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BRIGHT AND DARK TRAITS AS PREDICTORS OF ALTRUISM

TRAÇOS POSITIVOS E NEGATIVOS COMO FATORES PREDITIVOS DO ALTRUÍSMO

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Abstract
The theme of this article is focused on altruism, traditionally defined as behavior benefiting others at personal cost, is increasingly recognized as a multifaceted construct with various facets, referred here as kind and assertive altruistic behaviour. Among the key tasks of the managers is to identify the altruists among their personnel and keep their emotional health. Therefore, the goal of this article is to analyze bright and dark traits as predictors of altruism. The applied methodology is in two main directions: (1) To provide literature review in order to give a basic understanding both to altruism and its bright and dark traits as predictors. (2) To analyze student dispositions to: Altruism, Charity, Help-Giving, Moral Courage, Peer Punishment, Dark Tetrad, Psychopathy, Narcissism, Sadism and Machiavellianism. The findings are also important for the gender equity academic approach, because most of the respondents are females who will have key roles during their career development. The analyzes give us certainty to conclude that there are differentiated trait profiles across altruism domains, revealing both expected and novel patterns. The unique combination of dark traits and some bright traits deserve robust future study

Resumo
O tema deste artigo centra-se no altruísmo, tradicionalmente definido como um comportamento que beneficia os outros à custa de sacrifícios pessoais, e que é cada vez mais reconhecido como um conceito multifacetado, aqui referido como comportamento altruísta gentil e assertivo. Entre as principais tarefas dos gestores está a identificação dos altruístas entre seus funcionários e a preservação de sua saúde emocional. Portanto, o objetivo deste artigo é analisar os traços positivos e negativos como preditores do altruísmo. A metodologia aplicada segue duas direções principais: (1) Apresentar uma revisão da literatura para proporcionar uma compreensão básica tanto do altruísmo quanto de seus traços positivos e negativos como preditores. (2) Analisar as disposições dos estudantes em relação a: altruísmo, caridade, prestação de ajuda, coragem moral, punição pelos pares, tetrad sombrio, psicopatia, narcisismo, sadismo e maquiavelismo. Os resultados também são importantes para a abordagem acadêmica da equidade de gênero, pois a maioria dos entrevistados são mulheres que desempenharão papéis-chave durante o desenvolvimento de suas carreiras. As análises nos dão certeza para concluir que existem perfis

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including facets for better understanding and insights.

Keywords: Altruism. Bright and Dark Traits. Student Disposition. Emotional Health.

de traços diferenciados nos domínios do altruísmo, revelando padrões tanto esperados quanto novos. A combinação única de traços sombrios e alguns traços positivos merece um estudo futuro robusto, incluindo facetas para melhor compreensão e insights.

Palavras-chave: *Altruísmo. Traços Positivos e Negativos. Disposição dos Estudantes. Saúde Emocional.*

1 INTRODUCTION

Altruism is broadly defined as behavior that benefits others at a personal cost to the actor, has long been a central topic both in psychology and social entrepreneurship. While bright personality traits (eg. Big Five) generally promote prosocial behavior, the role of dark traits (eg. Dark Tetrad) and their complex interaction and implications on altruistic intentions remain underexplored. This study examined how both bright and dark traits directly predict five distinct forms of altruism using structural equation modeling (SEM).

A sample of 327 university students from Bulgaria and Kazakhstan completed two scales, measuring altruism and personality traits. Results reveal that psychopathy positively predicted assertive altruism (moral courage, altruistic peer punishment) and kind altruism (altruism to peers, help-giving), suggesting fearlessness may also drive prosocial action. Sadism negatively predicted kind altruism (help-giving and altruism to peers), consistent with its antagonistic nature. Machiavellianism negatively predicted charity, while narcissism and extraversion positively predicted it, possibly due to social visibility motives. The respondents are mostly female students and therefore these analyzes could be used to improve the gender equity in the organizations, because many of the females will occupy key jobs during their career development.

The findings highlight the complex interaction between personality and altruism and future research lines. They can be extended in interdisciplinary research linking personal dispositions and social behaviors, especially the role of fearlessness and the enforcement of environmental regulations that can drive institutional compliance and the collective defense of societal norms, contributing to more robust and sustainable legal

systems. It is possible the organizations to have better performance in case their managers identify the altruists among their personnel and try to keep their emotional health, protecting them from selfish intentions of other employees. Therefore, the managers should be well educated about the predictors of altruism and be able to apply them in their work.

2 THEORETHICAL FRAMEWORK

Altruism has traditionally been defined as behavior involving the investment of personal resources to benefit others (Oda et al., 2014; Windmann et al., 2021). The most expansive definitions emphasize observable costs and benefits, rather than inferred mental states (Windmann et al., 2021). Crucially, altruism is distinguished from other prosocial acts by its underlying motivation: a genuine intent to help those in need, rather than to gain indirect personal benefits (Manzur & Olavarrieta, 2021). Contemporary research increasingly conceptualizes altruism as a multifaceted construct. Recent research has advanced this understanding by identifying empirically distinct forms of altruism). Manzur & Olavarrieta (2021) differentiate charity and altruism. Windmann et al. (2024) report three distinct forms: Help-Giving, Moral Courage, and Altruistic Peer Punishment, validated as separate behavioral constructs (Windmann et al., 2021). *Help-Giving* reflects traditional altruism, often anonymous and selfless, and is considered the core of prosocial behavior. *Moral Courage* involves defending societal norms despite personal risk, representing assertive altruism directed at systemic injustice. *Peer Punishment* stems from economic game theory and involves punishing norm violators to uphold group cohesion, despite personal cost (Sasse et al., 2022; Windmann et al., 2021). We group these altruism facets into kind altruism (charity, altruism to peers, and help giving) and *assertive* altruism (altruistic peer punishment and moral courage). The emergence of these distinct forms underscores the need to move beyond generalized altruism and examine how specific personality traits predict each facet.

The Big Five model (Extraversion, Agreeableness, Conscientiousness, Neuroticism, and Openness to experience) offers a robust framework for understanding individual differences in altruism (Ashton & Lee, 2008). Research consistently shows that bright traits, particularly extraversion and agreeableness, are positively associated

with prosocial behavior (Furnham et al., 2016; Oda et al., 2014). *Extraversion* predicts altruism across diverse recipient categories, including strangers and acquaintances, likely due to sociability and assertiveness (Oda & Matsumoto-Oda, 2022; Roșca et al., 2021). *Agreeableness* is strongly linked to empathy and emotional responsiveness, making it a consistent predictor of altruism, including altruistic peer punishment aimed at maintaining fairness (Dargan & Schermer, 2022; Habashi et al., 2016). *Openness to Experience* correlates with altruism toward unfamiliar recipients and charitable giving (Bekkers, 2006; Furnham et al., 2016). *Conscientiousness* predicts altruism toward close others and moral courage in professional settings, driven by a sense of duty (Balaskas et al., 2023; Meng & Guo, 2025). *Neuroticism* shows inconsistent links to altruism, with emotional stability sometimes associated with prosocial motivation (Furnham et al., 2016).

The relationship between altruism and Dark Tetrad (Narcissism, Machiavellianism, Psychopathy, and Sadism) is less demonstrated (Paulhus & Williams, 2002; Paulhus et al., 2021). Dark traits are typically associated with antagonism, manipulation, and lack of empathy, yet may still predict altruistic behavior under certain conditions (Trahair et al., 2022; Palmer & Tackett, 2018). *Machiavellianism*, characterized by strategic manipulation, may predict prosocial acts when they serve self-interest, such as enhancing reputation or asserting dominance (Bereczkei et al., 2010; Jones & Mueller, 2021). *Narcissism* uniquely predicts altruism when controlling for other dark traits, likely due to the desire for admiration and public recognition (Chen et al., 2021; Konrath et al., 2016). *Psychopathy*, marked by impulsivity and callousness, shows mixed associations with altruism, possibly due to variation in target and context (Sakai et al., 2019). *Sadism*, defined by deriving pleasure from others' suffering, consistently predicts lower altruism and tolerance for harmful behavior (Longpré & Turner, 2024). These findings suggest that dark traits may predict specific forms of altruism – particularly assertive or norm-enforcing behaviors – when they align with self-serving goals. A nuanced approach is needed to disentangle genuine altruism from strategic altruism. The line of tracing bright and dark traits effect is made in analogous way in respect to human values (de Holanda Coelho et al., 2021).

3 RESEARCH PROBLEM

Altruism is not a unified concept, but rather a multifaceted phenomenon that encompasses supportive and norm-enforcing behaviors. Based on recent conceptualizations (Windmann et al., 2021, 2024; Manzur & Olavarrieta, 2021), we differentiate between kind altruism, which includes charity and helping peers, and assertive altruism, which involves moral courage and altruistic peer punishment. Thus, kind altruism reflects empathic concern and prosocial support, often directed toward close or vulnerable individuals. In contrast, assertive altruism involves costly actions to uphold norms or defend values, even at risk, and is conceptually closer to justice sensitivity and moral conviction. Personality traits provide a framework for understanding the facets of altruism that vary from person to person. Bright traits are consistently reported to be linked to altruism (Ashton & Lee, 2008; Furnham et al., 2016). In contrast, dark traits are typically associated with antagonism (Paulhus & Williams, 2002). However, emerging evidence suggests that dark traits may also predict prosocial acts under specific conditions (Palmer & Tackett, 2018). Narcissism may motivate public charity for reputational reasons (Chen et al., 2021; Konrath et al., 2016). Machiavellianism may promote peer punishment when enforcing norms enhances dominance (Bereczkei et al., 2010). Psychopathy, which is characterized by fearlessness, may facilitate moral courage or oppositional altruism (Roșca et al., 2021; Trahair et al., 2022). Sadism consistently undermines altruism (Longpré & Turner, 2024).

Despite substantial research linking personality traits to altruism, significant gaps remain. Altruism is often conflated with broader prosocial behavior (Oda et al., 2014; Trahair et al., 2022). This study partially addresses these limitations to understanding individual differences in altruism by examining how bright and dark traits uniquely predict differentiated altruistic outcomes. The thesis of the study is: bright and dark personality traits predict differentiated forms of altruism. The study has three hypotheses:

H1: Personality traits will predict altruism dimensions. Dark traits are expected to primarily predict assertive altruism (moral courage, and altruistic peer punishment), while bright traits are expected to predict kind altruism (charity, altruism to peers, help giving).

H2: The five altruism facets (charity, altruism to peers, help-giving, moral courage, peer punishment) will be empirically interrelated but distinct.

H3: Dark traits may positively predict altruistic behavior in specific contexts. Narcissism and psychopathy are expected to show adaptive associations with charity, moral courage, and peer punishment, reflecting strategic or coping-driven altruism.

The purpose of the next chapter is to check these hypotheses by empirical study of student intentions.

4 METHODOLOGY DESIGN

The respondents are students from Bulgaria and Kazakhstan, approached by their university e-mails to answer a standardized questionnaire. Data were collected online between February and June 2025. The final sample consisted of 327 university students from Bulgaria and Kazakhstan, 116 (35%) male and 211 (65%) female, 229 (70%) below 23 years and 98 (30%) above 23 years old, from various academic fields: psychology 76 (23%), business management 58 *18%), entrepreneurship 44 (14%), marketing 42 (13%) medicine 26 (8%), economics 25 (8%), landscape 21 (6%) and 35 (11%0 in other areas.

Four validated instruments were used to assess altruistic behavior and personality traits. All scales used 5-point Likert type self-response scale (strongly disagree, disagree, neutral, agree, strongly agree).

Altruism Measures: Simplified 9-Item SRA Scale (Manzur & Olavarrieta, 2021) assesses general altruism, divided into two subscales: Charity (3 items) and Altruism to Peers (6 items). In this study mhe Altruism to Peers subscale was reduced to 4 items due to low loadings on two items, possibly reflecting translation or cultural specificity

Facets of Altruistic Behaviors (FAB) Scale (Windmann et al., 2021) - a 15-item instrument measuring three facets of altruism: Help-Giving (HG)**:** 5 items (1 item removed due to low loading); Moral Courage (MC)**:** 5 items; Peer Punishment (PP): 5 items.

Personality Measures**:** Short Dark Tetrad (SD4) (Paulhus et al., 2021). This scale assesses Psychopathy: 8 items; Narcissism: 8 items (1 item removed); Sadism: 8 items; Machiavellianism: 8 items.

Ten-Item Personality Inventory (TIPI) (Gosling et al., 2003), measuring the Big Five traits (Extraversion, Agreeableness, Conscientiousness, Neuroticism, and Openness)

I. This brief scale was selected to minimize participant burden while maintaining cross-cultural validity.

Prior to analysis, the dataset underwent rigorous screening for outliers; all data fell within the acceptable skewness and kurtosis range of [–3 to +3]. Although Shapiro–Wilk tests suggested non-normality ($p < .05$), this is common in large samples and with Likert-type data (Havlicek & Peterson, 1976; Micceri, 1989; Norman, 2010). Given the sample size (N = 327), the Central Limit Theorem supports the use of parametric tests (Blanca et al., 2017). The internal consistency of all scales was assessed using Cronbach's alpha (α) and McDonald's omega (ω). Item-rest correlations for all scales were also above the commonly accepted threshold of 0.3, indicating that all items contribute meaningfully to their respective scales. Following exploratory factor analysis, confirmatory factor analysis was performed. This approach allowed for the verification of unidimensionality and item loadings (generally > 0.40, $p<.001$). Most scales demonstrated acceptable to excellent internal consistency and most CFA models showed acceptable to good fit. Structural Equation Modeling (SEM) was performed using Maximum Likelihood (ML). All analyses were conducted using Jamovi (Version 8.4). A summary of psychometric properties, including reliability coefficients and CFA fit indices, is presented in Table 1.

Table 1

Psychometric Properties of Measures

Scale	*Items*	*α*	*ω*	*Loadings*	*$\chi^2(df)$*	*p*	*CFI*	*TLI*	*RMSEA (90% CI)*
Altruism									
Charity	***3***	***0.630***	***0.640***	***0.55–0.68***	***0 (0)***	***—***	***1.00***	***1.00***	***0.00***
Altruism to Peers	***4***	***0.703***	***0.707***	***0.57–0.66***	***3.21 (2)***	***0.201***	***0.994***	***0.983***	***0.043 (0.00–0.13)***
Help-Giving	***4***	***0.760***	***0.760***	***0.59–0.73***	***5.77 (2)***	***0.056***	***0.988***	***0.963***	***0.076 (0.00–0.15)***
Moral Courage	***5***	***0.670***	***0.670***	***0.43–0.70***	***13.5 (5)***	***0.019***	***0.960***	***0.920***	***0.072 (0.03–0.12)***
Peer Punishment	***5***	***0.760***	***0.760***	***0.49–0.73***	***7.38 (5)***	***0.194***	***0.993***	***0.987***	***0.038 (0.00–0.09)***
Dark Tetrad									
Psychopathy	***8***	***0.790***	***0.800***	***0.43–0.79***	***56.7 (20)***	***<.001***	***0.938***	***0.913***	***0.075 (0.05–0.10)***
Narcissism	***7***	***0.835***	***0.837***	***0.70–0.85***	***75.5 (14)***	***<.001***	***0.916***	***0.874***	***0.116 (0.09–0.14)***
Sadism	***8***	***0.867***	***0.873***	***0.76–0.99***	***119 (20)***	***<.001***	***0.908***	***0.872***	***0.123 (0.10–0.15)***
Machiavellianism	***8***	***0.810***	***0.814***	***0.49–1.08***	***93.0 (20)***	***<.001***	***0.897***	***0.855***	***0.106 (0.08–0.13)***

5 RESULTS

Descriptive statistics (Table 2) reveal mostly symmetric data distribution. Notably, neuroticism showed a negative skew, indicating clustering at the high end, while

sadism and altruism to peers showed a positive skew, suggesting most participants clustered at the low end. Standard deviations were moderate and all variables spanned the full theoretical range (1–5), with no ceiling or floor effects

Table 2

Descriptive Statistics for Study Variables

Variable	N	Mean	Median	Std. Deviation	Skewness	Kurtosis	Minimum	Maximum
Big Five								
Extraversion	327	3.09	3.00	0.79	0.01	-0.18	1.00	5.00
Agreeableness	327	3.36	3.50	0.89	0.32	0.15	1.00	5.00
Conscientiousness	327	3.26	3.00	0.69	-0.28	-0.45	1.00	5.00
Neuroticism	327	2.89	3.00	1.26	-0.99	-0.42	1.00	5.00
Openness	327	2.94	3.00	0.83	-0.04	-0.38	1.00	5.00
Altruism Constructs								
Charity	327	3.50	3.67	0.83	0.38	-0.30	1.00	5.00
Altruism to Peers	327	4.06	4.25	0.70	0.69	0.68	1.00	5.00
Help-Giving	327	3.35	3.50	0.89	-0.04	-0.04	1.00	5.00
Moral Courage	327	3.26	3.20	0.78	0.04	-0.28	1.00	5.00
Peer Punishment	327	3.35	3.40	0.93	-0.23	-0.62	1.00	5.00
Dark Tetrad								
Psychopathy	327	2.38	2.38	0.83	0.38	-0.40	1.00	5.00
Narcissism	327	3.24	3.29	0.88	-0.04	-0.29	1.00	5.00
Sadism	327	2.19	2.00	0.79	0.69	0.68	1.00	5.00
Machiavellianism	327	2.94	3.00	0.77	0.01	-0.18	1.00	5.00

The correlation matrix (Table 3) revealed several consistent and relationships among the study variables. Dark Tetrad traits were strongly interrelated. Altruism variables were positively associated with one another. Agreeableness was positively linked to all altruism constructs, including peer punishment, moral courage, and charity. Extraversion showed moderate positive correlations with narcissism, psychopathy, and charity, suggesting a complex interplay between social engagement and personality traits. Neuroticism was positively associated with sadism and openness, but showed weak or negative associations with altruism constructs. No correlations exceeded the multicollinearity threshold, indicating that all variables retained sufficient independence for further analysis.

Table 3

Latent Variable Partial Correlations.

	Machiavellianism	Sadism	Narcissism	Psychopathy	Peer Punishment	Moral Courage	Help-Giving	Altruism to peers	Charity	Openness	Neuroticism	Conscientiousness	Agreeableness
Machiavellianism	—												
Sadism	.668***	—											
Narcissism	.395***	.440***	—										
Psychopathy	.408***	.548***	.449***	—									
Peer Punishment	.304***	.276***	.263***	.376***	—								
Moral Courage	.265***	.281***	.268***	.432***	.524***	—							
Help-Giving	-.050	-.078	.056	.206***	.234***	.364***	—						
Altruism to peers	-.050	-.156**	.015	.046	.249***	.325***	.515***	—					
Charity	-.106	-.112*	.143**	.028	.084	.174**	.358***	.462***	—				
Openness	.100	.005	-.059	.025	.086	.099	.156**	.035	-.027	—			
Neuroticism	.084	.141**	.057	-.078	.033	-.018	-.003	-.037	.061	.309***	—		
Conscientiousness	.108	.015	.109*	.005	.071	.099	.088	.051	.116*	.149**	-.006	—	
Agreeableness	-.017	-.091	.023	.054	.199***	.130*	.130*	.140**	.126*	.155**	.092	-.023	—
Extraversion	.097	.118*	.209***	.190***	.149**	.088	.071	.105	.169**	-.061	.115*	.051	-.029

Note. p values are not shown as they are redundant when significance levels are marked with asterisks. * $p < .05$, **$p < .01$, ***$p < .001$.

A structural equation model (SEM) was estimated using maximum likelihood (ML). The initial model included 237 free parameters and demonstrated acceptable fit: $\chi^2(323) = 586.00$, $p < .001$; CFI = .763; TLI = .743; SRMR = .070; RMSEA = .057, 90% CI [.054, .060]. After removing non-significant paths, the refined model (202 free parameters) retained similar fit indices: CFI = .763; TLI = .749; SRMR = .071; RMSEA = .056. All latent constructs retained strong measurement validity (standardized loadings > .50). The reduced SEM revealed differentiated trait profiles across altruistic domains. Table 4 presents standardized regression coefficients and explained variance (R^2) for each construct.

Table 4

Standardized Regression Coefficients for Direct Effects of Personality Traits on Prosocial Constructs

Outcome Variable	Predictor	β	p-value	R^2
Charity	Extraversion	.158	.012	.43
	Narcissism	.308	< .001	
	Machiavellianism	−.380	< .001	
Altruism to Peers	Psychopathy	.283	.003	.51
	Sadism	−.361	< .001	
Help-Giving	Openness	.136	.007	.61
	Psychopathy	.493	< .001	
	Sadism	−.382	< .001	
Moral Courage	Psychopathy	.600	< .001	.16
Altruistic Peer Punishment	Agreeableness	.158	.004	.29
	Psychopathy	.494	< .001	
Help-Giving	Openness	.136	.007	.61

Note. All coefficients are standardized. Only statistically significant predictors ($p < .05$) are reported. Latent variables were modeled using multiple observed indicators.

Covariance estimates supported both the distinctiveness and interrelatedness of constructs (Table 5).

Table 5

Standardized Covariances Between Latent Constructs

Trait Pair	**β**	**p-value**
A. Dark Tetrad Traits		
Psychopathy ↔ Sadism	.640	< .001
Psychopathy ↔ Narcissism	.529	< .001
Psychopathy ↔ Machiavellianism	.477	< .001
Narcissism ↔ Sadism	.492	< .001
Machiavellianism ↔ Sadism	.755	< .001
Narcissism ↔ Machiavellianism	.507	< .001
B. Big Five Traits		
Extraversion ↔ Neuroticism	.142	.007
Agreeableness ↔ Openness	.170	.002
Agreeableness ↔ Neuroticism	.131	.018
Conscientiousness ↔ Openness	.153	.004
Openness ↔ Neuroticism	.320	< .001
C. Altruism dimensions		
Charity ↔ Altruism to Peers	.725	< .001
Charity ↔ Help-Giving	.547	< .001
Charity ↔ Moral Courage	.353	.001
Altruism to Peers ↔ Help-Giving	.688	< .001
Altruism to Peers ↔ Moral Courage	.547	< .001
Altruism to Peers ↔ Peer Punishment	.341	< .001
Help-Giving ↔ Moral Courage	.511	< .001
Help-Giving ↔ Peer Punishment	.204	.015
Moral Courage ↔ Peer Punishment	.562	< .001

Note. All covariances are standardized estimates and statistically significant ($p < .05$). Latent constructs were modeled using multiple indicators.

6 DISCUSSION

Using structural equation modeling we identified differentiated trait profiles across altruism domains, revealing both expected and novel patterns. 43% of charity are explained by high extraversion and narcissism and low Machiavellianism. 51% of the dispersion in Altruism to peers is due to high psychopathy and low sadism. 61% of Help Giving is explained by low sadism, high openness to experience and psychopathy. Less is the explained power for altruistic peer punishment and moral courage – 29% of peer punishment is due to high agreeableness and psychopathy and 16% of moral courage is due to high psychopathy. The unique combination of dark traits and some bright traits deserve robust future study including facets for better understanding and insights. Figure 1 presents the final diagram of significant paths.

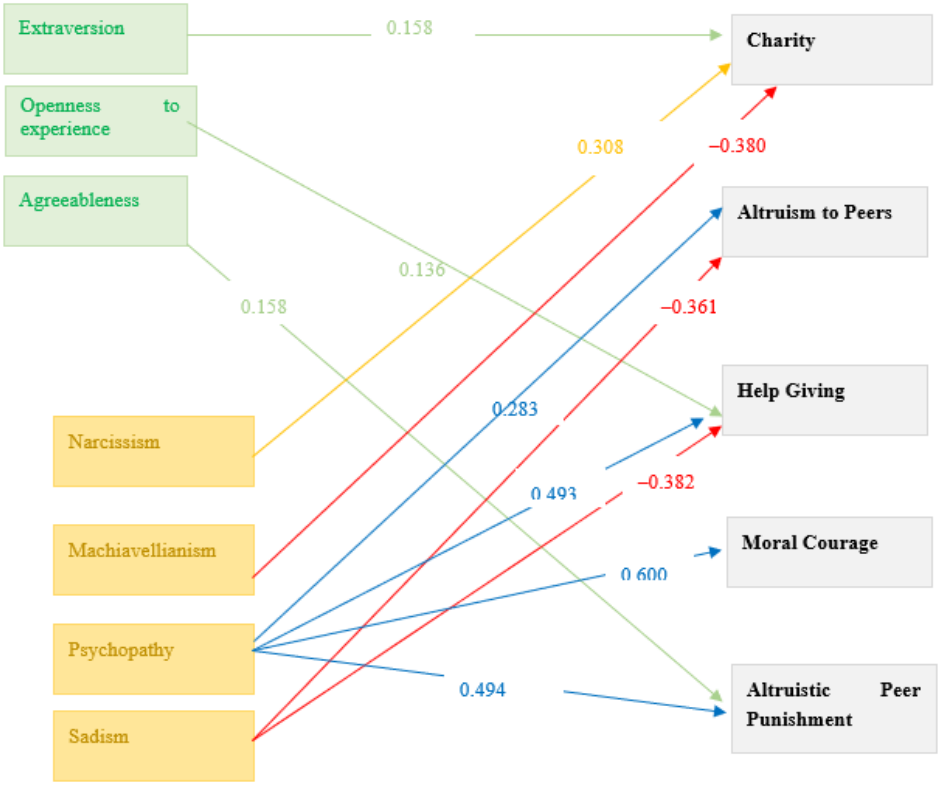
All hypotheses replicate previous research and highlight the multifaceted nature of altruism and its different manifestations and the unique contribution in prediction of

bright and dark traits.

According to our **Hypothesis 1** results undoubtedly evidence the interaction of different personality predictors and open room for future profound insights and robust conclusions. Extraversion and Narcissism positively predicted charity, suggesting that socially outgoing and self-enhancing individuals may be more inclined toward public prosocial acts (Chen et al., 2021; Konrath et al., 2016). Machiavellianism negatively predicted charity, reinforcing its association with strategic self-interest and low communal concern (Bereczkei et al., 2010). Psychopathy emerged as a positive predictor across multiple domains – help-giving, altruism to peers, moral courage, and peer punishment—suggesting that traits such as fearlessness and thrill-seeking may facilitate assertive or oppositional forms of altruism. These finding challenges traditional assumptions about psychopathy's uniformly antisocial nature and aligns with emerging literature on the "bright side" of dark traits (Furnham et al., 2012; Roșca et al., 2021; Palmer & Tackett, 2018). Sadism, by contrast, consistently reduced help-giving and altruism to peers, which is theoretically consistent with its orientation toward deriving pleasure from others' suffering (Longpré & Turner, 2024). Openness to experience positively predicted help-giving, likely due to cognitive flexibility and receptiveness to new opportunities (Ashton et al., 1998). Agreeableness was positively associated with altruistic peer punishment, possibly reflecting a norm-enforcing motivation rooted in empathy and social responsibility (Habashi et al., 2016; Bekkers, 2006). This specific interaction of personality spectra and altruistic manifestations is well-supported in the literature (Oda et al., 2014; Dargan & Schermer, 2022; Balaskas et al., 2023; Arisanti et al., 2024; Li et al., 2023).

Figure 1

Structural Equation Model of Personality Predictors of Altruism domains



In respect to our **Hypothesis 2**, the five altruism facets are confirmed to be empirically interrelated but distinct and predicted by different traits. The prosocial constructs examined - charity, altruism to peers, help-giving, moral courage, and peer punishment - revealed meaningful interrelations. Charity and altruism to peers were strongly correlated, as were help-giving and moral courage. These patterns suggest that while altruistic behaviors are multidimensional, they share underlying motivational and emotional substrates. This hypothesis is supported by recent scale development efforts such as the Facets of Altruistic Behaviors (FAB) Scale (Windmann et al., 2021, 2024), the 9-SRA Scale (Manzur & Olavarrieta, 2021), and theoretical models distinguishing kin, reciprocal, and punitive altruism (Trivers, 1971; Curry et al., 2013;). Agbim (2024) further propose a "motive cocktail" model, reinforcing the idea that altruism is a complex, multi-dimensional construct.

Concerning confirmation of our **Hypothesis 3**, the non-uniform impact of dark traits, suggesting that their effects can be contextually beneficial, Machiavellianism may

promote peer punishment as a strategic means of enforcing group norms (Bereczkei et al., 2010), while narcissism may drive public acts of help-giving or charity to enhance self-image (Chen et al., 2021; Konrath et al., 2016). Psychopathy's positive prediction of moral courage and peer punishment suggests that assertive altruism may be motivated by dominance or defiance rather than empathy (Furnham et al., 2016; Trahair et al., 2022). Despite negative aspects of dark traits and conclusions that psychopathy is most important for predicting antisocial and criminal outcomes in youth **(**Pechorro et al., 2022), psychopathy turns out to be more complicated measure. These findings align with research exploring the adaptive potential of dark traits in specific contexts and challenge the assumption that such traits are uniformly maladaptive (Paulhus, 2016).

These findings challenge the simplistic dichotomy of "dark traits = antisocial" and "Big Five traits = prosocial". Instead, they suggest that context matters: traits traditionally viewed as maladaptive (e.g., psychopathy) may facilitate certain prosocial behaviors under specific conditions. This aligns with emerging views of adaptive psychopathy, where traits like fearlessness or assertiveness can be socially functional (Paulhus et al., 2021).

7 LIMITATIONS AND FUTURE RESEARCH

Several limitations should be acknowledged:

First, the cross-sectional design precludes the establishment of causal relationships, so the "predictive" nature of the associations should be interpreted as statistical rather than causal (Windmann et al., 2024).

Second, the use of a student sample may limit the generalizability of the findings (Windmann et al., 2024; Pradhama et al., 2022). Replication in longitudinal studies, occupational, or culturally diverse samples would test the trends of these relations.

Third, while the overall SEM model achieved acceptable fit, some 14ndices fell below conventional thresholds, suggesting room for model refinement.

Fourth, reliance on self-report measures introduces the possibility of social desirability bias.

Future research should also consider incorporating additional variables such as burnout, emotional health, empathy, co-management or motivational factors to enrich explanatory models (Longpré & Turner, 2024; Trahair et al., 2022; Ruskova at al., 2025).

8 CONCLUSION

This study examined the predictive relationships between personality traits - both bright and dark - and five distinct dimensions of altruism: kind and assertive altruism. The results align both with prior research and offer new insights into the multifaceted nature of altruism. Assertive altruism has less personality predictors: moral courage is predicted only by psychopathy and altruistic peer punishment by psychopathy and high agreeableness. Psychopathy for its fearlessness is expected predictor, however high agreeableness also contributes probably due to the care for all and defense of norms. Kind altruism is predicted by both bright and dark traits. Charity is predicted by extraversion and narcissism and low Machiavellianism. Being related to donation, extraversion due to communication and narcissism due to strive after admiration are expected predictors, which donation is hardly attributed to manipulation, explaining the negative relation with Machiavellianism. Altruism to peers is predicted by psychopathy and low sadism. Probably psychopathy is also positively related for the decisiveness of acts, despite individual risk. Help-giving is predicted by psychopathy, openness to experience, and low sadism. Having higher sadistic impulses unlikely stimulates giving help, however openness to experience contributes to this along with the decisiveness of psychopathy. Conscientiousness and neuroticism are not related to altruism in this sample.

The findings replicate that altruism is a multidimensional phenomenon shaped by a complex interactive effect of personality traits. Bright traits such as agreeableness, extraversion, and openness were positively associated with traditional prosocial behaviors, while dark traits - particularly psychopathy and Machiavellianism - predicted assertive or oppositional forms of altruism, such as moral courage and peer punishment. The unexpected positive associations between psychopathy and certain altruistic behaviors call for further exploration into the strategic or self-enhancing motivations that may underlie such acts. This supports emerging perspectives in personality psychology that recognize adaptive functions of traits traditionally viewed as maladaptive. This study

contributes to the growing body of literature that views altruism through a nuanced lens - one that acknowledges the complexity of human motivation and the diverse pathways through which individuals engage in helping behaviors.

Finally, these findings open a promising avenue for interdisciplinary research linking personality psychology, legal and social sustainability, emotional health. Future studies should explore how the identified predictors of assertive altruism - particularly the role of fearlessness - influence legal and ethical behaviors such as whistleblowing, witness testimony, and the enforcement of environmental regulations. Investigating these psychological dynamics within legal and social frameworks could provide critical insights into how individual differences drive institutional compliance and the collective defense of societal norms, ultimately contributing to more robust and sustainable legal systems.

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Conceptualization and methodology - Margarita Bakracheva and Elena Ivanova.
Data collection, formal analysis, writing, review and editing - all authors.

REFERENCES

Agbim, K. C. (2024). Dark tetrad personality traits and entrepreneurial performance: Mediating effect of collaboration. UBS *Journal of Business and Economic Policy*, *2*(1), 1–15. Available from: https://journals.unizik.edu.ng/ubsjbep/article/download/4450/3630/10162 . Access on: Mar. 15, 2026.

Arisanti, D., Dadeh, T., & Sutatminingsih, R. (2024). The Influence of Big Five Personality and School Climate on Junior High School Students' Altruism Attitudes. Devotion: *Journal of Research and Community Service*, *5*, 88–100.

Ashton, M. C., & Lee, K. (2008). The HEXACO model of personality structure and the importance of the H factor. *Social and Personality Psychology Compass, 2*(5), 1952–1962. https://doi.org/10.1111/j.1751-9004.2008.00134.x

Ashton, M. C., Paunonen, S. V., Helmes, E., & Jackson, D. N. (1998). Kin altruism, reciprocal altruism, and the big five personality factors. *Evolution and Human Behaviour*, *19*, 243–255.

Balaskas, S., Panagiotarou, A., & Rigou, M. (2023). Impact of personality traits on small charitable donations: The role of altruism and attitude towards an advertisement. *Societies, 13*(6), 144. https://doi.org/10.3390/soc13060144

Bekkers, R. (2006). Traditional and health-related philanthropy: The role of resources and personality. *Social Psychology Quarterly*, *69*(4), 349–366. https://doi.org/10.1177/019027250606900403

Bereczkei, T., Birkas, B., & Kerekes, Z. (2010). The presence of others, prosocial traits, and Machiavellianism: A personality × situation approach. *Social Psychology, 41*(4), 238–245. https://doi.org/10.1027/1864-9335/a000032

Blanca, M. J., Alarcón, R., Arnau, J., Bono, R., & Bendayan, R. (2017). Non-normal data: Is ANOVA still a valid option?. *Psicothema*, 29(4), 552-557.

Chen, S., Friesdorf, R., & Jordan, C. H. (2021). State and trait narcissism predict everyday helping. *Self and Identity*, *20*(2), 182–198. https://doi.org/10.1080/15298868.2019.1598892

Curry, O., Roberts, S. G. B., & Dunbar, R. I. M. (2013). Altruism in social networks: Evidence for a 'kinship premium'. *British Journal of Psychology, 104*, 283–295.

Dargan, S., & Schermer, J. A. (2022). Predicting altruism with personality "beyond" the Big Five. *Personality and Individual Differences, 185*, 111258. https://doi.org/10.1016/j.paid.2021.111258

de Holanda Coelho, G. L., Hanel, P. H. P., Monteiro, R. P., Vilar, R., & Gouveia, V. V. (2021). The dark side of human values: How values are related to bright and dark personality traits. *The Spanish Journal of Psychology*, *24*, e11. https://doi.org/ 10.1017/SJP.2020.58

Furnham, A., Hyde, G., & Trickey, G. (2012). Bright aspects to dark side traits. *Personality and Individual Differences, 52*(8), 908–913. https://doi.org/10.1016/j.paid.2012.01.014

Furnham, A., Treglown, L., Hyde, G., & et al. (2016). The Bright and Dark Side of Altruism: Demographic, Personality Traits, and Disorders Associated with Altruism. *Journal of Business Ethics, 134*, 359–368.

Gosling, S. D., Rentfrow, P. J., & Swann, W. B. Jr. (2003). A very brief measure of the Big-Five personality domains. *Journal of Research in Personality, 37*(6), 504–528. https://doi.org/10.1016/S0092-6566(03)00046-1

Habashi, M. M., Graziano, W. G., & Hoover, A. E. (2016). Searching for the prosocial personality: A Big Five approach to linking personality and prosocial behavior. *Personality and Social Psychology Bulletin, 42*(9), 1177–1192. https://doi.org/10.1177/0146167216652859

Havlicek, L. L., & Peterson, N. L. (1976). Robustness of the t test and Welch test to errors of first kind. *Educational and Psychological Measurement, 36*(4), 749–754.

Jones, D. N., & Mueller, S. M. (2021). Is Machiavellianism dead or dormant? The perils of researching a secretive construct. *Journal of Business Ethics*. https://doi.org/10.1007/s10551-020-04708-w

Konrath, S., Ho, M. H. R., & Zarins, S. (2016). The strategic helper: Narcissism and prosocial motives and behaviors. *Current Psychology, 35*(2), 182–194. https://doi.org/10.1007/s12144-016-9417-3

Li, X., Fang, Y., Huang, M., et al. (2023). The effect of interpersonal responsibility trait on altruism: The mediating role of perspective taking. *Curr Psychol, 42*, 19537–19547. https://doi.org/10.1007/s12144-022-03073-3

Longpré, N., & Turner, S. (2024). Dark Tetrad at Work: Perceived Severity of Bullying, Harassment, and Workplace Deviance. *International Journal of Offender Therapy and Comparative Criminology*. https://doi.org/10.1177/0306624X241236715

Manzur, E., & Olavarrieta, S. (2021). The 9-SRA Scale: A Simplified 9-Items Version of the SRA Scale to Assess Altruism. *Sustainability, 13*(13), 6999. https://doi.org/10.3390/su13136999

Meng, J., & Guo, X. (2025). The relationship between ethical leadership, moral sensitivity, and moral courage among head nurses. *BMC Nursing, 24*(1), 538.

Micceri, T. (1989). The unicorn, the normal curve, and other improbable creatures. Psychological Bulletin, 105(1), 156–166.

Norman, G. (2010). Likert scales, levels of measurement and the "laws" of statistics. *Advances in Health Sciences Education, 15*(5), 625–632.

Oda, R., & Matsumoto-Oda, A. (2022). HEXACO, Dark Triad and altruism in daily life. *Personality and Individual Differences, 185*, 111303. https://doi.org/10.1016/j.paid.2021.111303

Oda, R., Machii, W., Takagi, S., Kato, Y., Takeda, M., Kiyonari, T., Fukukawa, Y., & Hiraishi, K. (2014). Personality and altruism in daily life. *Personality and Individual Differences, 56*, 206–209. https://doi.org/10.1016/j.paid.2013.09.017

Palmer, J. A., & Tackett, S. (2018). An examination of the Dark Triad constructs with regard to prosocial behavior. *Acta Psychopathologica, 4*(1), 5. https://doi.org/10.4172/2469-6676.100161

Paulhus, D. L. (2016). The Dark Tetrad of Personality. Springer EBooks, 1–6. https://doi.org/10.1007/978-3-319-28099-8_1059-1

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

Paulhus, D. L., Buckels, E.E., Trapnell, P.D. & Jones, D.N. (2021). Screening for dark personalities: The Short Dark Tetrad (SD4). *European Journal of Psychological Assessment, 37*(3), 208-222, 10.1027/1015-5759/a000602

Pechorro, P., Curtis, S., DeLisi, M., Maroco, J., & Nunes, C. (2022). Dark Triad Psychopathy Outperforms Self-Control in Predicting Antisocial Outcomes: A Structural Equation Modeling Approach. *European Journal of Investigation in Health, Psychology and Education, 12*(6), 549-562. https://doi.org/10.3390/ejihpe12060041

Pradhama, P., Abraham, T., Abraham, A. A., Mathew, E., & Jacob, F. G. (2022). Personality and Altruism among Psychology and Non Psychology Students. *International Journal of Research Publication and Reviews, 3*(12), 2833–2836.

Roșca, A. C., Burtăverde, V., Dan, C. I., Mateizer, A., Petrancu, C. R., Iriza, A. I., & Ene, C. A. (2021). The dark triad traits of firefighters and risk-taking at work: The mediating role of altruism, honesty, and courage. *International Journal of Environmental Research and Public Health, 18*(11), 5983. https://doi.org/10.3390/ijerph18115983

Ruskova, S., D.Spasova, S. Kunev, E. Bratoeva (2025). Co-management – a tool for satisfying the interests of all stakeholders in the social ecosystem. *Proceedings "Leading Change in Disruptive Times"*, 19th International Conference on Business Excellence 2025 (Bucharest, Romania). Volume 19, Issue 1, pp 3780-3791, https://doi.org/10.2478/picbe-2025-0288.

Sakai, J. T., Raymond, K. M., McWilliams, S. K., & Mikulich-Gilbertson, S. K. (2019). Testing helping behavior and its relationship to antisocial personality and psychopathic traits. *Psychiatry Research, 274*, 98-104. https://doi.org/10.1016/j.psychres.2019.02.022

Sasse, L. K., Windmann, S., & Schütz, A. (2022). Peer punishment and moral courage: A behavioral study. *Journal of Moral Education, 51*(1), 45–61. https://doi.org/10.1080/03057240.2020.1868889

Trahair, C., MacDonald, K. B., Furnham, A., & Schermer, J. A. (2022). Altruism and the Dark Triad. *Current Issues in Personality Psychology, 10*(3), 234–239.

Trivers, R. L. (1971). The evolution of reciprocal altruism. *Quarterly Review of Biology, 46*, 35–55. https://doi.org/10.1086/406755

Windmann, S., Binder, L., & Schultze, M. (2021). Constructing the Facets of Altruistic Behaviors (FAB) Scale. *Social Psychology, 52*(5), 299–313. https://doi.org/10.1027/1864-9335/a000460

Windmann, S., Binder, L., Bender, C., Langenbucher, K., Vollmeyer, R., & Schultze, M. (2024). Facets of altruism in study majors and volunteering groups. *Personality and Individual Differences, 217*, 112430. https://doi.org/10.1016/j.paid.2023.112430.

Authors' Contribution

All authors contributed equally to the development of this article.

Data availability

All datasets relevant to this study's findings are fully available within the article.

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