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Moral Intuitions and Pathological Personality Traits in Young Adults Sample

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Abstract

Objectives: The aim of this study was to examine whether a person's pattern of moral intuitions, as understood according to Haidt and Graham's theory, is associated with the severity of dysfunctional personality traits (according to ICD-11 criteria) in individuals aged 18–35.

Method: The study involved a group of 272 people (195 women, 75 men, 2 people did not specify their sex) with an average age of 24,93 years. 65 people declared that they have a diagnosis of mental disorder. The following measures were used in the study: *Moral Foundations Questionnaire* (MFQ-PL) and *Personality Inventory for ICD-11* (PiCD).

Results: Moral intuitions from *Care* dimension were related to the severity of all dimensions of dysfunctional personality. The strongest correlations were observed for the relationship between *Care* and the *Dissociality* trait domain. The *Loyalty* foundation was identified as the second predictor of the severity of *Dissociality* traits. With regard to the *Disinhibition* dimension, the foundations of *Care*, *Loyalty*, and *Authority* turned out to be its predictors, while for the *Anankastia* trait domain, it was *Fairness* and *Purity*. Significant differences in the strength of the relationships and the statistical significance were observed for certain moral intuitions in comparisons between people declaring presence of a mental disorder and people without a current psychiatric diagnosis.

Conclusions: The results of the study suggest that moral intuitions are associated with the severity of pathological personality traits in all domains. Moral intuitions from *Care* and *Loyalty* foundations predict the severity of trait domains to a greater extent than other

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moral intuitions, especially within the group of people with a current diagnosis of mental disorder.

Keywords: moral intuitions, Moral Foundations Theory, personality disorders, trait domains, adults, ICD-11

Modern Understanding of Personality Disorders

With the introduction of the eleventh edition of the ICD (WHO, 2024), the diagnosis of personality disorders has changed significantly, as the main diagnostic indicator has become the severity of personality dysfunction. The diagnosis can be further supplemented by a description of the personality profile using specifiers, known as *trait domains* (Cieciuch et al., 2022; Strus et al., 2017). According to the explanation provided in the classification, trait domains are continuous with normal personality characteristics and are not diagnostic categories, but rather a set of dimensions that reflect the basic structure of personality (WHO, 2024). ICD-11 distinguishes five dysfunctional trait domains: *Negative affectivity*, *Detachment*, *Dissociality*, *Disinhibition*, and *Anankastia*. With the introduction of ICD-11, empirical research that verifies its validity and diagnostic utility, and allows for a better understanding of the practical implications of the adopted dimensional model becomes particularly important. In this context, it is also important to understand how various personality domains can develop and what emotional and social processes underlie them.

Haidt and Graham's Moral Foundations Theory

The development of moral judgments and emotions begins much earlier than the development of conscious moral reasoning. Contrary to the cognitive approaches proposed by Piaget and Kohlberg, according to which morality arises primarily from the maturation of logical thinking skills, contemporary approaches emphasize the importance of early, automatic affective responses to social situations. Jonathan Haidt (2001; cf. Haidt & Kesebir, 2010) argues that morality is based mainly on moral intuitions, i.e., quick affective judgments that arise in response to specific social stimuli. They are largely unconscious and lead to an immediate, instinctive evaluation of a given stimulus in terms of "good/bad" or "friendly/unfriendly". These intuitions precede the stage of conscious moral reasoning, which, according to Haidt, occurs only in some situations and aims to create a justification consistent with the original intuition, which can be communicated to others.

Haidt describes moral intuitions as "organized in advance of experience" (Graham et al., 2013, p. 61; cf. Haidt & Joseph, 2004), indicating that they originate in innate emotional predispositions that are shaped and modified by social learning processes during human development. Research in developmental psychology indicates that infants as young as one year old recognize basic forms of harm and injustice, suggesting that there is a biological basis for responding to

social situations (Geraci & Surian, 2011; Hamlin et al., 2013). At the same time, familial and cultural context, as well as behavioral modeling by significant others, gradually reinforce some intuitions and weaken others, leading to the development of relatively stable patterns of affective responses (Haidt, 2001). As a result, morality develops as an effect of the interaction between biological susceptibility to responding to certain stimuli and environmental experiences that give meaning and direction to these reactions.

Based on these assumptions, the Moral Foundations Theory was developed (Graham et al., 2011, 2013; Haidt, 2001, 2014; Haidt & Graham, 2007), which organizes various moral intuitions into five main moral foundations related to evolutionary challenges and typical social situations. The authors of the theory distinguished following foundations: *Care/Harm*, related to empathy and responding to the suffering of others; *Fairness/Reciprocity*, concerning cooperation and norms of reciprocity; *Loyalty/Betrayal*, concerning functioning in groups and communities; *Authority/Respect*, including reactions to hierarchy and social roles; and *Purity/Sanctity*, based on intuitions related to disgust, self-control, and the protection of personal integrity. Moral foundations therefore describe relatively stable patterns of which types of social situations evokes the strongest emotional responses in each individual and which values become particularly important to them.

Although Haidt's theory focuses primarily on morality, it actually describes broader emotional-intuitive patterns that can also permeate other areas of personality functioning. Similar to neuroaffective models, which suggest that early differences in the activation of emotional systems promote the development of specific personality traits (Montag & Panksepp, 2017), moral foundations can be viewed as a natural expression of individual sensitivity to key dimensions of social relationships. In this view, differences in the intensity of particular moral intuitions may reflect more general tendencies in emotional responding and regulation, which over time may contribute to the development of traits described in the trait domain model present in ICD-11. Such connection provides a basis for considering the extent to which patterns of moral intuitions may co-occur with specific configurations of personality traits and what mechanisms may underlie these relationships.

Morality and Personality Traits

Data from previous studies indicate that the *Care* foundation may be positively correlated with *Agreeableness* (Lewis & Bates, 2011), and *Purity* foundation with *Conscientiousness* (Hirsh et al., 2010). There are also studies focusing on the search for relationships between moral intuitions and pathological personality traits (Djeriouat & Trémolière, 2014; Gay et al., 2018; Glenn et al., 2009; Klimczak, 2019; Medjedović & Petrović, 2016; Noser et al., 2015; Vrabel et al., 2019). Results of the analyses indicate that each of the five basic moral foundations may be associated with pathological personality traits. The most common hypothesis is that there is a link between low reliance on intuitions in the *Care* dimension and increased severity of dysfunctional personality traits. However, due to methodological

differences in the cited studies, the conclusions drawn so far regarding the other foundations are not entirely consistent. Furthermore, given the small number of studies in this area, the nature of the relationship between moral intuitions and personality disorders remains uncertain and requires further verification.

The *Care* dimension seems to be significantly related to the occurrence and severity of personality disorder traits, which is confirmed by research on psychopathy (Gay et al., 2018; Noser et al., 2015). It has been pointed out that individuals with psychopathic traits react atypically to observed suffering and do not take the significance of harm into account when making moral judgments. They are also characterized by extreme individualism, egocentrism, and a lack of respect for social norms. As a result, it is possible that these individuals intuitively assess the dimension of *Loyalty* as irrelevant or even completely unrelated to morality.

Taking the above into account, from the perspective of Moral Foundations Theory, it is possible that diverse patterns of moral intuitions also reflect more general emotional and social tendencies that are important for personality functioning. Moral foundations can be interpreted as indicators of individual sensitivity to specific classes of social situations, such as the suffering of others, violations of cooperation rules, group relations, social hierarchy or self-control norms. If we treat them as response systems that are relatively stable and partially shaped early in life, they may be related to the domains described in ICD-11, which also reflect characteristic ways of regulating emotions, needs, and interpersonal relationships.

This approach assumes that people with a high disposition to respond with empathy (the *Care* foundation) should less frequently exhibit patterns of behavior characteristic of the *Dissociality* domain, associated with a lack of consideration for the feelings of others, interpersonal coldness, and a tendency to instrumentalize relationships. At the same time, low sensitivity to the principles of group cooperation or their selective interpretation may co-occur with antisocial behavior, which would suggest a link between the *Loyalty* foundation and the traits of *Dissociality*.

In the case of the dimensions of *Purity* and *Disinhibition*, potential associations arise from different ways of regulating impulses and preferred norms of self-control. Intuitive rejection of the idea of purity and norms of self-discipline may promote patterns of impulsivity and sensation seeking that are characteristic of the *Disinhibition* domain. In turn, a strong reliance on norms and principles of control and order may be associated with tendencies toward rigidity in behavior, which is at the core of the *Anankastia* domain.

The study of the relationships between moral intuitions and ICD-11 trait domains is therefore of theoretical and practical importance. Theoretically, it allows us to test whether differences in intuitive moral responses can contribute to the personality functioning profile. In practical terms, it can indicate whether moral intuitions are a potentially useful area for understanding, early identification, and/or description of dysfunctional personality patterns.

Taking the above information into account, the following research hypotheses were formulated:

H1: High intensity of moral intuitions in the *Care* dimension is associated with lower severity of personality disorder traits in the *Dissociality* domain.

H2: High intensity of moral intuitions in the *Loyalty* dimension is associated with lower severity of personality disorder traits in the *Dissociality* domain.

H3: High intensity of moral intuitions in the *Purity* dimension is associated with higher severity of personality disorder traits in the *Anankastia* domain.

H4: High intensity of moral intuitions in the *Purity* dimension is associated with lower severity of personality disorder traits in the *Disinhibition* domain.

Method

Participants

All participants voluntarily agreed to participate in the study. A total of 288 respondents completed the full set of questionnaires. Before proceeding with statistical analyses, entries (n = 16) were removed for which at least one of the inclusion criteria was not met: age between 18 and 35 years and correct answers to two attention questions. Power analysis in G*Power showed that the minimum number of study participants should be n = 134. The following initial assumptions were made: P = .8; α = .05; Cohen's f^2 = .1, number of predictors in the linear regression model = 5. The final study group consisted of 272 people aged 18–35. This group included 195 women and 75 men. Two participants refused to answer the question about their sex. The mean age of participants was 24.93 years (SD = 3.68).

Taking into account the entire study group, 6 people refused to answer the question about the presence of a mental disorder, while 65 people answered affirmatively. Mood disorders and anxiety disorders were the most frequently reported: altogether 37 people (including double diagnoses). Eleven people reported a diagnosis of personality disorder: eight people entered "borderline", one person entered "anxious personality", one person entered "obsessive-compulsive personality", and one person did not specify their answer.

Measures

Personality Inventory for ICD-11 (PiCD)

A self-report instrument consisting of 60 items grouped into five scales relating to the five profiles of personality disorders identified in the ICD-11 classification (WHO, 2024). Measuring the severity of pathological trait domains allows us to describe the structure of a person's disordered personality. The Polish version of the PiCD questionnaire obtained the following Cronbach's alpha coefficients:

Negative Affect (α = .87), *Detachment* (α = .84), *Dissociality* (α = .81), *Disinhibition* (α = .83), and *Anankastia* (α = .77) (Cieciuch et al., 2022).

In the study described, the following Cronbach's alpha coefficients were obtained: *Negative Affect* (α = .85), *Detachment* (α = .87), *Dissociality* (α = .81), *Disinhibition* (α = .84), and *Anankastia* (α = .81).

Moral Foundation Questionnaire (MFQ-PL)

A self-report instrument consisting of 30 items grouped into five scales, which correspond to the five morality foundations identified in Graham and Haidt's theory. The questionnaire is divided into two parts: part A (declared importance of moral codes) and part B (moral judgments); each part contains 15 test items. During its adaptation into Polish, the MFQ-PL obtained the following Cronbach's alpha coefficients: *Care* (α = .67), *Fairness* (α = .62), *Loyalty* (α = .71), *Authority* (α = .70), *Purity* (α = .83) (Jarmakowski-Kostrzanowski & Jarmakowska-Kostrzanowska, 2016).

In the study described, the following Cronbach's alpha coefficients were obtained: *Care* (α = .63), *Fairness* (α = .62), *Loyalty* (α = .70), *Authority* (α = .72), and *Purity* (α = .78).

Procedure

The study was conducted online using a Microsoft Forms survey, in which participants familiarized themselves with the purpose of the study and gave their informed consent to participate. The study received a positive assessment from the University of Lodz Research Ethics Committee (resolution No. 8/KEBN-UŁ/V/2023-2024).

Participants were recruited for the study via Facebook and through snowball sampling. The study was conducted between June and November 2024. The inclusion criteria were: age in the range of 18–35 and correct answers to two attention questions. The attention questions were presented in the following form during the study: (a) Attention sustaining question – please select answer "3" and (b) Attention sustaining question – please select answer "very well".

The study also took into account controlled variables, which included: (a) the presence of a mental disorder diagnosis (if present, the respondent was asked to specify the diagnosis – optional question) and (b) being a psychologist or a psychology student.

Data Analysis Methods

All analyses were performed using IBM SPSS Statistics version 29.0.2.0 (20). The study used Pearson's linear correlation and Spearman's rank correlation to test whether moral intuitions are associated (co-occur) with personality disorder traits. The results of both analyses were compared, and in the absence of significant

differences, the results of linear correlation were used. Linear regression was used to verify the main, directional research hypotheses (higher/lower intensity of intuition is associated with higher/lower severity of trait domain). The analyses were performed for three pathological personality trait domains: *Dissociality*, *Disinhibition*, and *Anankastia*. The intensities of moral intuitions were assumed as explanatory variables (it was decided to include all five intuitions in each analysis), and each of the regression models was calculated using the forward selection method.

To better assess the validity of the assumption that an atypical pattern of moral intuitions may be more strongly embedded in individuals with personality disorders, each analysis divided the study sample into two subgroups: (a) individuals reporting the presence of a mental disorder diagnosis and (b) individuals without a diagnosis.

Results

Table 1

Correlation values between intensity of moral intuitions and severity of personality disorder traits

Dependent variable	Disinhibition	Dissociality	Anankastia
All subjects from the study (n = 272)			
Care	–.13*/–.16**	–.44***/–.45***	.16**/.18**
Loyalty	.12*/.12*	.16**/.09	.07/.03
Purity	.04/.01	.13*/.03	.12/.12
Subjects declaring a mental disorder diagnosis (n = 65)			
Care	–.18/–.27*	–.49***/–.50***	.12/.18
Loyalty	.23/.24	.34**/.36**	–.04/–.08
Purity	.01/.04	.19/.15	–.02/–.05
Subjects without a mental disorder diagnosis (n = 201)			
Care	–.14/–.15*	–.43***/–.43***	.18*/.19**
Loyalty	.10/.11	.10/.02	.13/.10
Purity	.07/.03	.08/–.03	.20**/.20**

Note: Before slash – Spearman's correlation coefficient value; after the slash – Pearson's correlation coefficient value.
*$p < .05$, **$p < .01$, ***$p < .001$

The correlation analysis showed (Table 1) that the relationship between the dimensions of *Dissociality* and *Loyalty* is not a simple linear relationship. However, differences between the group of people without a current diagnosis of

mental disorder and those who answered affirmatively to the question about the presence of such a diagnosis, were observed. Within the group of people declaring the presence of a mental disorder, the relationship between these variables turned out to be linear (r = .36; p = .003; ρ = .36; p = .006). For this reason, it was decided to maintain the original assumption of using a linear regression model to test the validity of the research hypothesis.

First, validity of hypotheses related to the connection between the foundations of *Care* and *Loyalty* with the domain of *Dissociality* was tested. In order to verify the research hypotheses, three linear regression models were calculated (Table 2):

a) based on data from the entire sample;
b) based on data collected from individuals who reported presence of a mental disorder diagnosis;
c) based on data collected from individuals without a current mental disorder diagnosis.

It was also verified whether the group of individuals with diagnoses was large enough to justify conducting a regression analysis. A power analysis in G*Power showed that for a group of 65 individuals, Cohen's f^2 is equal .22 (for: P = .8; α = .05; number of predictors = 5).

Table 2

Predicting the severity of Dissociality traits depending on the intensity of moral intuitions

Predictor included in the model	*B*	*SE*	*β*	*t*	*p*
Model 1: all subjects from the study (n = 272)					
(Constant)	3.87	0.26	–	16.34	< .001
Care	–0.45	0.05	–.47	–8.63	< .001
Loyalty	0.12	0.04	.15	2.84	.005
Coefficient of determination value (R^2)			.22		
Model 2: subjects declaring a mental disorder diagnosis (n = 65)					
(Constant)	3.60	0.59	–	6.11	< .001
Care	–0.51	0.10	–.50	–5.01	< .001
Loyalty	0.32	0.09	.36	3.58	< .001
Coefficient of determination value (R^2)			.38		
Model 3: subjects without a mental disorder diagnosis (n = 201)					
(Constant)	3.89	0.32	–	12.20	< .001
Care	–0.43	0.06	–.45	–6.99	< .001
Loyalty	0.09	0.05	.11	1.72	.087
Coefficient of determination value (R^2)			.20		

Note. B – unstandardized linear regression coefficient; SE – standard error; β – standardized linear regression coefficient; t – Student's t-test value; p – statistical significance; n – sample size. Dependent variable: *Dissociality*.

Care and *Loyalty* foundations turned out to be statistically significant predictors of the *Dissociality* domain. However, in the case of the model based on respondents who answered negatively to the question about their current psychiatric diagnosis, the *Loyalty* factor exceeded the threshold of statistical significance ($p = .087$). The model based on data obtained from people declaring the presence of a mental disorder had the best predictive power ($R^2 = .38$; $p < .001$), while the lowest coefficients characterized the model referring to people without a current psychiatric diagnosis ($R^2 = .2$; $p < .001$).

The first research hypothesis can be considered confirmed. The *Care* dimension turned out to be a statistically significant predictor of the severity of *Dissociality* traits ($p < .001$) in each calculated model. Negative regression coefficients were obtained, which means that the direction of the relationship is consistent with predictions. The standardized regression coefficient value for the *Care* dimension was highest in the model based on data from individuals declaring the presence of a mental disorder (ß = –.50) and lowest in the model based on data from individuals negating the presence of a mental disorder (ß = –.45).

With regard to the *Loyalty* foundation, it should be concluded that the research hypothesis was not confirmed by the results of the study. The *Loyalty* dimension turned out to be statistically related to the severity of *Dissociality* traits, but the direction of the observed relationship does not allow to confirm the initial research assumptions. The regression coefficients for the *Loyalty* are positive, which means that a high attachment to this area of moral intuitions allowed us to predict a higher, rather than lower, severity of dysfunctional personality traits from the *Dissociality* domain. The highest regression coefficient values were obtained in the model based on data from people declaring the presence of a mental disorder diagnosis (ß = .36), while within the entire sample of respondents, this value turned out to be more than twice as low (ß = .15).

The next stage of the analysis was to verify validity of the research hypothesis, according to which a high intensity of moral intuitions from the *Purity* dimension is associated with a low severity of *Disinhibition* traits (Table 3).

Table 3

Predicting the severity of Disinhibition traits depending on the intensity of moral intuitions

Predictor included in the model	*B*	*SE*	*β*	*t*	*p*
All subjects from the study ($n = 272$)					
(Constant)	2.83	0.32	–	8.78	< .001
Care	–0.20	0.06	–.20	–3.37	< .001
Loyalty	0.22	0.07	.27	3.29	.001
Authority	–0.13	0.06	–.18	–2.18	.030
Coefficient of determination value (R^2)			.06		

Note. *B* – unstandardized linear regression coefficient; *SE* – standard error; ß – standardized linear regression coefficient; *t* – Student's t-test value; *p* – statistical significance; *n* – sample size. Dependent variable: *Disinhibition*.

The intensity of moral intuitions related to the *Purity* dimension turned out to be unrelated to the *Disinhibition* trait domain. The *Purity* foundation was not included in the linear regression model because it significantly exceeded the required threshold of statistical significance α = .05 (p = .583). Similarly in the group declaring the presence of a mental disorder: intuitions related to *Purity* exceeded the threshold of statistical significance and were not included in the regression model (p = .952). The results of the analyses clearly indicate that the research hypothesis has not been confirmed.

The last of the tested hypotheses suggested that high scores on the *Purity* subscale would be associated with a high severity of the *Anankastia* trait domain. In order to verify this hypothesis, a correlation analysis was performed (Table 1, p. 179), which showed that the relationship between *Purity* and *Anankastia* is positive, which is consistent with the initial predictions, but the strength of the relationship is small (r = .12) and, in addition, slightly exceeds the threshold of statistical significance (α = .05; p = .051). These results do not allow us to clearly determine whether the last of the research hypotheses can be considered confirmed or not. However, looking at the results of the analyses broken down into subgroups, it turned out that in the case of people without mental disorders, the relationship between *Purity* and *Anankastia* was statistically significant (r = .20; p = .005). Therefore, it was decided to continue the analyses and calculate linear regression models broken down by the variable "presence of a mental disorder diagnosis" (Table 4).

Table 4

Predicting the severity of Anankastia traits depending on the intensity of moral intuitions

Predictor included in the model	*B*	*SE*	*β*	*t*	*p*
Model 1: all subjects from the study (n = 272)					
(Constant)	2.63	0.24	–	10.81	< .001
Fairness	0.18	0.05	.21	3.50	< .001
Coefficient of determination value (R^2)			.04		
Model 2: subjects without a mental disorder diagnosis (n = 201)					
(Constant)	2.34	0.29	–	8.08	< .001
Fairness	0.18	0.06	.20	2.92	.004
Purity	0.09	0.04	.16	2.27	.025
Coefficient of determination value (R^2)			.08		

Note. B – unstandardized linear regression coefficient; SE – standard error; β – standardized linear regression coefficient; t – Student's t-test value; p – statistical significance; n – sample size. Dependent variable: *Anankastia*.

In the case of individuals declaring the presence of a mental disorder, the analyses showed that all the variables examined exceeded the assumed level of

statistical significance α = .05. Therefore, a linear regression model was not built. This means that moral intuitions did not proved to be predictors of the severity of *Anankastia* domain. In the case of analysis taking into account data from the entire sample, moral intuitions related to *Purity* did not turn out to be a predictor of the severity of *Anankastia* traits and were again not included in the regression model. However, the *Purity* foundation reached a value close to the assumed level of statistical significance (α = .05; p =.064).

For the regression model that included individuals without a current psychiatric diagnosis, *Purity* was included as one of the predictors of the severity of the *Anankastia* trait domain (β = .16; p =.025). This means that high scores on the *Purity* subscale predict high scores on the *Anankastia* scale in this group of subjects.

These results allow us to conclude that last research hypothesis has been only partially confirmed. The relationship postulated before the study was observed only for a part of the sample, and its direction turned out to be consistent with the predictions (directly proportional relationship).

Discussion

The results obtained allow us to conclude that moral intuitions are related to the severity of personality disorders. This confirms the hypothesis that moral intuitions, i.e., systems of automatic responses to specific types of social stimuli, are in fact part of a broader personality predisposition to emotional responses, which develops throughout life on the basis of interactions between innate biological susceptibility and environmental influences. The *Care* foundation was found to have the highest degree of co-occurrence with personality disorder traits, which is consistent with the current state of knowledge in this field of research (Gay et al., 2018; Klimczak, 2019; Medjedović & Petrović, 2016; Noser et al., 2015). The relationship between the *Dissociality* dimension and most moral intuitions can also be interpreted as consistent with expectations.

However, it should be noted that not all of the initial research hypotheses were confirmed. The direction of the relationship between *Dissociality* and *Loyalty* dimensions turned out to be the opposite of what was initially assumed: a high intensity of *Loyalty* foundation allowed us to predict a higher severity of *Dissociality* traits. It is consistent with a large part of the existing research in this area (Glenn et al., 2009; Medjedović & Petrović, 2016), although the literature on the subject also includes findings indicating no relationship (Klimczak, 2019).

The hypothesis of an inversely proportional relationship was based on the distinction between individual and group perspectives in relation to the motivation for a given behavior. People exhibiting *Dissociality* traits seem to be guided primarily by the "I" perspective, which means that their actions are mainly motivated by individual needs. In turn, the foundation of *Loyalty* is primarily associated with the idea of functioning within a group, taking into account behaviors

and attitudes such as sacrifice for the good of the group or a sense of duty towards the wider community. It seemed reasonable to hypothesize that a stronger intuitive attachment to the concept of *Loyalty* may reduce the likelihood of engaging in egocentric (self-serving) actions, which could then be replaced by behaviors focused on the good of the group, i.e., taking into account the importance of the perspective and feelings of others.

However, directly proportional relationship between the dimensions of *Loyalty* and *Dissociality* indicates that intergroup rivalry is more important in this context, because it causes people outside "our" group to be perceived as members of an "opposing", hostile group. Such perspective may result in antisocial tendencies motivated by the desire to defend the integrity of one's own group. Another potential explanation, pointed out by other authors (Glenn et al., 2009), is that the *Loyalty* dimension is related to the idea of hierarchy and social status. People with *Dissociality* traits may prefer strongly hierarchical systems, as belonging to a group high on the social ladder becomes a source of prestige at the individual level. These relationships may partly explain why moral intuitions related to *Loyalty* seem to be associated with a disposition toward antisocial behavior (Glenn et al., 2009; Medjedović & Petrović, 2016).

The hypothesis concerning the relationship between the dimensions of *Purity* and *Disinhibition* was not confirmed in the study. Based on the data available in the literature on the subject, it can be assumed that the dysfunctional personality traits characteristic of this trait domain are inversely proportional to the foundation of *Purity*. However, it should be noted that based on previous analyses, only indirect conclusions can be drawn, as these studies focused on the Dark Triad traits (Glenn et al., 2009; Medjedović & Petrović, 2016) or the relationship between dysfunctional personality and moral foundations groups, not individual foundations (Noser et al., 2015). Due to the small number of studies in this area, the results obtained in this study require further verification.

The results of the study partially confirmed the hypothesis about the relationship between *Purity* foundation and the severity of *Anankastia* traits. However, a statistically significant relationship was obtained only for part of the study group, which calls for caution in interpretation. The lack of clear results can be explained by the fact that personality disorder traits seem to be related more to individualizing foundations (foundations *Care* and *Fairness* together) than to binding foundations, i.e., a set of intuitions from the dimensions of *Loyalty*, *Authority*, and *Purity* (Gay et al., 2018; Glenn et al., 2009; Klimczak, 2019; Noser et al., 2015).

Overall, the results obtained in this study seem to confirm the validity of the assumption that an atypical pattern of moral intuitions co-occurs more frequently with certain characteristics of a disturbed personality. Observation of such relationship indicates that biologically predetermined moral systems present at birth can be considered as one of the factors contributing to the development of dysfunctional personality traits. Individual affective sensitivity to certain groups of social stimuli seems to co-occur with qualitatively similar emotional-social tendencies that are characteristic of the trait domains described in ICD-11. The presence of such a relationship can be interpreted as a sign that

a person's pattern of moral intuitions is part of a broader personality functioning profile that manifests itself in relatively stable patterns of responses and regulation of emotions and behavior.

The issue of socio-cultural influences is also relevant in the context of the results of this study. The co-occurrence of personality disorder traits and specific patterns of moral intuitions in adults seems to indicate that social factors, such as behavioral modeling by significant others, are important both for personality development and for strengthening certain moral intuitions and/or weakening others in the course of human development. This relationship allows us to conclude that broadly understood social, relational, or cultural influences are another element of susceptibility to the development of a dysfunctional personality pattern, which to some extent is shaped in interactions with innate systems of intuitive moral judgments, on which the above-mentioned environmental factors have an impact from the earliest years of life, directing their development.

Another potentially important finding of this study is that the relationship between the manifested pattern of moral intuitions and personality disorder traits turned out to be stronger or statistically significant in the case of individuals declaring the presence of a psychiatric diagnosis compared to those without a diagnosis, although it should be emphasized that this does not apply to all the relationships analyzed. This does not, of course, indicate a cause-and-effect relationship, but the observation that pathological patterns of moral intuition may be more strongly developed in at least some individuals suffering from mental disorders is undoubtedly an area of research that deserves further exploration.

Whether moral intuitions can be used in future screening tests as one of the predictors of personality disorders remains an open question. This kind of practical application of Moral Foundations Theory in personality disorder research seems justified on a theoretical level, as long as we understand intuitive moral systems as one manifestation of a general intuitive-emotional response systems. The results of this study suggest that moral intuitions may account for a significant percentage of variance in some adults. That is interesting mainly because, so far, they have not been included in diagnostic classifications as variables related to personality disorders. Further research could therefore potentially lead to the expansion of new theoretical models of personality disorders to include the area of intuitions and moral judgments. Finally, research on moral intuitions could also be important in the prevention and early detection of dysfunctional personality patterns, if the results and theoretical relationships postulated in this study will be empirically confirmed in subsequent research projects.

Research Limitations

In context of the tested research hypotheses, it should be noted that the most significant limitation of the presented study is that it was not conducted as a longitudinal study. Therefore, theoretical considerations suggesting that intuitive moral judgment systems can be treated as an element of susceptibility to the

development of a dysfunctional personality pattern could not be unequivocally confirmed or refuted. The obtained results refer to a single measurement of traits intensity at a specific point in time, and for this reason it is impossible to draw conclusions about cause-and-effect relationships and the process of trait development over the course of the subject's life. It is also impossible to draw conclusive conclusions about the nature of the interactions between the studied variables. It is worth noting that as the pattern of dysfunctional personality develops, the atypical pattern of moral intuitions may intensify. In such case, it would be necessary to describe the relationship between moral intuitions and trait domains in terms of mutual feedback loops, where the individual sensitivity of innate moral systems would influence personality development, and the personality traits formed in a specific way would influence intuitive moral judgment systems and their further development.

It is also worth noting that the relationships between moral intuitions and specific personality disorders domains may in fact depend on factors that were not taken into account in this study. Such interpretation seems plausible given the differences in the strength of the relationships and/or the level of statistical significance of the results that were observed after dividing the subjects according to the presence or absence of a mental disorder diagnosis. Another limitation of interpretation is the very fact that statistical analyses were performed based on the variable "presence of mental disorder", as this is certainly not the only factor differentiating the two main groups included in the analyses. This is indicated, for example, by the significant heterogeneity in the group of people with a current diagnosis: the respondents reported dysfunctions from different groups of mental disorders. In addition, the vast majority declared the presence of at least two different mental disorders, and only a few entered a single diagnosis.

Another limitation in interpreting the results is that analyzing data by subgroups reduced the likelihood of detecting statistically significant associations in the case of individuals who reported a mental disorder ($N = 65$; Cohen's $f^2 = 0.22$) compared to analyses performed on the entire sample or on a group of individuals without a diagnosis. It should also be noted that direct comparisons between individuals with a diagnosis of mental disorder and those without a diagnosis may be unreliable, as the statistical analyses performed in these groups are not equally reliable due to the significantly different group sizes ($N_1 = 65$; $N_2 = 201$).

Another interpretative limitation is the use of linear regression to examine the relationship between dimensions of *Loyalty* and *Dissociality*, because linear correlation was observed only for a part of the sample. It should therefore be noted that conclusions about the generalized relationship between the *Loyalty* foundation and the *Dissociality* trait domain may not be entirely reliable and should be treated with caution. In future research projects, it would be worth considering the use of curvilinear analyses, which would better reflect the nature of the relationship between these variables, as based on the results of this study, it can be concluded that it probably does not take the form of a linear relationship.

In the context of the limitations of the presented study, the specificity of the sample should also be taken into account. Considering only a group of young

adults (M = 24.93 years), the disproportion of women to men (n_1 = 195; n_2 = 75), the significant proportion of psychology students or psychologists (38.6%), and the small number of people with clearly marked personality disorder traits do not allow for conclusive conclusions to be drawn. The interpretations of the results presented in the discussion should not be extrapolated to the wider population or to members of age or social groups that were not included in this study.

Future Directions

In future research on the relationship between moral intuitions and personality disorder traits, it is worth considering using a different theoretical framework. Critics of Moral Foundations Theory point out that it does not take into account all relevant areas of morality. An alternative to Haidt and Graham's proposal is the theory of Morality as Cooperation (*MAC*; Curry, Mullins, et al., 2019), which takes into account seven areas of morality. It is also worth adding that the questionnaire developed by the authors of the MAC theory (Curry, Chesters, et al., 2019) has higher reliability coefficients than the MFQ questionnaire subscales.

A line of research worth pursuing in the future could be to investigate whether similar relationships can be observed in children and adolescents. Assuming that Haidt and Graham's claim that moral intuitions result from the functioning of innate neurological systems is correct, one would expect that a pattern of moral intuitions would be present in a given person before the process of personality development is complete. If it is indeed true that knowledge of pattern of moral intuitions allows us to predict the severity of personality disorders, then identifying an atypical pattern of intuitions in a juvenile could enable preventive actions to be taken before the disordered personality pattern becomes entrenched. It would also be worth considering in the future to create diagnostic measures adapted to young people.

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