderation analysis was used to evaluate the interaction of four types of achievement motivation and three DT traits with the CWB total score. It was found that all possible models which contained one

Table 1
Regression relationships of all predictors with CWB

	β	SE	<i>t</i>	R^2	<i>p</i>	95% CI
UWES	-.40	.07	-4.65	.16	.001	-0.48; -0.19
UWES Vigor	-.31	.22	-3.45	.10	.001	-1.10; -0.32
UWES Dedication	-.44	.19	-5.13	.19	.001	-1.34; -0.59
UWES Absorption	-.33	.18	-3.70	.11	.001	-1.04; -0.31
DT Machiavellianism	.40	.31	4.65	.16	.001	0.84; 2.08
DT Narcissism	.31	.34	3.42	.09	.001	0.48; 1.81
DT Psychopathy	.48	.33	5.74	.23	.001	1.23; 2.53
AGQ-R Mastery approach	-.36	.36	-4.14	.13	.001	-2.18; -0.77
AGQ-R Performance approach	-.39	.31	-4.45	.15	.001	-1.97; -0.76
AGQ-R Performance avoidance	-.34	.39	-3.90	.12	.001	-1.71; -0.56

Table 2
Regression results for the strongest CWB explanatory model achieved by stepwise regression

	β	SE	<i>t</i>	<i>p</i>	95% CI
DT Psychopathy	.30	.33	3.68	.001	0.55; 1.84
UWES Dedication	-.29	.18	-3.36	.001	-0.99; -0.28
AGQ-R Performance approach	-.19	.29	-2.33	.021	-1.25; -0.10
DT Narcissism	.18	.30	2.28	.024	0.09; 1.26

Model: $R^2 = .40$, $F = 18.07$, $p = .001$

Table 3
Results of partial correlations for all predictors of CWB

	<i>r</i>	<i>p</i>	95% CI
UWES Vigor	-.02	.817	-.25; .34
UWES Dedication	-.27	.001	-.58; -.07
UWES Absorption	.00	.997	-.16; .26
DT Machiavellianism	.11	.242	-.12; .27
DT Narcissism	.33	.001	.13; .48
DT Psychopathy	.13	.165	-.06; .40
AGQ-R Mastery approach	-.17	.072	-.41; .19
AGQ-R Performance approach	-.12	.202	-.32; .07
AGQ-R Performance avoidance	-.05	.602	-.26; .17

Note. Each correlation was tested with control of other variables belonging to the same construct.

type of achievement motivation as a predictor, one of the DT traits as a moderator and CWB as a dependent variable contained statistically significant interactive effects. The strongest of them occurs between psychopathy and performance approach (R^2 change = .27, $F = 69.56$, $p < .001$), while the weakest occurs be-

tween Machiavellianism and performance avoidance (R^2 change = .15, $F = 30.64$, $p < .001$).

Visual analysis of the interaction indicates that with high psychopathy, narcissism and Machiavellianism scores, a high level of all types of achievement motivation is associated with a lower CWB level (Figures 1-9).

Table 4

Results of the interaction of DT traits and three types of achievement motivation for the CWB variable

	R ² change	F	B	p	95% CI
Machiavellianism*Performance approach	.07	10.64	-.20	.001	-.32; -.08
Machiavellianism*Mastery approach	.12	22.86	-.34	.001	-.48; -.20
Machiavellianism*Performance avoidance	.06	10.01	-.18	.002	-.29; -.07
Narcissism*Performance approach	.12	21.48	-.27	.001	-.38; -.15
Narcissism*Mastery approach	.21	40.02	-.43	.001	-.56; -.29
Narcissism*Performance avoidance	.15	26.16	-.27	.001	-.38; -.17
Psychopathy*Performance approach	.19	40.21	-.39	.001	-.51; -.27
Psychopathy*Mastery approach	.27	69.56	-.49	.001	-.61; -.37
Psychopathy*Performance avoidance	.21	45.19	-.38	.001	-.50; -.27

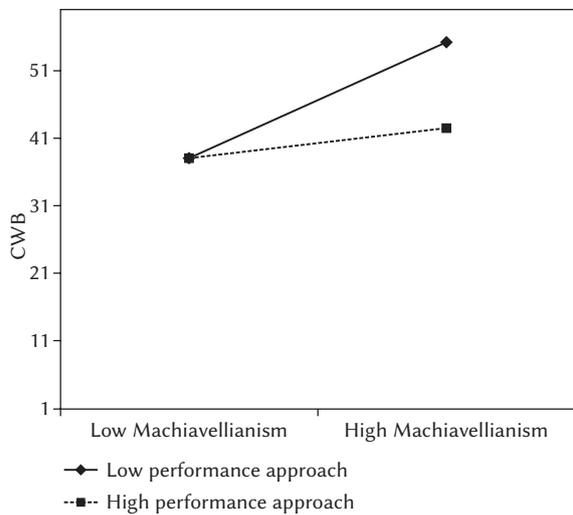


Figure 1. Visualization of the interaction of Machiavellianism and performance approach for the CWB.

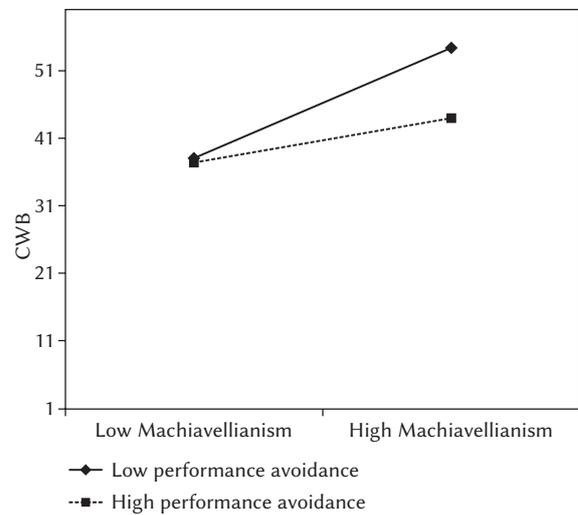


Figure 2. Visualization of the interaction of Machiavellianism and performance avoidance for CWB.

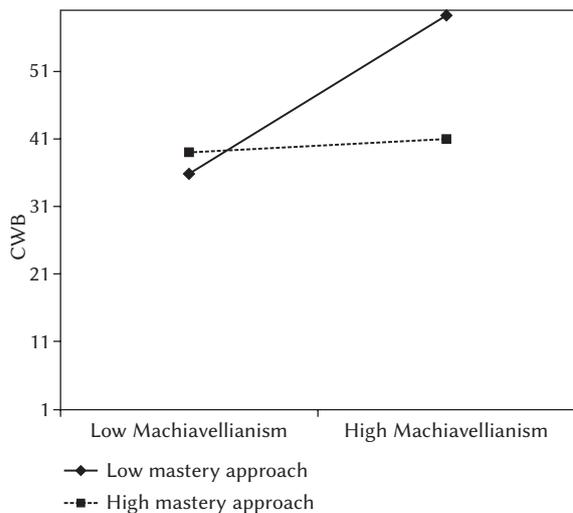


Figure 3. Visualization of the interaction of Machiavellianism and mastery approach for CWB.

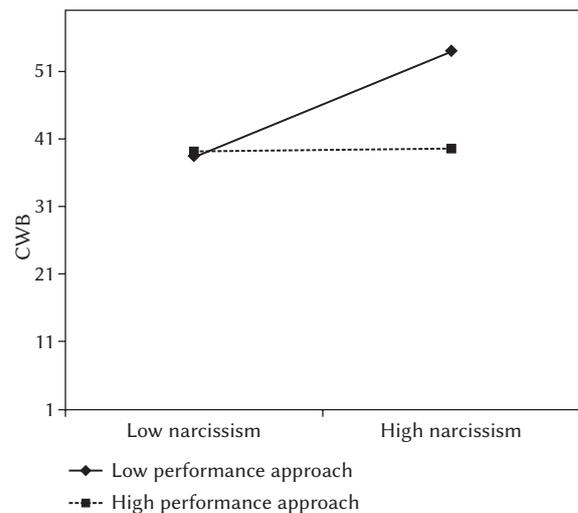


Figure 4. Visualization of the interaction of narcissism and performance approach for CWB.

The predictors of counterproductive work behaviors

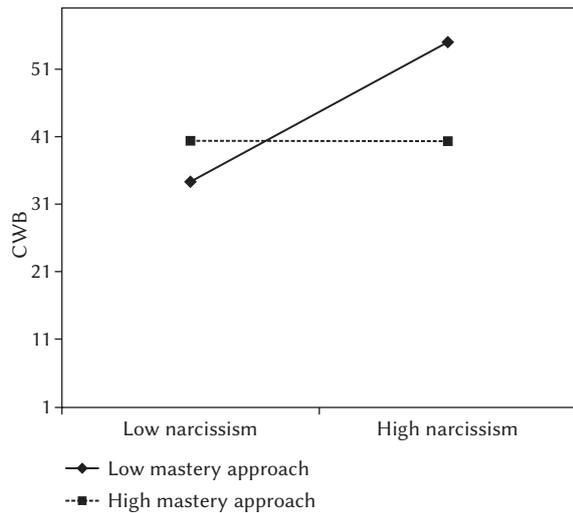


Figure 5. Visualization of the interaction of narcissism and mastery approach for CWB.

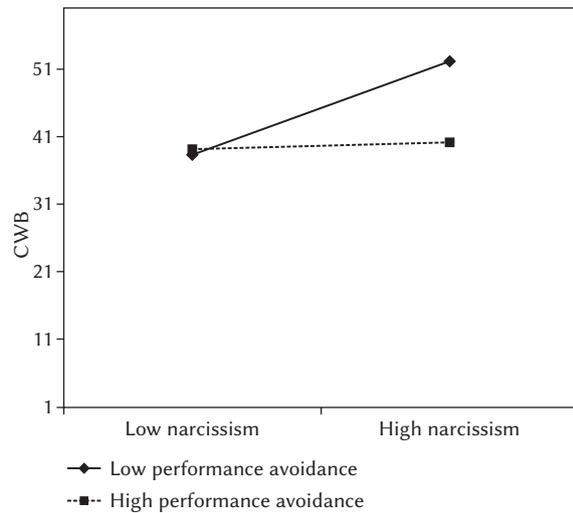


Figure 6. Visualization of the interaction of narcissism and performance avoidance for CWB.

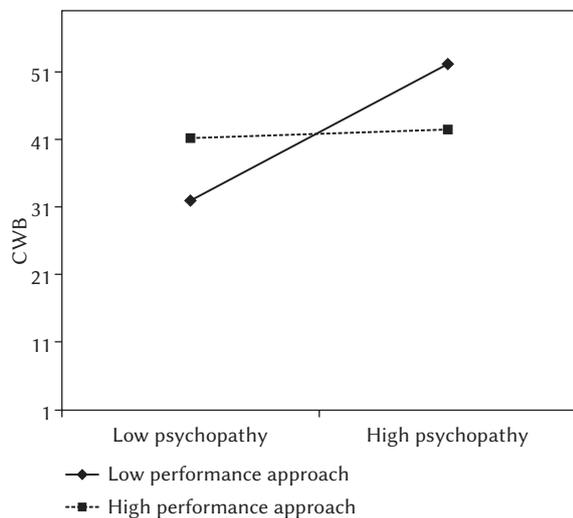


Figure 7. Visualization of the interaction of psychopathy and performance approach for CWB.

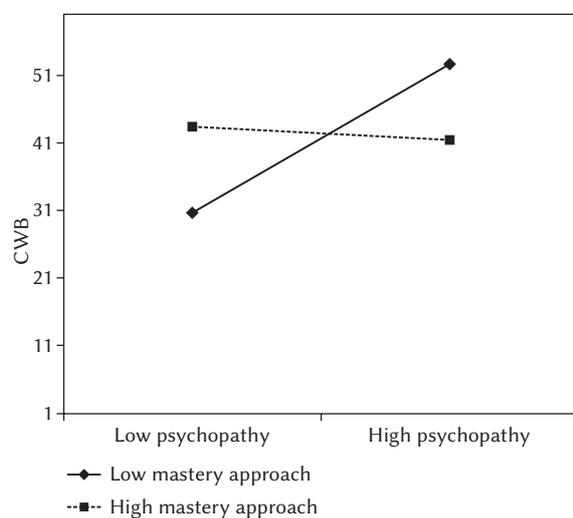


Figure 8. Visualization of the interaction of psychopathy and mastery approach for CWB.

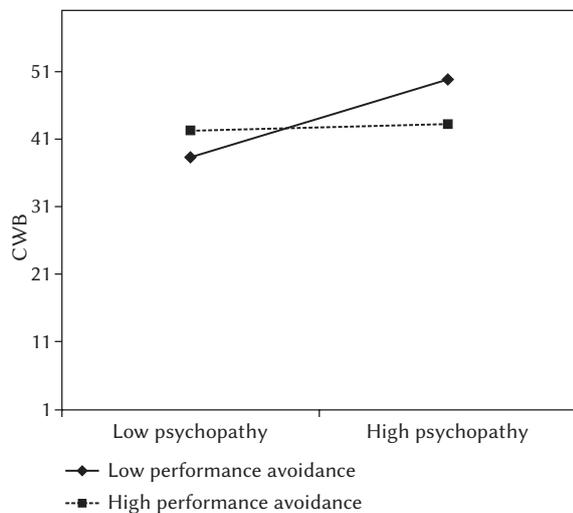


Figure 9. Visualization of the interaction of psychopathy and performance avoidance for CWB.

HYPOTHESIS 3

The last hypothesis (H3) concerns the moderation role of work engagement in the relationship between DT traits and CWB. The analysis showed that narcissism (R^2 change = .14, $F = 26.59$, $p < .001$), psychopathy (R^2 change = .21, $F = 52.51$, $p < .001$) and Machiavellianism (R^2 change = .13, $F = 24.18$, $p < .001$) are significant moderators of the relation between work engagement and CWB (Table 5).

The analysis of moderation visualization indicates that CWB growth occurs with high results in DT traits, particularly in the condition of low UWES level.

In order to exhaust the possibilities of extracting information from the study, other analyses, which were not intended to verify the hypotheses, were performed. It was verified whether there is a correlative relationship between the presented psychological

Table 5
Results of the interaction of UWES and DT for the CWB variable

	R ² change	F	B	p	95% CI
UWES*Narcissism	.14	26.59	-.07	.001	-.10; -.04
UWES*Psychopathy	.21	52.51	-.09	.001	-.11; -.06
UWES*Machiavellianism	.13	24.18	-.07	.001	-.09; -.04

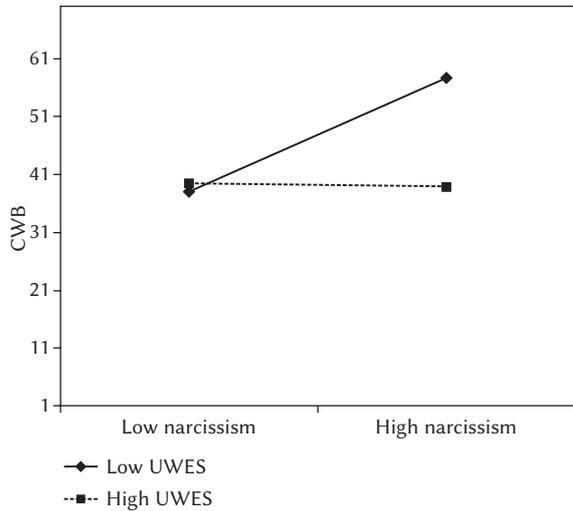


Figure 10. Visualization of the interaction of narcissism and UWES for CWB.

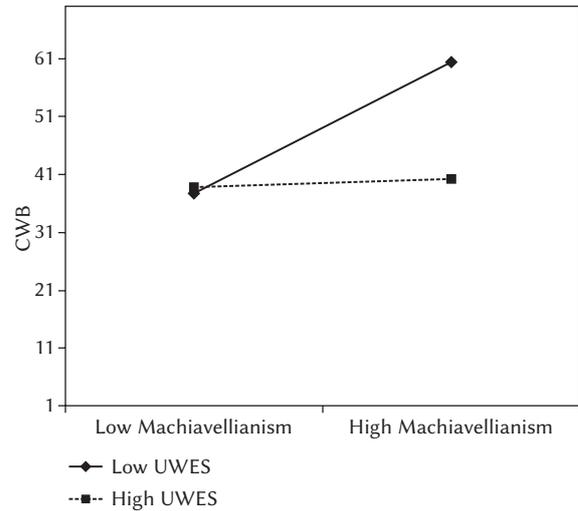


Figure 11. Visualization of the interaction of Machiavellianism and UWES for CWB.

variables and total job seniority in the current company. It was found that two such relationships are statistically significant – the correlation occurred between mastery approach and total job seniority ($r = .22, p = .018$) and between the factor of work engagement – vigor and total job seniority ($r = .20, p = .035$). However, the interdependencies were not strong.

One-way analysis of variance showed that there are no differences in CWB intensity between women and men, as well as between managers and non-managers. It is worth emphasizing that managers and non-managers do not differ statistically significantly in any of the considered traits. In addition, it was decided to check whether seniority is a moderator of the relationships provided in hypotheses 2. It was found that for all types of achievement motivations in interaction with DT traits in connection with CWB, the years of seniority in the profession constitute an important moderator. The B coefficient is positive in all tested compounds. The detailed results are presented in Table 6.

DISCUSSION

The subject of this study was the analysis of potential predictors of counterproductive behaviors – Dark Triad, achievement motivation and work engage-

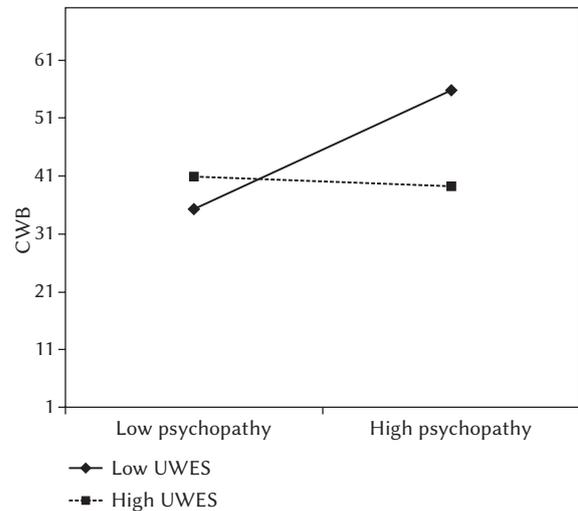


Figure 12. Visualization of the interaction of psychopathy and UWES for CWB.

ment. In addition, mechanisms that reduce the frequency of these undesirable effects were also taken into consideration. In the hypotheses, correlation of CWB and each of the proposed independent variables was predicted. Moreover, it was anticipated that work engagement would be a factor that could inhibit the DT effect on CWB and that the level of DT would significantly affect the frequency of coun-

Table 6

Results of moderated moderation for the dependent variable CWB and independent variables DT, achievement motivation and seniority

	R^2 change	F	B	p	95% CI
Machiavellianism*Performance approach*Job seniority	.08	17.67	.05	.001	.03; .07
Machiavellianism*Mastery approach*Job seniority	.14	35.07	.10	.001	.07; .14
Machiavellianism*Performance avoidance*Job seniority	.12	29.51	.05	.001	.03; .07
Narcissism*Performance approach*Job seniority	.07	16.19	.05	.001	.03; .08
Narcissism*Mastery approach*Job seniority	.09	18.98	.09	.001	.05; .14
Narcissism*Performance avoidance*Job seniority	.06	13.61	.04	.001	.02; .06
Psychopathy*Performance approach*Job seniority	.05	10.91	.05	.001	.02; .08
Psychopathy*Mastery approach*Job seniority	.04	10.81	.05	.001	.02; .08
Psychopathy*Performance avoidance*Job seniority	.05	12.80	.04	.001	.02; .06

terproductive behaviors in high score condition of all types of achievement motivation. Statistical analysis partially confirmed all hypotheses.

All independent variables that were the subject of research were found to statistically significantly explain CWB variability (H1). Work engagement as well as all types of achievement motivation showed a negative correlation with the dependent variable, while the Dark Triad components displayed a positive one. The strongest single factor was psychopathy. This characteristic is associated with the search for sensations, low fear, and rejection of moral principles (Hare, 1991). Therefore, counterproductive behaviors may not be only a form of unfair advantage in achieving professional goals for psychopaths, but it is likely that they are a sensational experience itself. People with high scores on psychopathy scales have a reduced level of anxiety (Hare, 1991), so they are not withheld by the fear of detection. Combined with the considerations on clinical psychopaths (Hare, 2006) who can easily change place of work or residence and cannot predict the consequences of their actions, an image of employees extremely dangerous to the organization is created – not emotionally connected with the company and not submitted to high standards of behavior due to fear of losing a job. The strongest model explaining CWB also included narcissism, which is quite strongly related with psychopathy (Paulhus & Williams, 2002). What could constitute the biggest difference in shaping the tendency to undesired behavior is the conviction of one's uniqueness (Raskin & Hall, 1979), which can lead to far-reaching rationalizations justifying the harmful actions of narcissistic persons in their own eyes. It is also possible that narcissists, with their sense of importance and uniqueness, feel unaffected by the work regulations. One of the elements of engagement – dedication – also was found to be sig-

nificant. Dedication is a tendency to feel proud of being part of the organization and constituting an important part of it (Schaufeli et al., 2006). Such an approach can make fear of misconduct, related with the possibility of losing the sense of belonging – by exclusion from a social circle – larger than the potential benefits related to it. Results of regression analyses for narcissism and dedication are additionally supported by significant partial correlations with CWB. This may suggest that their unique effect on undesired behaviors in work differentiates them from other considered predictors, while the rest of variables constituting DT and UWES share the same core of explained variance of CWB. Using DT as a unitary construct (Sleep, Lynam, Hyatt, & Miller, 2017) may be misleading due to its overlapping components, although further research with D personality (Moshagen, Hilbig, & Zettler, 2018) as a predictor may constitute a strong contribution in explaining CWB. Furthermore, research points to a strong negative correlation with cynicism, understood as a negative attitude towards work (Langelaan, Bakker, Van Doornen, & Schaufeli, 2006). This variable could be an important element in the mechanism of CWB formation. Of all types of achievement motivation, performance-approach has been included in the strongest model. This type of motivation is associated with a focus on achieving the best results in relation to others (Elliot & McGregor, 2001). There is a probability that people who pay so much attention to comparing themselves to colleagues feel a strong pressure to behave in socially accepted manner. Behavior recognized as CWB bears certain risks; the costs, if such actions were to be discovered, may prove to be far too great for people with high scores on scale of achievement motivation.

The second hypothesis (H2) assumed an interactive relationship between achievement motivation

and DT in CWB prediction. It was found that on the condition of high achievement motivation, the relation between CWB and DT traits is inhibited or even reversed. The results were similar for each type of achievement motivation. Achievement motivation is a construct in which individual elements are not opposed to each other (Cury, Elliot, Da Fonseca, & Moller, 2006). It is likely that the high level of motivation means that employees focus on activities that they think are appropriate on their way to success, rather than looking for counterproductive shortcuts or actions directed against the employer. The strongest effect occurs for the interactions involving the mastery approach. Perhaps it is true that the refusal to attribute the results of one's own work in the context of external causes makes CWB actions meaningless. If we assume that people aiming at mastery consider the extent of external gratification as not important, it is difficult to find sufficient justification for taking actions inconsistent with employment regulations or social laws. It also turns out that this type of motivation is strongly related to work engagement. This is confirmed by the results of other empirical studies (Poortvliet, Anseel, & Theuwis, 2015), as well as the results of this research ($r = .62, p < .001$).

The last hypothesis (H3) considers the interaction of work engagement with DT. Work engagement was found to be a variable which causes that a high level of traits such as psychopathy, narcissism and Machiavellianism do not necessarily mean higher CWB scores. The hypothesis was found to be true. Under conditions of high work engagement, the level of Machiavellianism, narcissism and psychopathy amplified CWB to a much smaller extent. This result may yield very optimistic implications. It is possible that even if the employee is characterized by a tendency to use manipulation, socially unacceptable actions and impulsiveness, this does not necessarily make undesirable behavior in the workplace inevitable. Work engagement can effectively moderate this relationship. The results of analysis testing H3 can be an inspiration for practical activities. It would be worth exploring whether concentration on activities that increase work engagement in organizations which are experiencing trouble with a high frequency of counterproductive behavior among employees could become an effective method of prevention of CWB.

It also was found that the relationships predicted in H1 and H2 are moderated by work seniority. Statistical analysis has shown that these moderations are positive. This means that inhibiting the impact of DT on CWB by achievement motivation becomes stronger over the years in the profession. Research indicates that people with anti-social behavior begin to function better in society at the age of about 40 and show less dissocial features (Harpur & Hare, 1994). Conscientiousness grows with age and may be a personality trait that can help explain this relationship

(Costa & McCrae, 1988). It seems that as it develops, the propensity for risky and non-compliant behavior decreases. Older people may also have more experience and be more aware of their skills. Assuming that a significant part of CWB is caused by the desire to bypass work to achieve some benefits, it should be presumed that it is people who are starting their careers, who are more interested in quickly climbing the career ladder and are more willing to take risks. These individuals would also be prone to actions belonging to CWB. In addition, they may be more influenced by aversive personality traits, and individual inclinations to undesirable behavior will not be inhibited by work engagement or achievement motivation.

A major element of the study was to assess the specific group of technology-related employees. Knowledge about this group is significant because of technology development and the potential continuous increase of its importance for the economy, especially in developing countries. The growing requirements and demand for such employees demand new educational policies (Hilton, 2001). As mentioned earlier, IT staff are seen as a group that identifies more with their profession than the organization (Rosiński, 2012). The results of the present study seem to confirm that this aspect may distinguish them from other work groups. It does not seem excessive to say that loyalty is a variable close to engagement, and in previous studies (Derbis & Filipkowski, 2018) conducted on office workers, the relationship of work engagement with CWB was clearly weaker and not as unambiguous as in the case of the present research. A negative correlation of work engagement and counterproductive behavior in the group of IT employees is observable. On the basis of the cited results, it is not possible to state clearly whether this result is specific only to this profession. Meta-analysis and comparative studies are needed.

LIMITATIONS

In further research it would be worth including representatives of various occupations or groups of professions in the study sample. It would also make it possible to determine whether the abovementioned effects are universally applicable or occur only in particular samples. Undoubtedly, also increasing the sample size would augment the quality of results and allow the use of more advanced statistical methods. In the studies on variables commonly perceived as aversive, it may be problematic to conduct research through online questionnaires. It seems appropriate to assess whether the method of collecting data differentiates the results obtained in subsequent studies addressing the CWB issue. The other limitation is overlapping of DT traits. Results of statistical analysis show a possibility that the core of DT may be the

most important factor in explaining CWB. It is suggested to examine the effect of D personality (Moshagen et al., 2018) in further research. In cross-sectional studies it is possible to test only hypotheses about correlational relations; therefore, it is recommended to perform multiple measurements to confirm interactional models presented in this study.

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