


Winter 2014

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Citation of this paper:

Mikulis, Maddy, "A behavioural genetics analysis of Altruism and its relation to the Dark Triad" (2014). *Undergraduate Honors Posters*.
5.
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A behavioural genetics analysis of Altruism and its relation to the Dark Triad

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Abstract

The current study is the first to report a behavioural genetics analysis of altruism and its relationship with the dark triad traits of personality (Machiavellianism, narcissism, and psychopathy). 228 adult twins completed questionnaires of the dark triad and altruism. A significant correlation between altruism and narcissism was revealed. Altruism was found to be influenced in part by genetic factors as well as non-shared environmental factors. Implications and limitations are discussed.

Introduction

- **Altruism:** the desire to help others, as well as acts and behaviours to that end, especially in the face of no personal reward or gain.
 - The dark triad consists of Machiavellianism, narcissism, and psychopathy.
1. **Machiavellianism:** the *manipulative personality*
 - Use of deception and manipulation for self-benefit
 2. **Narcissism:** the *grandiose, entitled personality*
 - Excessive feelings of love for oneself.
 3. **Psychopathy:** the *impulsive, uncaring personality*
 - Engage in thrill-seeking type behaviours with low empathy and remorse.

Themes of the Dark Triad	Themes of Altruism
1. Lack of Empathy	1. Empathetic Concern
2. Emotional Coldness	2. Emotional Intelligence/Affect
3. Self-Centeredness/Egoism	3. Altruism
The Big Five - Low	The Big Five - High
agreeableness, high	agreeableness, low
neuroticism, low	neuroticism, high
conscientiousness	high extraversion, high conscientiousness



Objectives

1. Using twins, to determine the influence of genetic and environmental factors on Altruism.
2. To further understand personality by looking at the relationship between the dark triad and altruism.

Hypotheses

1. A significant amount of the variance in individual differences for altruism will be due to genetic factors
2. There will be a negative association between the dark triad and altruism

Methods

Participants

- Identical and fraternal twins
- Correlational analysis:** 228 participants (201 female, 27 male)
- Ages 16 to 75 years ($M = 37.57$, $SD = 15.30$)
- Genetic analysis:** 122 participants, 46 monozygotic and 15 dizygotic twin pairs
- Ages 16 to 75 years ($M = 34.36$, $SD = 14.79$)

Materials

- Altruism:** The Compassionate Altruism Scale (O'Conner et al., 2012)
- 45 items, answered each for friends, family, and strangers
 - Example: Had lunch or dinner with them, Did not pass judgments on them
- The Dark Triad:** The Short Dark Triad Form (Paulhus & Jones, 2011)
- 27 items, 9 items for each trait
 - Example: Most people are suckers (Machiavellianism), It's true that I can be cruel (psychopathy)

Data Analysis

- Association between altruism and the dark triad
 - Correlational analysis
- Genetic contributions to individual differences in altruism
 - Univariate behavioural genetics analysis

Results

Behavioural Genetics Analysis

Table 1.
Twin Correlations and Heritability Estimates for Altruism

Altruism	r		Heritability		
	MZ	DZ	a^2	c^2	e^2
Family	.27	.19	.16	.11	.73
Friends	.34	-.09	.43		.66
Strangers	.01	-.11	.12		.88

Note. a^2 = genetic effects, c^2 = shared environmental effects, e^2 = non-shared environmental effects.

- The variance in individual differences of altruism can be attributable to 16% genetics for family, 43% genetics for friends, and 12% genetic for strangers.

Correlations between Altruism and Dark Triad

Table 2.
Correlations of Altruism towards family, friends, and strangers with the dark triad traits narcissism, Machiavellianism, and psychopathy

Altruism	Narcissism	Machiavellianism	Psychopathy
Family	.17**	-.06	-.02
Friends	.21**	-.03	.08
Strangers	.06	-.03	.03

** $p < .01$, two-tailed.

- A positive correlation was found between narcissism and both family altruism and friend altruism.
- No correlation was found between altruism and either Machiavellianism or psychopathy.

Inter-Scale Correlations

Table 3.
Inter-Scale Correlations of the Compassionate Altruism Scale and The Short Dark Triad

Altruism	Friends	Family
Strangers	.47**	.32**
Friends	–	.75**
The Dark Triad	Machiavellianism	Psychopathy
Narcissism	-.05	.24**
Machiavellianism	–	.47**

** $p < .01$, two-tailed.

- Altruism behaviour was most strongly related between friends and family, less so in terms of friends and strangers, and the least between family and strangers.
- Psychopathy was strongly correlated with both narcissism and Machiavellianism.
- Machiavellianism and narcissism were not found to be significantly correlated.



Conclusions

- 1) This study was the first to confirm a genetic influence on altruistic behaviour, with the highest contribution present in altruism toward friends.
 - This rejects the kin-altruism hypothesis which states that, evolutionarily, family comes first when performing altruism.
 - 2) Surprisingly, altruism was significantly and positively correlated with narcissism
 - Narcissists' obsession with appearing to be 'good' and their belief that they are heroes, and that the world depends on them may play a role in the results revealed.
 - Narcissism is known to be the least "dark" of the three traits, thus friends and family may mean more to them in terms of altruism.
 - 3) Altruism did not correlate with psychopathy or Machiavellianism
 - Psychopathy and Machiavellianism often show low consistency in their behaviour, thus highly variable responses may explain the lack of correlation found.
 - All dark triad traits are characterized by dishonesty. When reporting altruism behaviour, results may reflect untrue claims.
 - 4) If one is likely to perform altruism towards family, they are also likely to do so towards friends and, to a lesser extent, strangers.
 - 5) The dark triad are a cluster of somewhat correlated personality traits that are also distinct from one another.
- Limitations and Future Research**
- This study is limited in its small sample size, nature of self-report, and a possible bias in favour of female characteristics.
 - Future research should continue to explore the relationship between the dark triad and altruism.