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The Dark Tetrad, Intimate Partner Violence and The Mediating Role of Moral Disengagement.

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This is to confirm that I submit this piece of assessed work in the full knowledge of the published guidelines on plagiarism and its consequences.

Laura Jayne Carter

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The Dark Tetrad, Intimate Partner Violence and The Moderating Role of Moral Disengagement.

Overview of Topic

Intimate Partner Violence (IPV) refers to a unique and specialised crime, perpetrated by an individual who shares a romantic relationship with the victim. According to one study in the US, IPV annually affects 834,700 men and 1.5 million women (Cronholm, Fogarty, Ambuel & Harrison, 2011). IPV is associated with an array of adverse outcomes, which significantly affect the quality of life of its victims. This includes depression (Ouellet-Morin et al., 2015), personality disorder (Peters, Derefinko & Lynam, 2017), insomnia (Sugg, 2015), and substance misuse difficulties (Gehring & Vaske, 2017). IPV encompasses physical violence and aggression, and sexual and psychological forms of abuse (Coker, Smith, McKeown & King, 2000). Although there are many factors which are associated with IPV perpetration, the influence of personality is cardinal.

The Big Five model of personality (BFM; McCrae & John, 1992) predicts offending and aggression, but this is primarily due to the influence of low Agreeableness (Hines & Saudino, 2008), low Conscientiousness (Jensen-Campbell, Knack, Waldrip & Campbell, 2007), and high Neuroticism (Becerra-García, García-León, Muela-Martínez & Egan, 2013). A more narrowly focussed set of personality traits thought to predispose an individual towards antisocial and criminal transgressions is known as the dark triad (DT). This construct encompasses three aversive but subclinical pathological personality traits: Machiavellianism, narcissism, and psychopathy. Whilst these traits share elements of manipulativeness and callous

exploitation, they are conceptually dissimilar from one another (Paulhus & Williams, 2002). A recent addition to the DT includes everyday sadism, giving rise to a new construct named the dark tetrad (D-TET; Buckels, Jones & Paulhus, 2013). In contrast to sexual sadism, which is most frequently referred to, everyday sadism denotes experiencing pleasure from cruelty in everyday situations such as enjoying watching violent films (Buckels et al., 2013) and playing violent videogames (Gonzalez & Greitemeyer, 2018). Machiavellianism is often associated with cynical worldviews, being mistrusting of others, immoral behaviour and, consequently, manipulative interpersonal skills (Sabouri et al., 2016). Narcissism, however, is frequently correlated with dominance, egocentricity, self-admiration and a grandiose sense of self-worth (Meere & Egan, 2017). Finally, psychopathy typically manifests malevolent and impulsive behaviours which are lacking in empathy (Paulhus, 2014). Therefore, it is unsurprising that these four aversive traits are often associated with a variety of antisocial acts (Smoker & March, 2017).

Antisocial and criminal behaviour is also predicted by more general personality traits. The personality scale best thought to explain the dimensions of the D-TET is the HEXACO model (Lee & Ashton, 2004). HEXACO extends the Big Five Model (Ashton & Lee, 2008) with a sixth trait, Honesty-Humility, which emerges from a factor-analysis of lexical data on personality. HEXACO, therefore, comprises Honesty-Humility, Emotionality (akin to neuroticism), Extraversion, Agreeableness, Conscientiousness and, Openness. Research has shown that Honesty-Humility and Agreeableness variables are strongly correlated with the D-TET. Similarly, lower expressions of Honesty-Humility, Agreeableness, Emotionality, and Conscientiousness are often negatively related to the D-TET traits (Book et al., 2016;

Međedović & Petrović, 2015). This implies that individuals with higher D-TET scores are more likely to be manipulative, antisocial, critical of others, impulsive, and more emotionally detached. These characteristic traits may be central to predicting offending behaviour.

IPV is predicted by individual differences in the DT traits. The DT has established relationships between physical and sexual IPV perpetration (Khan, Brewer, Kim & Centifanti, 2017; Mager, Bresin & Verona, 2014) in both men and women (Blinkhorn, Lyons & Almond, 2015); and recent literature has found a relationship between psychological abuse and the DT (Carton & Egan, 2017; Brewer et al., 2018; Brewer & Abell, 2017). One difficulty is that, throughout the literature, each DT trait appears to predict multiple forms of IPV, suggesting the different traits may share a common core, as is shown by the positive correlations between the DT traits (Furnham, Richards & Paulhus, 2013). For instance, physical abuse has repeatedly been predicted by both primary and secondary psychopathy (Kiire, 2017; Mager et al.,2014) but also narcissistic traits (Johnson et al., 2006). Psychological abuse has been associated with narcissism and psychopathy (Carton et al., 2017), but is also commonly related to Machiavellianism (Brewer et al., 2017; Brewer et al., 2018). Finally, sexual IPV is also predictively inconsistent, having been paired with both primary psychopathy (Khan et al., 2017) and narcissistic tendencies (Blinkhorn et al., 2015). Collaboratively, this research suggests that perpetrators of IPV are a heterogeneous group who share a variety of the DT traits, but that the DT may have a common element underlying the three dimensions.

It has been suggested that the DT be extended by the addition of everyday sadism, into a four-dimension dark tetrad (D-TET; Buckels et al., 2013). DTET

research has found psychopathy and sadism predict antisocial behaviour (Chabrol, Bouvet & Goutaudier, 2017), but the DTET has not been examined specifically in relation to IPV, with the only study considering romantic relationships looking at the perpetration of intimate partner cyberstalking (Smoker et al., 2017). They found that all four DTET traits significantly predicted this behaviour. Whilst this offers support for the proposed study, in that sadism may also be related to undesirable relationship behaviours, it does not directly explore the individual facets of IPV or the possibility of a general common element influencing this association.

Whilst empirical evidence consistently highlights the positive relationship between dark personality traits and IPV, knowledge of the other factors which may influence this relationship is scarce. To commit IPV is to overcome one's inhibitions of what is right to hurt a loved partner. This means a person may temporarily abandon their moral principles. The ability to readily deactivate one's moral self-conduct and self-regulatory processes to engage in deviant behaviours is known as moral disengagement (MD; Bandura, Barbaranelli, Caprara, Pastorelli, 1996). Whilst the DT/ DTET is collectively characterised by callousness and diminished empathy, MD is a phenomenon often observed in individuals who show lesser feelings of guilt (Ring & Kavussanu, 2018; Mazzone, Camodeca & Salmivalli, 2016) and low levels of empathy (Detert, Treviño & Sweitzer, 2008). This implies that individuals who score highly on the DTET traits may also have a higher propensity to morally disengage. Whilst some research has explored the relationship between the DT and MD (Egan, Hughes & Palmer, 2015), showing MD to be based on psychopathic and Machiavellianism like traits, it is a relationship which requires further research into the DTET and IPV, which this study seeks to do.

Aims, Research Questions and Hypothesis

Considering the above research, the proposed study aims to explore whether DTET traits individually or collectively predict physical, sexual and psychological IPV behaviours within the general public. Secondly, it is tested whether MD moderates the relationship between the DTET and physical, sexual and, psychological IPV behaviours. The following research questions will be examined:

1) Do higher levels of the DTET traits predict physical, sexual and psychological forms of IPV, or are they better predicted by a common DTET factor?
2) Does the DTET add incremental validity to the relationship between general personality (HEXACO) and IPV?
3) Does MD moderate the relationship between the DTET traits and physical, sexual and psychological forms of IPV?

This is the first study to directly examine the DTET in relation to all three forms of IPV. Similarly, the moderating role of MD has not yet been investigated within IPV literature. To answer these research questions, the following hypotheses are proposed:

H1 – Individuals who score higher in the DTET traits will also score higher in a variety of IPV behaviours

H2 – The DTET will add incremental validity to the relationship between general personality (HEXACO) and IPV

H3 – MD will moderate the relationship between the DTET traits and physical, sexual and psychological forms of IPV

Proposed Methods

Participants

The proposed sample will consist of males and females from the general population aged 18 years or older. Participants will be recruited online using an opportunity sampling method. Inclusion criteria are that participants have been in a romantic relationship of at least six months or longer in duration, are fluent in English language, and have the capacity to give informed consent. Statistical calculations suggest that the proposed sample comprises a minimum of 178 participants. According to Green (1991), to determine the minimum sample size when testing for statistical significance using multiple regression techniques, the following equation should be adopted: $N \geq 50 + 8k$, whereby K is the number of independent variables. It is hoped that the sample will be rather more than this, enabling a stronger test of the hypotheses. If a participant fails to respond to an entire questionnaire, they will be removed from the data set.

Procedures

The proposed study will comprise a series of online self-report questionnaires which will be created via 'Jisc Online Surveys'. After obtaining ethical approval from the Faculty of Medicine and Health Sciences Research Ethics Committee, participants will be recruited using an online advertisement (see Appendix I). This will be posted across various social media platforms (e.g. Facebook, Reddit) and psychological research websites where participants are required to follow a hyperlink to the study. After reading the briefing sheet (see Appendix J) participants will give informed consent by ticking a series of boxes to

continue to the next web page. Participants will be informed at this stage that all answers are anonymised and for this reason, once they have submitted their answers, it is no longer possible to withdraw. The following page will consist of a demographic questionnaire (see Appendix K) where participants will provide their gender, age, ethnicity, sexual orientation, and relationship status. Participants will then be asked to complete five questionnaires which are detailed below. After this, participants will be directed to a debriefing sheet (see Appendix L) which will explain the objectives of the study and the contact details for both researchers. Participants will be encouraged to contact the primary researcher should they have any questions about the research. The debriefing sheet will also provide the contact numbers for charitable helplines 'Mind' and 'The National Domestic Violence Helpline' should participants experience any personal distress whilst completing the study.

When the study has run for two months, the survey will be closed. Though there is a target number of participants to be achieved before the deadline date, ideally the survey will reach a larger sample size. The data set will then be downloaded to SPSS statistics for later analysis.

A potential issue that online research brings is the limited contact between participants and researchers. However, this shortcoming is overridden by its more favourable outcomes when a study is very structured. The use of online recruitment via social media platforms such as Facebook have become an easy-to-use tool for recruiting participants. This method allows for quick and cost-effective data collection across a variety of samples which may otherwise be less accessible (King, O'Rourke & DeLongis, 2014). Anonymous responding regarding antisocial acts means persons

may be more honest about these types of behaviour. Collecting data in person may be less favourable as it is more compromising, restrictive, and time-consuming. Online recruitment may also reduce sampling bias as participants are often more diverse demographically (Gosling, Vazire, Srivastava, & John, 2004). Additionally, self-report questionnaires have a strong predictive validity of criminal and antisocial behaviour in forensic (Kroner & Loza, 2001) and non-forensic populations (Smith, Waterman, & Ward, 2006). Therefore, it appears most appropriate for the proposed study to adopt an online recruitment and survey methodology.

Measures

The proposed study will use self-report questionnaires to measure all variables. All have satisfactory psychometric properties.

1) The HEXACO-60 (Ashton & Lee, 2009).

The HEXACO-60 (see Appendix A) is frequently used as a measure for broadly assessing individual aspects of general personality. Unlike previous versions of this scale (Lee & Ashton, 2004), the HEXACO-60 is a shorter, revised questionnaire. Short scales ensure that participants stay engaged throughout the study. Whilst personality is an extremely broad construct to measure in a limited amount of time, this measure has high levels of reliability and internal consistency (Ashton et al., 2009).

2) The Multidimensional Measure of Emotional Abuse (MMEA; Murphy & Hoover, 1999).

Utilising the MMEA will allow psychological IPV to be individually assessed aside from physical and sexual abuse (see Appendix B). Whilst these forms of abuse are addressed in the CTS2S (see below), psychological abuse is measured only in relation

to psychological aggression. The four elements of psychological abuse measured in this scale (denigration, restrictive engulfment, dominance/intimidation, and hostile withdrawal) were empirically derived from a factor analysis (Murphy et al., 1999). These categorisations of abuse have also been well documented in clinical research (Marshall, 1996), which implies that this a reliable and accurate measure of psychological abuse.

3) The Propensity to Morally Disengage Scale (PMDS; Moore, Detert, Klebe Treviño, Baker, & Mayer, 2012).

The PMDS (see Appendix D) is a comprehensive measure of MD applicable for the general population. This is unlike other scales measuring MD which are specific to certain samples such as children (Bandura, Barbaranelli, Caprara, Pastorelli, 1996) and athletes (Boardley & Kavussanu, 2007). Hence, the PMDS is most appropriate in measuring MD in adults from the general population. This measure is also grounded in Bandura's et al (1986) model of self-regulation and moral disengagement and therefore its premise is supported by large amounts of empirical research and strong theory.

4) The Revised Control Tactics Scale – Short Form (CTS2S; Douglas, 2004).

The CTS2S (see Appendix E) is a revised and briefer version of the original 78 question scale. This measure was specifically designed to study IPV within research which adopts a survey methodology, specifically where time is limited (Douglas, 2004). It is widely acknowledged within IPV literature that participants may not wish to disclose behaviour which may be deemed socially undesirable. For this reason, the

CTS2S also controls for social desirability by using items from other measures (Reynolds, 1982). This demonstrates good construct validity within the scale.

5) The Short Dark Tetrad (SD4; Paulhus, Buckels, Trapnell & Jones, 2018).

The use of the SD4 (see Appendix G) in the proposed study has many advantages. It is the most recent measure of dark personality traits, but it also the only measure which incorporates everyday sadism, so measuring the DTET. Most importantly, the SD4 is most commonly used to examine the DTET in non-clinical samples within the general population (Buckels et al., 2018) such as in the proposed study. The SD4 is a short questionnaire which does not take long to complete, minimising participant burden.

Proposed Analytical Methods

SPSS statistics will be used to analyse all data. The proposed study will check the reliability of scales using Cronbach's alpha. External validity will be tested via preliminary Pearson's correlations to examine the data for patterns of correlation and collinearity. Hence, variables which appear to have a strong degree of collinearity (represented by an R-value of 0.8 and above) will either be merged with one another or removed from the data set

Following these preliminary tests, a hierarchical multiple regression will be conducted using the raw data collected from participants questionnaires. The purpose of this form of statistical analysis is to initially establish whether there are significant relationships between the predictor variables (demographics, general personality, DTET traits) and the criterion variables (sexual, physical and

psychological forms of IPV). At this point in the analysis, any criterion variables which are not significantly predicted will be removed from the model. As variables are entered, they will be tested statistically for incremental significance. Accordingly, any significant relationships will be carried forward to the final post-hoc testing.

The chosen post-hoc method for the proposed study is a moderation analysis. The proposed study will consider MD as a possible moderator of the relationship between the DTET traits and IPV behaviours. This will include using a regression macro called PROCESS which is an extension of SPSS (Hayes, 2012).

Estimated Time Scale

At the end of January, the final research proposal and ethics application form will be submitted after feedback from the academic staff. After acquiring ethical approval, data collection will begin at the start of March and will close at the end of April 2019. The overall aim is to submit the final research portfolio on the 8th July 2019.

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Application form

Application for approval of all studies involving Healthy Human Participants only conducted by Staff and Students of the University of Nottingham which don't involve an invasive procedure

Please complete one application form, consent form (template attached) and participant information sheet (template attached), one detailed study proposal (template attached) Please e-mail 1 copy of each as attachments.

1 Title of Project:

The Dark Tetrad, Intimate Partner Violence and The Moderating Role of Moral Disengagement.

Short Title:

Intimate Partner Violence, Personality and Moral Disengagement, Ethics Application, Version 1.0, 09/11/18

2 Names, Qualifications, Job Title, School/Divisional/Unit/Address, email of all Researchers:

Chief Academic/Supervisor:

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MSc Forensic and Criminological Psychology (by research)

The School of Medicine

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The purposes and learning outcomes for successfully completing this MSc qualification are to enable me to acquire the relevant skills to eventually complete future doctoral work in the field of psychology. Therefore, to gain the relevant qualifications to eventually become a HCPC chartered forensic or clinical psychologist.

3 Type of Project:

Masters student project – MSc Forensic and Criminological Psychology (by research)

Questionnaire-based study

Quantitative methodology

4 Location of study:

The University of Nottingham

The School of Medicine

Division of Psychiatry and Applied Psychology

NG7 2UH

Start date: Data collection will commence at the beginning of March 2019 – after obtaining ethical approval

End date: Data collection will close at the end of April 2019

Length of study: Eight weeks of data collection

5 Description and number of participants to be studied:

The proposed sample will consist of males and females from the general population aged 18 years and above. Inclusion criteria are that participants have been in a romantic relationship of at least six months or longer in duration, are fluent in the English language and have the capacity to give informed consent. Statistical calculations suggested that the proposed sample comprise a minimum of 178 participants. According to Green (1991), to determine the minimum sample size when testing for statistical significance using multiple regression techniques, the following equation should be adopted: $N \geq 50 + 8k$, whereby K is the number of independent variables.

6 Summary of Experimental Protocol

Intimate partner violence (IPV) refers to a specialised crime perpetrated by an individual who shares an intimate relationship with the victim. IPV comprises physical, sexual and psychological forms of violence. Deriving from the Big Five model of personality, a set of personality traits thought to predispose an individual towards criminality are the dark triad then tetrad (DT, DTET) traits. This construct encompasses Machiavellianism, narcissism, psychopathy (DT), and sadism (DTET). Each of the DT traits has been found to predict IPV behaviours in previous literature (Brewer 2017). However, sadism is new to the DTET and research into its relationship with IPV is limited. In IPV one could argue that perpetrators may temporarily abandon their moral principles. This is known as moral disengagement (MD). Whilst the DTET is collectively characterised by callousness and diminished empathy, MD is often observed in individuals who show low levels of empathy (Detert, Treviño & Sweitzer, 2008). Therefore, those who score highly in the DTET traits may also have a higher propensity to morally disengage. Whilst some research has explored the relationship between the DT and MD (Egan, Hughes & Palmer, 2015), the DTET and MD is a relationship which requires further research.

2. Aims (to include hypothesis to be tested primary and secondary endpoints).

The study aims to explore whether the DTET traits individually predict physical, sexual and psychological IPV. Secondly, whether MD moderates the relationship between the DTET traits and physical, sexual and psychological IPV. The following hypotheses are proposed:

H1 – Individuals who score higher in the DTET traits will also score higher in a variety of IPV behaviours

H2 – The DTET traits will add incremental validity to the relationship between general personality (HEXACO) and IPV

H3 – MD will moderate the relationship between the DTET traits and physical, sexual, and psychological forms of IPV

3. Research protocol and methods.

The proposed study will include online self-report questionnaires. Participants will be recruited using an online advertisement. After reading the briefing sheet participants will give informed consent by ticking a box to continue to the next web page. Participants will be informed that all answers are anonymised and once submitted, they will not be able to withdraw their answers. The following pages will consist of one demographic and five psychometric questionnaires comprising 191 questions. Participants will be directed to a debriefing sheet explaining the study objectives and contact details for the researchers and relevant wellbeing services.

Regarding analytical methods, the proposed study will test internal reliability using Cronbach's alpha and conduct preliminary Pearson's correlations to examine patterns of correlation and collinearity. Following this, a hierarchical multiple regression will be conducted using participants raw data. This analysis will initially establish any significant relationships between the predictor variables (general personality and DTET traits) and the criterion variables (IPV). Variables which are not significant will be removed from the model. A post-hoc moderation analysis will then be conducted using PROCESS to assess whether MD is a potential moderator of the relationship between the DTET traits and IPV behaviours.

4. Measurable end points/statistical power of the study.

When the target number of participants have completed the study, the survey will be closed. However, if the target number of participants is achieved before the deadline date, the survey will be kept open to reach a larger sample size. According to Green (1991), to determine the minimum sample size when testing for statistical significance using multiple regression analysis, the following equation should be adopted: $N \geq 50 + 8k$, whereby K is the number of independent variables. This suggested a minimum sample of 178 participants.

5. Key references.

Brewer, G., & Abell, L. (2017). Machiavellianism, relationship satisfaction, and romantic relationship quality. *Europe's Journal of Psychology*, *13*(3), 491-502. DOI: 10.5964/ejop.v13i3.1217

Detert, J. R., Treviño, L. K., & Sweitzer, V. L. (2008). Moral disengagement in ethical decision making: a study of antecedents and outcomes. *Journal of Applied Psychology*, *93*(2), 374-391. DOI: 10.1037/0021-9010.93.2.374

Green, S. B. (1991). How many subjects does it take to do a regression analysis. *Multivariate Behavioral Research*, *26*(3), 499-510. DOI:10.1207/s15327906mbr2603_7

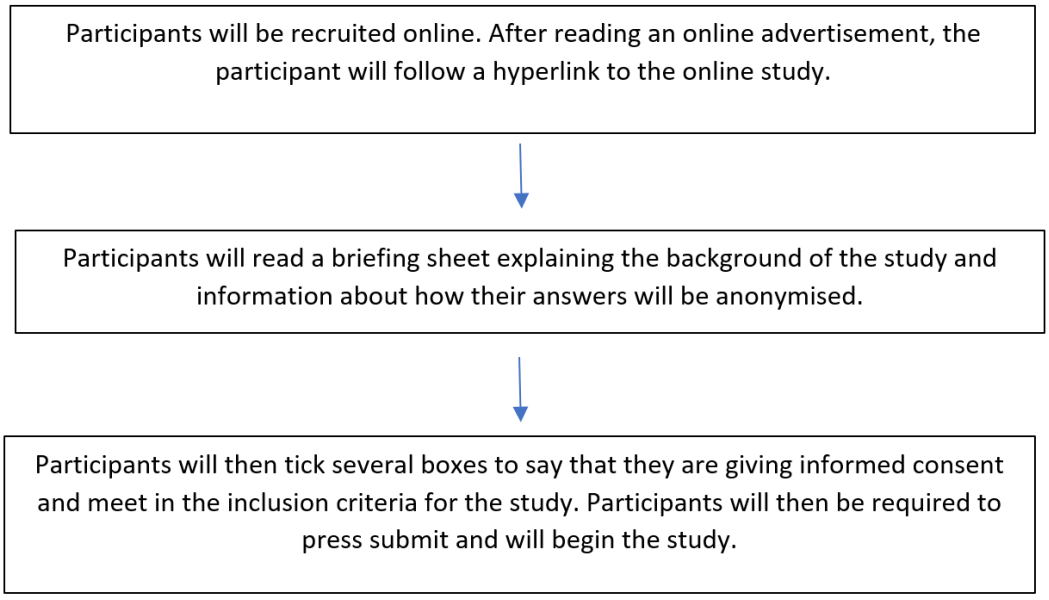
7 Lay Summary of project

Intimate partner violence refers to physical, sexual and psychological abuse between romantic partners. This study aims to look at whether persons with higher scores on four darker personality traits (Machiavellianism, narcissism, psychopathy and sadism), known as the dark tetrad, commit more intimate partner violence and psychological abuse. That is, whether individuals who engage in intimate partner violence score more highly in these traits. These four personality traits are generally characterised by callous behaviour and a lack of empathy for others. Intimate partner violence has many devastating consequences for its victims. Perpetrators of intimate partner violence behaviours have to willingly abandon their moral principles to carry out the abuse, this process known as moral disengagement. This study will also consider whether moral disengagement moderates intimate partner violence in individuals who possess higher levels of darker personality traits.

8 Will written consent be obtained from all volunteers?

Yes: though the informed consent will be obtained electronically, and to ensure anonymity, no names or other significantly identifying information will be gathered.

The briefing/information sheet will be written and attached to the first screen of the online study for participants by the lead researcher (Laura Jayne Carter, BSc Forensic Psychology, MSc Student). Therefore, informed consent will be obtained online. Please see details of this process below.



Written consent will not be obtained as this is an online self-report study. According to previous research (please see full research proposal), this is the most appropriate method of data collection for this type of study.

9 Will an inconvenience allowance be offered

No.

10 FUNDING

Will there be any material benefits from the study for the Department or individual investigator? (E.g. equipment, research salaries, consumables etc)

No

11 Studies involving NHS Staff, organisations, Services

Does the study involve any premises, services staff who hold a contract with a hospital, Primary Healthcare or Social Care Trust?

No

12 How will the subjects be chosen?

Please specify what criteria will be used to include and exclude and which groups you wish to target.

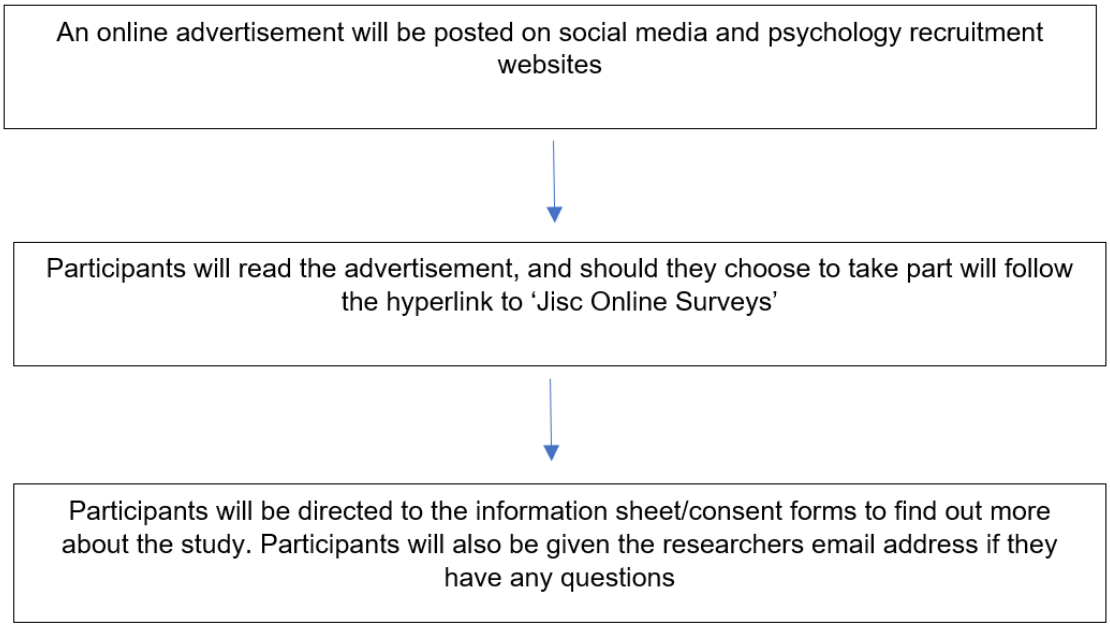
The proposed sample will consist of males and females from the general population aged 18 years and older. Participants will be recruited online via popular social media platforms and opt in to participation if they are interested in contributing to the study. This study uses an opportunity sampling method. Inclusion criteria are that participants have been in a romantic relationship of at least six months or longer in duration, are fluent in the English language and have the capacity to give informed consent. Participants will, therefore, be excluded from the study if they are under 18, are not able to effectively communicate in the English language and have not been in a relationship of at least six months in duration. Participants will also be excluded from the study analysis if they fail to answer an entire questionnaire.

Please include a copy (as a separate attachment) of your proposed poster or advert, e-mail/letter of invitation text to be posted on social media sites.

Please see attached.

13 Describe how possible participants will be approached.

An online advertisement will be posted on various social media websites (e.g. Facebook and Reddit) and psychological research websites (e.g. The Social Psychology Network). From this, participants will be able to follow a hyperlink to the online study which will be hosted by Jisc Online Surveys. All participants taking part in the study will be volunteers and so will partake at their own free will with no inducements or persuasion used to participate.



14 What sources of information will be included? i.e, pre-existing research database, student records, visits to other organisation, online resource

An online survey will be created on the Jisc Online Survey Service based on the questionnaires detailed in the full research proposal (please see attached). This survey will be created once ethical approval has been obtained to use the proposed measures. These comprise:

1) The Short Dark Tetrad (SD4; 28 items, see appendix G)
2) The HEXACO-60 (60 items, see appendix A)
3) The Revised Control Tactics Scale – Short Form (CTS2S; 20 items, see appendix E)
4) The Multidimensional Measure of Emotional Abuse (MMEA; 54 items see appendix B)
5) The Propensity to Morally Disengage Scale (PMDS; 24 items, see appendix D)

With 5 demographic items, the entire survey comprises 191 items (total of 5 scales, plus 5 demographic items), minimising participant burden.

15 Whose permission will be sought to access this information (eg GP, consultant Head of Organisation)?

Moderators of webpage's needing to give permission to host the study link will be contacted to approve the study on their pages. The psychometric measures being used to create the online survey are publicly available to download. Permission was not needed to use the scales, which are all public domain.

16 For interview/focus groups:

N/A

17 Data Storage and Data management

Data will be collected via Jisc Online Survey Service. Data will be stored onto this system and is secured with a personal username and password which will be obtained from the university. Only the primary researchers will be able to access this data. All anonymous questionnaire responses will be given a participant ID number. Participants are not asked to provide any personal details which could be used to identify them. The data collected will be stored until the final research project is submitted on the 8th of July 2019.

18 What ethical problems do you foresee in this project?

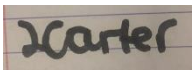
A potential ethical consideration for this project is that participants will be giving up their free time (approx. ten minutes) to complete the questionnaires with no personal gain. Secondly, although the participants are not deemed to be a vulnerable population, they may be asked questions about intimate partner violence which some individuals may find potentially distressing if it leads them to recall abuse or committing abuse. Because of this possibility, at the debriefing stage of the study, participants will be provided at the end of the study with the contact details of the primary researcher and relevant mental health charities for extra support which are associated with mental health and domestic abuse (e.g. The National Domestic Violence Helpline and MIND).

19. What are the possible limitations of the proposed design of this study?

Due to the nature of the questions, a potential issue of the proposed design is that participants may answer the questionnaires in a socially desirable way to provide less deviant responses. Equally, although participants are assured that their responses will be anonymised and kept confidential, they may distrust the process and therefore not answer the questions truthfully for fear of being exposed. Only persons who opt-in provide data, so persons who wish to conceal IPV may not provide information about their behaviour. (But given participants always have an option to participate, this would also occur if data was gathered face-to-face).

Another issue may be that participants find filling out the online questionnaires tedious and consequently disengage with the study, thereby not completing the online questionnaires. If participants do not fill out all the questionnaires, they will be removed from the study. We will also seek to design the presentation of scales to optimise participation by keeping them brief, clear, easy to respond to, and have a completion bar on the screen. This bar will reinforce engagement (as will giving the longest scale first, so immediately much of the data will have been gathered).

DECLARATION: I will inform the Medical School Ethics Committee as soon as I hear the outcome of any application for funding for the proposed project and/or if there are any significant changes to this proposal. I have read the notes to the investigators and clearly understand my obligations as to the rights, welfare and dignity of the subjects to be studied, particularly with regard to the giving of information and the obtaining of consent.

Signature of Lead Investigators:   **Date: 19/11/18**

****Nb If you are student your supervisor must sign this form otherwise it will be rejected**
Name and address for correspondence with applicant:

Lead Researcher: Laura Jayne Carter

MSc Student

The School of Medicine

Division of Psychiatry and Applied Psychology

The University of Nottingham

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Email: Laura.Carter@nottingham.ac.uk

Chief Academic/Supervisor: Dr Vincent Egan

PhD, HCPC Chartered Clinical Psychologist, HCPC Chartered Forensic Psychologist

Associate Professor of Forensic Psychology Practice

The School of Medicine

Department of Psychiatry and Applied Psychology

The University of Nottingham

Email: Vincent.egan@nottingham.ac.uk

Please submit your completed application to:

Administrative Support

Faculty of Medicine & Health Sciences Research Ethics Committee

c/o Faculty PVC Office

B Floor, Medical School (nr Bridge)

QMC Campus, Nottingham University Hospitals

Nottingham

NG7 2UH

e-mail: louise.sabir@nottingham.ac.uk

Ethical Approval Letter

University of Nottingham
UK | CHINA | MALAYSIA

Email: FMHS-ResearchEthics@nottingham.ac.uk

Faculty of Medicine & Health Sciences
Research Ethics Committee
c/o Faculty PVC Office
School of Medicine Education Centre
B Floor, Medical School
Queen's Medical Centre Campus
Nottingham University Hospitals
Nottingham, NG7 2UH

15 March 2019

Laura J Carter
MSc Forensic and Criminological Psychology
c/o Dr Vincent Egan
Associate Professor of Forensic Psychology Practice
Room 23, Yang Fujia Building
Division of Psychiatry and Applied Psychology
School of Medicine
Jubilee Campus, University of Nottingham
Nottingham NG8 1BB

Dear Ms Carter

Ethics Reference No: 237-1902 – **please always quote**	
Study Title: The Dark Tetrad, Intimate Partner Violence and The Moderating Role of Moral Disengagement.	
Chief Investigator/Supervisor: Dr Vince Egan, Associate Professor of Forensic Psychology Practice, Psychiatry and Applied Psychology, School of Medicine.	
Lead Investigators/student: Laura J Carter, MSc Forensic and Criminological Psychology.	
Proposed Start Date: 01/03/2019	**Proposed End Date:** 30/06/2019

Thank you for submitting the above application and the following documents were received:

- FMHS REC Application form and supporting documents version 1.0: 19.11.2018

These have been reviewed and are satisfactory and the study has been given a favourable opinion.

A favourable opinion has been given on the understanding that:

1. The protocol agreed is followed and the Committee is informed of any changes using a notice of amendment form (please request a form).
2. The Chair is informed of any serious or unexpected event.
3. An End of Project Progress Report is completed and returned when the study has finished (Please request a form).

Yours sincerely

Professor Ravi Mahajan
Chair, Faculty of Medicine & Health Sciences Research Ethics Committee

The Dark Tetrad, Intimate Partner Violence and The Mediating Role of Moral Disengagement.

Main Author: Laura Jayne Carter

The University of Nottingham

The School of Medicine

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Journal style: Personality and Individual Differences

Abstract

Research suggests that Intimate Partner Violence (IPV), including physical, psychological, and/or sexual abuse, is related to the dark triad (DT) traits. This study extends these findings by considering the addition of everyday sadism into the four-dimension dark tetrad (DTET) and the possibility of outside factors, such as moral disengagement (MD), which may mediate this relationship. It was also examined whether the DTET added incremental validity to more general aspects of personality (the HEXACO dimensions) in predicting IPV. Males and females (N=416) from the general population completed five questionnaires in an online survey. A factor-analysis found that sexual IPV did not load as an individual factor so was excluded from this study. Four hierarchical multiple regressions were conducted, finding that only psychopathy predicted physical IPV, however, psychopathy and Machiavellianism significantly predicted psychological IPV, with MD mediating both these relationships. Although the DTET as a whole added incremental validity over the HEXACO dimensions to predict physical IPV, this was not the case for HEXACO traits like high Emotionality, low Openness, and low Agreeableness, as Agreeableness was the best predictor of psychological IPV.

Keywords: HEXACO; Dark Tetrad; Intimate Partner Violence; Moral Disengagement

5999 words

1. Introduction

IPV is a specialised crime perpetrated by an individual who shares a romantic relationship with the victim. According to a nationally representative study, IPV affects 600,000 men and 1.3 million women in the United Kingdom each year (Office for National Statistics, 2016). IPV is associated with an array of adverse outcomes, which significantly affect the quality of life of its victims. This includes depression (Ouellet-Morin et al., 2015), insomnia (Sugg, 2015), and substance misuse difficulties (Gehring & Vaske, 2017). IPV encompasses physical violence and sexual and psychological forms of abuse (Coker, Smith, McKeown & King, 2000). Although many factors are associated with IPV perpetration, the influence of personality is cardinal.

1.1 The Dark Tetrad

Offending and aggression are predicted by general personality traits, such as the Big Five model of personality (BFM; McCrae & John, 1992), primarily due to the influence of low Agreeableness (Hines & Saudino, 2008), low Conscientiousness (Jensen-Campbell, Knack, Waldrip & Campbell, 2007), and high Neuroticism (Becerra-García, García-León, Muela-Martínez & Egan, 2013). However, a more narrowly focussed set of personality traits which also predisposes an individual towards antisocial transgressions (Azizli et al., 2016) is the dark triad (DT). The DT encompasses three aversive but subclinical pathological personality traits: Machiavellianism, narcissism, and psychopathy. Whilst sharing elements of manipulativeness and callous exploitation, these traits are conceptually dissimilar from one another (Paulhus & Williams, 2002). A recent addition to the DT includes everyday sadism, giving rise to a new construct named the dark tetrad (DTET; Buckels, Jones & Paulhus, 2013). Everyday sadism denotes experiencing pleasure from cruelty in everyday situations such as enjoying violent films

(Buckels et al., 2013). Machiavellianism is associated with mistrust of others, immoral behaviour, and manipulative interpersonal skills (Sabouri et al., 2016). Narcissism is frequently correlated with egocentricity, self-admiration, and a grandiose sense of self-worth (Meere & Egan, 2017). Finally, psychopathy typically manifests malevolent and impulsive behaviours which are lacking in empathy (Paulhus, 2014). Therefore, it is unsurprising that these aversive traits are associated with various antisocial acts (Smoker & March, 2017).

1.2 HEXACO Dimensions

Empirical general personality research has explored the antisocial aspects of the DTET using a variety of scales. The HEXACO model (Lee & Ashton, 2004) has been commonly used as it extends the BFM (Ashton & Lee, 2008) with Honesty-Humility, which emerged as a sixth factor in a factor-analysis of lexical data on personality. HEXACO, therefore, comprises Honesty-Humility (sincerity), Emotionality (sensitivity), Extraversion (sociability), Agreeableness (flexibility and forgiveness), Conscientiousness (diligence), and Openness (to experience). Research has shown that lower expressions of Honesty-Humility, Agreeableness, Emotionality, and Conscientiousness are strongly negatively related to the DTET traits (Book et al., 2016). Thus, individuals with higher DTET scores are possibly more likely to be manipulative, antisocial, impulsive, and more emotionally detached, which may be central to predicting violent offending (Walsh, Swogger & Kosson, 2009; Blagov et al., 2011).

1.3 IPV and the DT

IPV is often predicted by individual differences in the DT traits. The DT has established relationships between physical and sexual IPV perpetration (Khan, Brewer, Kim & Centifanti, 2017; Mager, Bresin & Verona, 2014); and recent literature documents a relationship between

psychological abuse and the DT (Carton & Egan, 2017), which encompasses degrading and threatening behaviour towards one's partner (Shortt, Capaldi, Kim & Tiberio, 2013). However, this is mostly researched in females (Brewer et al., 2018; Brewer & Abell, 2017). One difficulty is that each DT trait predicts multiple forms of IPV, suggesting the different traits may share a common core, as is shown by the positive correlations between the DT traits (Furnham, Richards & Paulhus, 2013). For instance, physical IPV has been predicted by psychopathy (Kiire, 2017), and narcissistic traits (Johnson et al., 2006). Psychological IPV has been associated with narcissism and psychopathy (Carton et al., 2017), but is also commonly related to Machiavellianism (Brewer et al., 2018). Sexual IPV is also inconsistent, having been paired with psychopathy (Khan et al., 2017) and associated with narcissistic tendencies (Ryan, Weikel & Sprechini, 2008). However, these studies have not examined a possible shared DTET core. Thus, perpetrators of IPV are a heterogeneous group who share a variety of the DT traits, but the DT may have a common element underlying the three dimensions.

1.4 IPV and the DTET

The DT has been extended by the addition of everyday sadism into the four-dimension DTET (Buckels et al., 2013), with DTET research finding that psychopathy and sadism predict antisocial behaviour (Chabrol, Bouvet & Goutaudier, 2017). Although the individual DTET traits have been examined in relation to IPV, there is little research examining the entire DTET. The only study considering the entire DTET utilised university students, finding that, although psychopathy was the greatest predictor of physical IPV (Tetreault, Bates & Bolam, 2018), high sadism scores also predicted female students physical IPV perpetration. However, this research employed an unreliable measure of sadism, which limits its generalisability to the general population. Other DTET research considering romantic relationships has examined intimate

partner cyberstalking (Smoker et al., 2017), finding that all four DTET traits significantly predicted this behaviour. Though this offers support that sadism may also be related to undesirable relationship behaviours, it does not explore the individual facets of physical, sexual, and psychological IPV or the possibility of a general common element influencing this association.

1.5 Moral Disengagement and IPV

Whilst empirical evidence consistently highlights the positive relationship between dark personality traits and IPV, knowledge of the other factors which may influence this relationship is scarce. To commit IPV is to overcome one's inhibitions of what is right to hurt a loved partner, whereby a person may temporarily abandon their moral principles. According to Bandura's theory of moral disengagement (Bandura, 1986), the ability to readily deactivate one's moral self-conduct to engage in deviant behaviours is known as moral disengagement (MD). Purportedly, whilst individuals mostly act in accordance with their moral beliefs, to avoid feelings of distress, it is possible to engage in immoral acts by justifying these behaviours (Bandura, 1986). Research identifies eight mechanisms of MD including moral justification, advantageous comparison, displacement of responsibility, euphemistic labelling, diffusion of responsibility, dehumanisation, distorting the consequences, and attribution of blame (Bandura, Barbaranelli, Caprara, Pastorelli, 1996).

Whilst the DTET is collectively characterised by callousness and diminished empathy, MD is a phenomenon also observed in individuals who show lesser feelings of guilt (Ring & Kavussanu, 2018) and low levels of empathy (Detert, Treviño & Sweitzer, 2008). Therefore, those who score highly on the DTET traits may have a higher propensity to morally disengage. Some research has explored the relationship between the DT and MD, showing greater MD use to be

based on psychopathic and Machiavellianism like traits (Egan, Hughes & Palmer, 2015) in a variety of antisocial behaviours (Sijtsema, Garofalo, Jansen & Klimstra, 2019).

However, the evidence for the possible mediating role of MD in antisocial behaviour is less consistent. Some research has failed to identify MD as a mediator of antisocial behaviour (Sijtsema et al., 2019). Though, other studies have documented narcissism (Jones, Woodman, Barlow & Roberts, 2017) and psychopathic traits to be indirectly related with violent and antisocial behaviour through greater MD (Waltser & DeLisi, 2015). Likewise, research examining relationship conflict has evidenced MD to mediate the relationships between callous-unemotional traits and relational aggression (Kokkinos, Voulgaridou & Markos, 2016). However, this research was conducted in preadolescent friendships, limiting the validity of these findings within adult perpetrated IPV. This relationship requires further research into the DTET and IPV, which this study seeks to do.

1.6 The Present Study

The proposed study aims to explore whether the DTET traits individually or collectively predict physical, sexual and psychological IPV behaviours within the general population. Secondly, it is tested whether MD mediates the relationship between the DTET and physical, sexual and psychological IPV behaviours. The following research questions are examined:

1) Do higher levels of the DTET traits predict physical, sexual and psychological forms of IPV, or are they better predicted by a common DTET factor?
2) Does the DTET add incremental validity to the relationship between general personality (HEXACO) and IPV?

3) Does MD mediate the relationship between the DTET traits and physical, sexual and psychological forms of IPV?

This is one of the first studies to directly examine the DTET in relation to all three forms of IPV. Similarly, the mediating role of MD has not yet been investigated within IPV. To answer these research questions, the following hypotheses are proposed:

H1 – Individuals who score higher in the DTET traits will also score higher in a variety of IPV behaviours, but this will be better predicted by a general DTET factor.

H2 – The DTET will add incremental validity to the relationship between general personality (HEXACO) and IPV.

H3 – MD will mediate the relationship between the DTET traits and physical, sexual and psychological forms of IPV.

2. Methods

2.1 Participants

Ethical approval was obtained from The University of Nottingham Faculty of Medicine and Health Sciences Research Ethics Committee. To achieve a moderate effect size (0.15) and a p =0.05 significance level using multiple linear regression, a G-power analysis (Faul, Erdfelder, Buchner & Lang, 2009) revealed a minimum of 199 participants to achieve a power of 0.95 with 15 predictor variables (including the demographic variables). This power analysis is often utilised in dark personality research (Seidman, Roberts & Zeigler-Hill, 2019). Inclusion criteria were that participants were from the general population, aged 18 plus, fluent in English language, able to give informed consent, and had been in a romantic relationship of at least six months. The gender breakdown comprised males (N=96), females (N=313) and 7 ‘other’. Participants average age was

28 years (SD= 9.46), ranging from 18-72 years old; most participants were White British (N=187), heterosexual (N=295), and in a romantic relationship but not cohabiting (N=128). Using listwise deletion, 101 participants were excluded for not responding to every question.

2.2 Measures

2.3 The HEXACO-60 (Ashton & Lee, 2009).

The HEXACO-60 (60-items) measures general personality (Appendix A). The scale comprises 6 sub-scales: Honesty-Humility, Emotionality, Extraversion, Agreeableness, Conscientiousness, and Openness to experience. Participants reported their agreement with each statement such as 'I feel reasonably satisfied with myself overall' using a five-point Likert scale (1–strongly disagree, 5–strongly agree). By taking the mean score, responses were computed into an overall score for each sub-scale. Higher scores indicated a higher presence of each personality trait. The HEXACO-60 sub-scales have demonstrated high levels of reliability and internal consistency (Ashton et al., 2009).

2.4 The Multidimensional Measure of Emotional Abuse (MMEA; Murphy & Hoover, 1999).

The MMEA (28-items) measures psychological IPV (Appendix B) using four sub-scales: Restrictive Engulfment, Denigration, Hostile Withdrawal, and Dominance/Intimidation. Denigration was removed from this study as a factor-analysis failed to identify this construct (Appendix C). Participants reported the number of times they may have perpetrated these behaviours in their relationship, such as 'You secretly searched through the others belongings', using an eight-point Likert scale (1-Once, 4-six to ten times, 8-I don't know). 'I don't know' responses were recoded to give a value of 0 as mean scores were created for each sub-scale and an

overall ‘psychological IPV’ variable. Higher scores indicated higher levels of perpetrated psychological abuse. These categorisations of psychological abuse are well documented in clinical research (Marshall, 1996), implying that this is a reliable measure of psychological IPV.

2.5 The Propensity to Morally Disengage Scale (PMDS; Moore et al, 2012).

The PMDS (24-items) measures MD in the general population (Appendix D) using eight subscales: Moral justification, Euphemistic Labelling, Advantageous Comparison, Displacement of Responsibility, Diffusion of Responsibility, Distortion of Consequences, Dehumanisation, and Attribution of Blame. Participants reported their agreement with each statement such as, ‘In contexts where everyone cheats, there’s no reason not to’ using a seven-point Likert scale (1-Strongly disagree, 7-Strongly agree). Responses were summed into a total score for each sub-scale to then produce an overall MD variable. Higher scores indicated a greater propensity for MD. This measure has demonstrated high levels of reliability (Moore et al., 2012) and is empirically grounded in Bandura’s (1986) theory of MD.

2.6 The Revised Control Tactics Scale – Short Form (CTS2S; Straus & Douglas, 2004).

The CTS2S (20-items) is a brief scale designed to study IPV within survey research (Appendix E). As participants may not wish to disclose potentiality socially undesirable IPV behaviours, the CTS2S controls for social desirability (Reynolds, 1982). The CTS2S measured only physical IPV as a factor-analysis failed to identify a sexual IPV construct (Appendix F). Participants reported the number of times they may have perpetrated these behaviours in their relationship such as ‘I pushed, shoved, or slapped my partner’ on an 8-point Likert scale (1-Once, 4-six to ten times, 8-I don’t know). ‘I don’t know’ responses were recoded to give a value of 0

as a mean score was created to provide an overall physical IPV score. Higher scores indicated higher levels of perpetrated physical abuse.

2.7 The Short Dark Tetrad (SD4; Paulhus, Buckels, Trapnell & Jones, 2018).

The SD4 (28-items; Appendix G) is the only scale which measures the full DTET in non-clinical samples and comprises four sub-scales: Machiavellianism, Psychopathy, Narcissism, and Sadism. Participants reported their agreement with each statement such as 'I enjoy watching violent sports' using a five-point Likert scale (1–strongly disagree, 5–strongly agree). By taking the mean score, responses were computed into an overall score for each sub-scale. Higher scores indicated higher levels of each personality trait. A general DTET score was also computed by saving a factor score from a factor-analysis of the DTET (Appendix H). One factor was extracted from the principal component analysis, with an eigenvalue of 2.08, which explained 52% of the DTET variance.

2.8 Procedures

An advertisement was posted online (Appendix I) where participants followed a hyperlink to the study, providing information about the research, including its potentially distressing nature, to give informed consent (Appendix J). Participants then completed demographic (Appendix K) and psychometric questionnaires in the following order: HEXACO-60, MMEA, SD4, PMDS, and the CTS2S. After completion of the study, participants read a debriefing page (Appendix L), detailing the research objectives, researcher contact details, and contact numbers for relevant charitable helplines should they have been affected by IPV.

3. Results

3.1 Preliminary Analysis

Pre-analysis tests found that all variables were positively skewed, except for MD, psychopathy, sadism, and physical and psychological IPV which were negatively skewed. Shapiro-Wilk and Kolmogorov-Smirnov tests confirmed that all variables were significantly unevenly distributed (Appendix M). With the parametric assumptions being violated, parametric tests were used for all analysis but checked by using bootstrapping techniques for 1000 random samples. All mediation analysis utilised 5000 samples. Reliability analysis (Appendix N) revealed all scales other than psychological IPV, physical IPV, and Machiavellianism had good or very good reliability (Table 1). Due to its method of scoring, the CTS2S' reliability cannot be calculated (Straus & Douglas, 2004), and the same scoring methodology was adopted for the MMEA. The SD4 is a new DTET measure, which has not yet examined IPV within the general population.

Table 1: Descriptive statistics and reliability for all measures (N= 416).

Measure	**Subscales**	**Mean**	**SD**	***α***
HEXACO				
	Honesty-Humility	3.52	6.67	0.76
	Emotionality	3.40	7.10	0.80
	Extraversion	3.07	7.44	0.83
	Agreeableness	3.16	6.70	0.81
	Conscientiousness	3.60	5.91	0.74
	Openness	3.63	6.42	0.76
MMEA	Psychological IPV	5.78	14.51	0.69
PMDS	Total MD	7.55	18.92	0.86
CTS2S	Physical IPV	6.63	3.54	0.60

SD4

Machiavellianism	3.17	4.20	0.66
Narcissism	2.71	5.09	0.77
Psychopathy	2.02	4.85	0.73
Sadism	2.31	5.50	0.76

HEXACO (Honesty-Humility, Emotionality, Extraversion, Agreeableness, Conscientiousness, Openness), MMEA (Multidimensional Measure of Emotional Abuse), PMDS (Propensity to Morally Disengage Scale), CTS2S (Control Tactics Scale – Short Form), SD4 (Short Dark Tetrad 4).

3.2 Correlational analysis.

External validity was tested via preliminary Pearson's correlations to examine the data for patterns of correlation and collinearity (Table 2). The correlations revealed no evidence of collinearity between predictor variables, except for sadism and the General DTET which comprised some of the same variables. There were good levels of correlation between predictor and criterion variables (Appendix O). Physical and psychological IPV were significantly positively correlated with psychopathy, sadism and the general DTET and were significantly negatively correlated with Agreeableness. Psychological IPV was also significantly positively correlated with Machiavellianism and Emotionality and significantly negatively correlated with Extraversion, Openness, Conscientiousness, and Honesty-Humility.

Table 2***:*** Pearson's correlations for all predictor and criterion variables (N=416).

	H-H	**E**	**X**	**A**	**C**	**O**	**M**	**N**	**P**	**S**	**Ph**	**Ps**	**GD**
H-H	--												
E	.09	--											
X	-.04	-.27**	--										
A	.28**	- 0.07	.13**	--									
C	.28**	.00	.10*	.05	--								
O	.00	-.08	.04	.11*	.01	--							
M	.38**	-.04	-.10*	-.17**	-.10*	.03	--						
N	-.28**	-.21**	.55**	-.02	-.00	.11*	.19**	--					
P	-.38**	.00	.03	-.36**	-.33**	.04	.25**	.34**	--				
S	-.39**	-.19**	-.01	-.27**	-.14**	.05	.46**	.32**	.55**	--			
Ph	.02	.01	-.08	-.14**	-.03	-.05	.06	.45	.23**	.11*	--		
Ps	-.16**	.15**	-.11*	-2.78**	-.13*	-.11*	.19**	.00	.25**	.17**	.37**	--	

GD	-.47**	-.20**	.13**	-.30**	-.21**	.08	.64**	.60**	.77**	.84**	.14**	.22**	--

Correlation significant at $p < 0.05$ level*. Correlation significant at $p < 0.01$ level**. H-H (Honesty-Humility), E (Emotionality), X (Extraversion), A (Agreeableness), C (Conscientiousness), O (Openness), M (Machiavellianism), N (Narcissism), P (Psychopathy), S (Sadism), Ph (Physical IPV), Ps (Psychological IPV), GD (General DTET).

3.3 Regression Analysis

Using a .05 alpha level, four bootstrapped hierarchical multiple regressions were conducted to test whether Machiavellianism, psychopathy, narcissism, sadism, and a general DTET variable would significantly predict physical and psychological IPV (Appendix P). Also, whether the DTET added incremental validity over the HEXACO dimensions. Bootstrapping assumes a representative population by re-sampling the initial sample with replacements (Field, 2013). From these representations, bootstrapping provides confidence intervals for each regression parameter (Field, 2013). When the confidence intervals do not include zero, the effect is assumed to be statistically different from zero.

A bootstrapped three-stage hierarchical multiple regression was conducted with physical IPV as the dependent variable (Table 3). Demographic characteristics were entered at stage one, the HEXACO dimensions at stage two and the DTET variables at stage three. At stage one, the demographic characteristics did not contribute significantly to the regression model [$F(5,410) = 1.32$, $p < .25$], accounting for 0.4% of the variance in physical IPV. At stage 2, the HEXACO dimensions and demographics did not contribute significantly to the regression model [$F(11,404) = 1.67$, $p < .08$], accounting for 1.7% of the variation in physical IPV. The inclusion of the DTET traits explained an additional 5.8% of the variance. This change in R^2 was significant, [$F(15,400) = 3.03$, $p < .001$], suggesting that the DTET traits significantly improved the model's ability to predict physical IPV. In the final model, psychopathy was the only significant independent predictor of physical IPV.

This analytic structure was also utilised to analyse psychological IPV (Table 4). At stage one, the demographic characteristics did not contribute significantly to the regression model [$F(5,410) = 1.67$, $p < .14$], accounting for 0.8% of the variation in psychological IPV. At stage 2, the HEXACO dimensions and demographics contributed significantly to the regression model [$F(11,404) = 6.57$, $p < .001$], accounting for 12.9% of the variance in psychological IPV. The inclusion of the DTET traits in stage 3 explained an additional 3.5% of the variance. This change in R^2 was significant, [$F(15,400) = 6.15$, $p < .001$], suggesting that the DTET traits significantly improved the model's ability to predict psychological IPV. In the final model, Emotionality, Agreeableness, Openness, Machiavellianism, and psychopathy were significant independent predictors of psychological IPV.

This analytic structure was also used to analyse physical IPV (Table 5), however, instead of the individual DTET traits, the General DTET variable was added. At stage one, the demographic characteristics did not contribute significantly to the regression model, [$F(5,410) = 1.32$, $p < .25$], accounting for 0.4% of the variation in physical IPV. At stage 2, the addition of the HEXACO dimensions did not contribute significantly to the regression model, [$F(11,404) = 1.67$, $p < .08$], accounting for 1.7% of the variance in physical IPV. The inclusion of the general DTET variable explained an additional 2.6% of the variance. This change in R^2 was significant, [$F(12,403) = 2.50$, $p < .01$], suggesting that the general DTET significantly improved the model's ability to predict physical IPV. In the final model, only the general DTET variable was an independent significant predictor of physical IPV.

This structure was also utilised to analyse psychological IPV (Table 6). At stage one, the demographic characteristics did not contribute significantly to the regression model, [$F(5,410) = 1.67$, $p < .14$], accounting for .08 % of the variation in psychological IPV. At stage 2, the addition

of the HEXACO dimensions contributed significantly to the regression model [$F(11,404) = 6.57$, $p < .001$], accounting for 13% of the variance in psychological IPV. The inclusion of the general DTET variable in stage 3 explained an additional 2.4% of the variance. This change in R^2 was significant, [$F(12,403) = 7.15$, $p < .001$], suggesting that the general DTET variable significantly improved the model's ability to predict psychological IPV. In the final model Emotionality, Agreeableness, Openness, and the general DTET were significant independent predictors of psychological IPV.

Table 3**:** Bootstrapped hierarchical regression model for underlying demographics, HEXACO domains and individual DTET variables predicting physical IPV (N=416).

Variable	**β**	**SE**	***p***	**CI – LL**	**CI- UL**	**R^2**	**Adjusted R^2**
Step 1						.02	.00
Gender	.04	.04	.37	-.06	.14		
Age	.00	.00	.63	-.00	.01		
Ethnicity	.01	.01	.13	.00	.03		
Sexuality	-.01	.02	.48	-.05	.03		
Relationship	-.00	.02	.95	-.03	.03		
Step 2						.04	.02
Gender	.03	.05	.61	-.08	.13		
Age	.00	.00	.75	-.01	.01		
Ethnicity	.01	.00	.13	-.00	.03		
Sexuality	-.01	.02	.46	-.05	.02		
Relationship	-.01	.02	.70		.02		
H-H	.05	.04	.27	-.03	.12		
E	-.02	.04	.69	-.10	.06		
X	-.04	.04	.32	-.12	.04		
A	-.10	.03	.002**	-.16	-.04		
C	-.02	.04	.62	-.10	.07		
O	-.03	.03	.41	-.09	.03		
Step 3						.10	.07
Gender	.05	.06	.40	-.05	.17		
Age	.00	.00	.92	-.01	.01		
Ethnicity	.01	.01	.17	-.00	.03		
Sexuality	-.02	.02	.20	-.06	.01		
Relationship	-.01	.01	.47	-.04	.02		
H-H	.08	0.05	.11	-.00	.16		
E	.01	0.04	.89	-.07	.07		
X	-.01	0.04	.76	-.11	.07		
A	-.03	0.03	.34	-.10	.03		
C	.04	0.04	.36	-.04	.13		
O	-.03	0.03	.35	-.01	.03		
M	.04	0.04	.43	-.05	.11		
N	-.07	0.04	.13	-.16	.03		
P	.20	0.06	.001***	.10	.29		
S	.01	0.05	.81	-.07	.10		

Regression significant at $p < 0.05$ level*, regression significant at $p < 0.01$ level**, regression significant at $p < .001$ level ***, Relationship (Relationship Status), H-H (Honesty-Humility), E (Emotionality), X (Extraversion), A (Agreeableness), C (Conscientiousness), O (Openness), M (Machiavellianism), N (Narcissism), P (Psychopathy), S (Sadism).

Table 4: Bootstrapped hierarchical regression model for underlying demographics, HEXACO domains and individual DTET variables predicting psychological IPV (N=416).

Variable	**β**	**SE**	***p***	**CI – LL**	**CI- UL**	**R^2**	**Adjusted R^2**
Step 1						.02	.01
Gender	-.02	.07	.80	-.12	.14		
Age	.00	.00	.68	-.01	.01		
Ethnicity	.02	.01	.051	.00	.03		
Sexuality	.02	.04	.55	-.05	.09		
Relationship	-.02	.02	.24	-.06	.01		
Step 2						.15	.13
Gender	-.10	.07	.15	-.25	.05		
Age	.01	.00	.18	-.00	.01		
Ethnicity	.02	.01	.04*	.00	.03		
Sexuality	.02	.04	.53	-.05	.09		
Relationship	-.03	.02	.11	-.06	.00		
H	-.08	.05	.12	-.18	.02		
E	.15	.05	.002**	.06	.25		
X	-.03	.04	.46	-.12	.07		
A	-.23	.05	.001***	-.33	-.14		
C	-.10	.06	.09	-.22	.02		
O	-.10	.05	.07	-.19	-.01		
Step 3						.19	.16
Gender	-.06	.08	.42	-.21	.10		
Age	.01	.00	.16	-.00	.01		
Ethnicity	.01	.01	.12	-.00	.03		
Sexuality	.01	.04	.81	-.07	.09		
Relationship	-.03	.02	.07	-.07	.00		
H-H	-.02	.06	.80	-.13	.09		
E	.17	.05	.001***	.08	.28		
X	-.02	.06	.77	-.14	.10		
A	-.17	.05	.003**	-.28	-.08		
C	-.05	.06	.41	-.17	.08		
O	-.10	.05	.050*	-.21	-.02		
M	.14	.07	.045**	.01	.26		
N	-.04	.06	.56	-.15	.09		
P	.18	.07	.009**	.05	.31		
S	-.00	.05	.96	-.11	.10		

Regression significant at $p < 0.05$ level*, regression significant at $p < 0.01$ level**, regression significant at $p < .001$ level ***, Relationship (Relationship Status), H-H (Honesty-Humility), E (Emotionality), X (Extraversion), A (Agreeableness), C (Conscientiousness), O (Openness), M (Machiavellianism), N (Narcissism), P (Psychopathy), S (Sadism).

Table 5: Bootstrapped hierarchical multiple regression model for underlying demographics, HEXACO domains and the general DTET variable predicting physical IPV (N=416)

Variable	**β**	**SE**	***p***	**CI – LL**	**CI- UL**	**R^2**	**Adjusted R^2**
Step 1						.02	.00
Gender	.02	.05	.40	-.06	.12		
Age	.04	.00	.62	-.00	.01		
Ethnicity	.00	.01	.14	-.00	.03		
Sexuality	.01	.02	.49	-.05	.03		
Relationship	-.01	.02	.94	-.03	.03		
Step 2						.04	.02
Gender	.03	.05	.63	-.08	.14		
Age	.00	.00	.74	-.01	.01		
Ethnicity	.01	.01	.13	-.00	.03		
Sexuality	-.01	.02	.45	-.05	.02		
Relationship	-.01	.02	.71	-.04	.03		
H-H	.05	.04	.28	-.03	.11		
E	-.02	.04	.68	-.10	.05		
X	-.04	.04	.30	-.11	.03		
A	-.10	.03	.009**	-.17	-.03		
C	-.02	.04	.59	-.10	.06		
O	-.03	.04	.44	-.10	.04		
Step 3						.07	.04
Gender	.07	.06	.21	-.05	.19		
Age	.00	.00	.55	-.00	.01		
Ethnicity	.01	.01	.15	-.00	.03		
Sexuality	-.02	02	.21	-.06	.01		
Relationship	-.01	.02	.66	-.04	.02		
H-H	.09	.05	.06	.00	.18		
E	-.00	.04	.94	-.08	.06		
X	-.06	.04	.13	-.13	.01		
A	-.06	.03	.06	-.13	.00		
C	-.01	.04	.86	-.08	.07		
O	-.04	.04	.32	-.11	.03		
GDTET	.10	.04	.019*	.03	.17		

Regression significant at $p < 0.05$ level*, regression significant at $p < 0.01$ level**, regression significant at $p < .001$ level ***. Relationship (Relationship Status), H-H (Honesty-Humility), E (Emotionality), X (Extraversion), A (Agreeableness), C (Conscientiousness), O (Openness), M (Machiavellianism), N (Narcissism), P (Psychopathy), S (Sadism), GDTET (General Dark Tetrad).

Table 6: Bootstrapped hierarchical regression model for underlying demographics, HEXACO domains and the general DTET variable predicting psychological IPV (N=416).

Variable	**β**	**SE**	***p***	**CI – LL**	**CI- UL**	**R^2**	**Adjusted R^2**
Step 1						.02	.01
Gender	-.02	.07	.80	-.16	.14		
Age	.00	.00	.68	-.01	.01		
Ethnicity	.02	.01	.051	.00	.03		
Sexuality	.02	.04	.55	-.05	.09		
Relationship	-.02	.02	.24	-.06	.01		
Step 2						.15	.13
Gender	-.10	.07	.15	-.24	.05		
Age	.01	.00	.18	-.00	.01		
Ethnicity	.02	.00	.04	.00	.03		
Sexuality	.02	.04	.53	-.05	.09		
Relationship	-.03	.02	.11	-.06	.00		
H-H	-.08	.05	.12	-.18	.02		
E	.15	.05	.002**	.06	.25		
X	-.03	.04	.46	-.12	.07		
A	-.23	.05	.001***	-.33	-.14		
C	-.10	.06	.09	-.22	.02		
O	-.10	.05	.07	-.19	-.01		
Step 3						.18	.15
Gender	-.04	.08	.62	-.19	.12		
Age	.01	.00	.09	-.00	.01		
Ethnicity	.01	.01	.08	-.00	.03		
Sexuality	.01	.04	.81	-.07	.08		
Relationship	-.03	.02	.10	-.07	.00		
H-H	-.02	.05	.79	-.12	.09		
E	.17	.05	.001***	.08	.27		
X	-.06	.05	.19	-.15	.04		
A	-.19	.05	.002**	-.28	-.10		
C	-.08	.06	.15	-.20	.04		
O	-.11	.05	.04	-.21	-.02		
GDTET	.13	.04	.002**	.04	.22		

Regression significant at $p < 0.05$ level*, regression significant at $p < 0.01$ level**, regression significant at $p < .001$ level ***, Relationship (Relationship Status), H-H (Honesty-Humility), E (Emotionality), X (Extraversion), A (Agreeableness), C (Conscientiousness), O (Openness), M (Machiavellianism), N (Narcissism), P (Psychopathy), S (Sadism), GDTET (General Dark Tetrad).

3.4 Mediation Analysis

Five mediation analyses were conducted using a regression macro called PROCESS (Hayes, 2012) to test whether MD mediates the relationships between the DTET and IPV (Appendix Q). PROCESS uses bootstrapping techniques to test whether the indirect effect is different from zero by providing 95% confidence intervals for the population value (Hayes, 2012). If zero is not within the confidence intervals, the indirect effect is assumed to be statistically significant at $p < .05$. Narcissism and sadism were excluded from the analysis as they did not predict IPV. Despite being significant individual predictors, MD did not mediate the relationships between psychopathy and the General DTET with physical IPV.

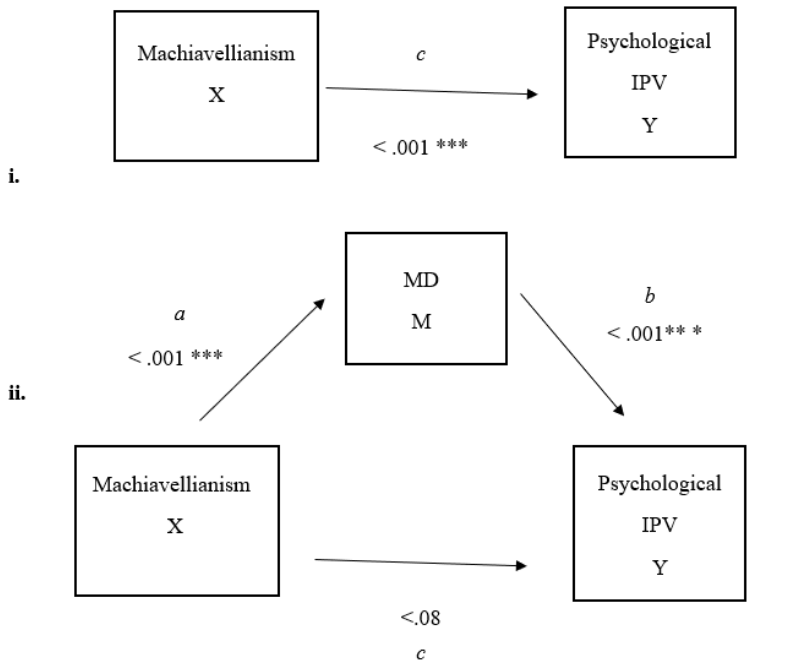
In the total effects model, Machiavellianism significantly predicted psychological IPV (b=.19, SE=.05, t=3.93, $p<.001$). Machiavellianism also predicted the MD mediator (b =.49, SE=1.25, t=11.33, $p<.001$). With both variables in the model, controlling for Machiavellianism, MD was a significant predictor of psychological IPV, (b=.19, SE=.00, t=3.57, $p<.001$). When controlling for MD, Machiavellianism no longer significantly predicted psychological IPV (b=.10, SE=.06, t=1.74, $p<.08$). This indicates a full mediation effect with a significant indirect coefficient (b=.11, SE=.04, bootstrapping: 95% LL=.0410, 95% UL=.1784).

In the total effects model, psychopathy significantly predicted psychological IPV (b =.25, SE=.05, t=5.31, $p<.001$). Psychopathy also predicted the MD mediator (b=.54, SE=1.04, t=13.16, $p<.001$). With both variables in the model, controlling for psychopathy, MD also significantly predicted psychological IPV (b=.15, SE=.00, t=2.62, $p<.009$). When controlling for MD, psychopathy significantly predicted psychological IPV to a lesser extent effect (b =.17, SE=.05, t=3.06, $p<.002$). This indicated a partial mediation effect with a significant indirect coefficient (b =.08, SE =.03, bootstrapping: 95% LL=.0149, 95% UL=.1470).

In the total effects model, the general DTET significantly predicted psychological IPV (b=.22, SE=.03, t= 4.64, p<.001). The general DTET also predicted the MD mediator (b=.68, SE=.63, t=18.93, p<.001). With both variables in the model, controlling for the general DTET, MD was a significant predictor of psychological IPV, (b=.17, SE=.00, t=2.57, p<.05). When controlling for MD, the general DTET no longer significantly predicted psychological IPV (b = .11, SE=.04, t=1.67, p<.09). This indicated a full mediation effect with a significant indirect coefficient (b=.07, SE=.03, bootstrapping: 95% LL=.0117, 95% UL =.1432).

These analyses show that MD is a partial mediator between psychopathy and psychological IPV and a full mediator between Machiavellianism and the General DTET with psychological IPV. Figures 1, 2, and 3 show pathway diagrams for each analysis.

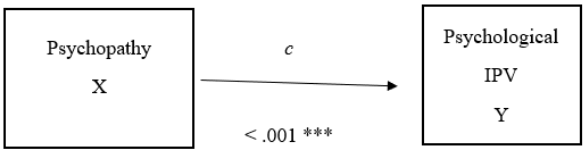
Figure 1:Path diagram for **i.** the total effect of Machiavellianism on psychological IPV and **ii.** the indirect effect of Machiavellianism on psychological IPV through the MD mediator.



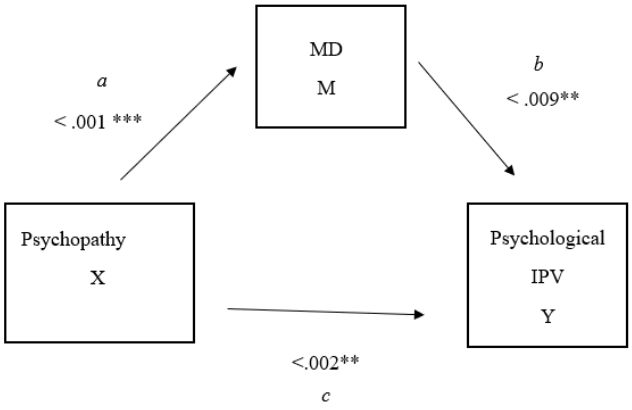
Regression significant at $p < 0.05$ level*, regression significant at $p < 0.01$ level**, regression significant at $p < .001$***. IPV (Intimate Partner Violence), MD (Moral Disengagement)

Figure 2:Path diagram for **i.** the total effect of psychopathy on psychological IPV and **ii.** the indirect effect of psychopathy on psychological IPV through the MD mediator.

i.



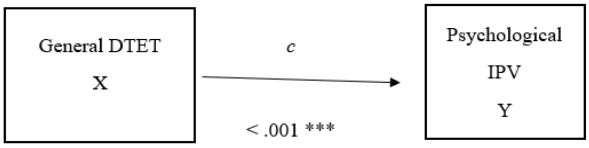
ii.



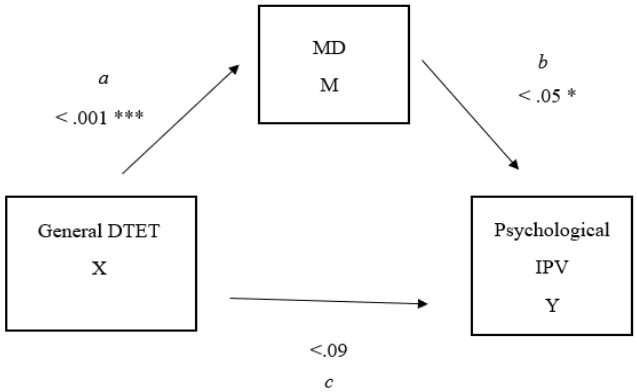
Regression significant at $p < 0.05$ level*, regression significant at $p < 0.01$ level**, regression significant at $p < .001$***. IPV (Intimate Partner Violence), MD (Moral Disengagement)

Figure 3:Path diagram for **i.** the total effect of the General DTET on psychological IPV and **ii.** the indirect effect of the General DTET on psychological IPV through the MD mediator.

i.



ii.



Regression significant at $p < 0.05$ level*, regression significant at $p < 0.01$ level**, regression significant at $p < .001$***. General DTET (General Dark Tetrad), IPV (Intimate Partner Violence), MD (Moral Disengagement)

4. Discussion

This research examined the DTET traits as predictors of psychological and physical IPV. It was hypothesised that higher DTET scores would predict more IPV behaviours, but that this would be better explained by a general DTET factor. Also, that the DTET would predict IPV better than general personality, and that MD would mediate the relationships between the DTET traits and IPV. However, only psychopathy and Machiavellianism predicted IPV perpetration, which was not better explained by an overall DTET factor. MD mediated psychopathy's, Machiavellianism's and the General DTET's relationship with psychological, but not physical IPV. The DTET added incremental validity over the HEXACO dimensions, except for high levels of Emotionality and low levels of Openness and Agreeableness, as low Agreeableness best predicted psychological IPV.

4.1 Hypothesis One

The hypothesis that all DTET traits would predict IPV, which would be better predicted by a general factor extracted from the DTET traits was only partially supported. Consistent with previous research, psychopathy was the strongest predictor of physical and psychological IPV. Previous studies have also found psychopathy to be related to physical IPV (Mager et al., 2014) and positively associated with psychological abuse (Carton et al., 2017). This suggests that, compared to the other DTET traits, those higher in psychopathy are more likely to perpetrate IPV. With psychopathy being characterised by impulsivity and callousness (Paulhus, 2014), this may explain these individual's versatility in perpetrating multiple abusive behaviours.

This study also found a significant positive relationship between Machiavellianism and psychological IPV, which previous research has also documented (Brewer et al., 2018). Significant

relationships were not found between Machiavellianism and physical IPV, which other research has also failed to establish (Kiire, 2017). Hence, those who are high in Machiavellianism may be more likely to be psychologically but not physically abusive. This may be because individuals high in Machiavellianism traits are often mistrusting of others and, subsequently, have a manipulative interpersonal style (Sabouri et al., 2016). Some research has found Machiavellianism to be related to childhood psychological maltreatment (Láng & Lénárd, 2015), suggesting that these behaviours, as opposed to physical IPV, may be replicated later in life.

Alternatively, whilst significantly correlated with psychological and physical IPV, sadistic traits were not related to IPV. Sadism has an established relationship with antisocial behaviour (Chabrol et al., 2017), and predicts intimate partner cyberstalking (Smoker et al., 2017). Other research, which utilised an unreliable sadism measure, has found high sadism scores to predict females students physical IPV, but psychopathy was the best predictor of IPV (Tetreault et al., 2018). Compared to the present study, which examined IPV in the general population, with a larger and more representative sample, when controlling for psychopathy, those high in sadistic traits may be less likely to perpetrate IPV.

Equally, narcissism was not significantly associated or related to IPV. This is inconsistent with prior research which finds narcissist traits to predict physical IPV (Johnson et al., 2006) and to be associated with psychological and sexual abuse (Ryan et al., 2008; Carton et al., 2017). There are several plausible explanations for these discrepant findings. Firstly, this may be attributable to the disproportionate number of males participants in this study. According to a meta-analysis (Grijalva et al., 2015) males are significantly more likely to display narcissistic traits than females. Another explanation may be sexual IPV's exclusion from this study. Narcissism is often characterised by its associations with sexual coercion in intimate relationships (Ryan et al., 2008).

Hence, with research focusing on narcissism predicting males sexual coercion (Blinkhorn et al., 2017), and rape-supportive beliefs (Bushman, Bonacci, Baumeister, & van Dijk, 2003), higher narcissistic traits may predict sexual IPV in men. Yet, the present study's findings indicate that narcissistic traits are not related to IPV. Other research supports this notion, proposing that narcissism is one of the lightest dimensions of the DT which is less predictive of antisocial behaviour (Furnham et al., 2013). Narcissism is frequently positively correlated with Extraversion and Openness (Paulhus et al., 2002), which a meta-analysis demonstrates to be less associated with antisocial behaviour than other HEXACO traits (Jones, Miller & Lynam, 2011). These inconsistencies in the literature suggest further research is needed to understand narcissisms role within IPV.

Finally, IPV was not better predicted by a common DTET factor, as the general DTET variable explained less variance in physical and psychological IPV than the individual predictors. However, like other research (Furnham et al., 2013), this study found strong positive correlations between the DTET traits. Similarly, this study found that only psychopathy and Machiavellianism predicted IPV. Other studies examining the entire DTET are also congruent that, although moderately correlated, only two of the DTET traits were independently predictive of IPV behaviours (Tetreault et al., 2018). When examining the DTET, this study extracted one factor from the factor analysis, where narcissism contributed the least and sadism to most to the shared common variance in the overall DTET variable, which other research has also found (Međedović et al., 2015). Lee et al (2005) also showed that, while Machiavellianism and psychopathy demonstrated the strongest associations, narcissism was strongly correlated with Extraversion; Machiavellianism and psychopathy demonstrated near-zero associations with this trait. Overall, this suggests that the DTET traits overlap considerably, however, they are characteristically

dissimilar. This, therefore, warrants the distinct individual personality traits, whereby the shared elements of Machiavellianism and psychopathy are most predictive of IPV.

4.2 Hypothesis Two

There was partial support for the DTET traits adding incremental validity over general personality and IPV. In each analysis, the DTET variables significantly increased the model's predictive capacity for physical and psychological IPV. Where physical IPV was the criterion variable, this was predicted in the first model by low-level Agreeableness, which is congruent with other research (Hines et al., 2008). However, the addition of the DTET variables diminished Agreeableness' predictive significance, perhaps because all Agreeableness was assimilated into DTET variance. Some research contradicts this, Carton et al (2017) found that the DT does not add incremental validity to physical IPV over low Agreeableness. Other research verifies the current study's findings, showing Agreeableness to underly psychopathy and Machiavellianism; where psychopathy was a better predictor of physical violence (Pailing, Boon & Egan, 2014). Therefore, whichever elements of low-level Agreeableness contribute to physical IPV are captured within psychopathy.

The incremental validity of the DTET for psychological IPV was less consistent. Although the DTET traits increased the overall model's predictive ability, high Emotionality and low Openness remained statistically significant. This may be because high Emotionality and low Openness comprise elements of personality which contribute to psychological IPV perpetration which the DTET does not capture. De Vries and van Kampen (2010) also found Openness and Emotionality to have weak correlations with Machiavellianism and psychopathy. However, with the DTET traits addition to the model, Agreeableness remained a stronger individual predictor of psychological IPV than psychopathy and Machiavellianism. Furthermore, some of the

characteristics demonstrated by someone low in Agreeableness may be captured by psychopathy and Machiavellianism within physical IPV, but not for psychological IPV, which requires further research.

4.3 Hypothesis Three

There was only partial support for MD mediating the relationships between the DTET traits and IPV. When examining the general DTET variable, MD demonstrated a significant mediation effect with psychological IPV. However, this was also the case for Machiavellianism and psychopathy, whereby MD had less predictive capacity of psychological IPV when controlling for the general DTET variable than psychopathy and Machiavellianism. This is likely due to narcissism and sadism not predicting IPV. The general DTET variable also explained less of the variance in psychological IPV than did Machiavellianism and psychopathy, suggesting that MDs mediating effect on these traits should be considered individually.

The relationship between Machiavellianism and psychological IPV was fully mediated by MD and partially mediated with psychopathy. Although there is a paucity of research examining the DTET and MD, these findings are consistent with that literature, demonstrating MD to be based on psychopathic and Machiavellianism traits (Egan et al., 2015). Other research shows both traits to be associated with greater MD use for various antisocial behaviours (Sijtsema et al., 2019; DeLisi et al., 2014). However, the evidence supporting MD's mediation of violent behaviour is ill established. Though research has found psychopathic traits are indirectly related to violent behaviour (Waltser et al., 2015), this was not in the context of psychological IPV. Based on Machiavellianism (manipulativeness and mistrusting of others) and psychopathy's characteristics (malevolence and impulsivity) and their shared nature of callous exploitation (Paulhus et al., 2002), it is unsurprising that those high in these traits are more likely to use MD. This lends support

to Pailing et al's (2013) research which proposed a dark dyad, comprising Machiavellianism and psychopathy, which underly violent behaviour. Further research is needed to corroborate this within IPV and the role of MD.

No mediation effects were found for MD limiting the influence of psychopathy on physical IPV. This suggests that, whilst related to psychopathy in some way, physical IPV perpetration does not involve the same moral abandonment process as psychological IPV. Although some research shows a relationship between MD and physical violence (Caprara et al., 2014), others demonstrate physical violence to be an impulsive act (Cascardi, Chesin & Kammen, 2018) characteristic of psychopathic individuals behaviour (Paulhus, 2014). Therefore, physical IPV may be related to difficulties controlling aggression and intense emotions as opposed to premeditated violence. This suggests that intervention efforts targeted at physically abusive IPV offenders may focus on areas such as emotion regulation and anger management difficulties. However, other research has found both physical and psychological IPV to be impulsive acts (Shorey, Brasfield, Febres & Stuart, 2011), highlighting areas for future research.

Regarding psychological IPV, research shows that both psychological abuse (Lewis, Milletich, Derlega & Padilla, 2014) and MD (Wang et al., 2018) are associated with rumination processes. This implies that psychological IPV is more calculated and instrumental in nature (Walsh et al., 2009) than physical IPV. According to Bandura's MD theory (1986), individuals who morally disengage justify their actions through cognitive re-construal. Additionally, those who readily used MD ruminated their perceived grievances and dwelled on punitive reprisals (Bandura et al., 1996). This suggests that MD may mediate the relationships between Machiavellianism and psychological IPV as individuals high in Machiavellianism are suspicious of others and have a manipulative interpersonal style (Sabouri et al., 2016), making them more

likely to seek punitive measures. Individuals high in psychopathy may be dually physically and psychologically violent due to their impulsive and unempathetic nature (Paulhus, 2014), allowing them to perpetrate multiple forms of abuse. Hence, psychological IPV interventions may address an individual's tendency to ruminate and their cognitive appraisals of perceived interpersonal conflict.

4.4 Strengths and Limitations

This research adopted a cross-sectional design, measuring personality and IPV at one point in time. This may limit the validity of these findings as only concurrent relationships were detected as opposed to their longitudinal trajectory (Muris et al. 2017). It is therefore difficult to establish whether Machiavellianism and psychopathy's relationship with IPV is bidirectional in nature. Likewise, due to its cross-sectional design, this study employed an atemporal mediation model, which does not consider the temporal order of the relationships in the model (Winer et al., 2016). This somewhat limits the conclusions that can be made as to the causal nature of the relationships amongst variables as some research suggests that antisocial behaviour precedes MD (Sijtsema et al., 2019). Future studies on this topic may use temporal longitudinal designs.

Concerning the outcome construct measures, psychological and physical IPV, and Machiavellianism subscales fell short of acceptable reliability. Although other research has established that the reliability of IPV scales cannot easily be determined (Straus et al., 2004), for this reason, this study's findings should be exercised with caution. However, the SD4 is a new measure of the DTET traits. Having tested this measures external validity and internal reliability in a large and diverse sample in this study, future research may also replicate this methodology, to ascertain the true validity of this measure. Additionally, sexual IPV could not be examined as a

factor-analysis of CTS2S items could not identify a sexual IPV subscale. Future research should detail standardised procedures for implementing this measure.

4.5 Conclusion

Perpetrators of IPV are a heterogeneous group. This study supports that some DTET traits (psychopathy and Machiavellianism) are related to IPV. Despite previous research, other DTET traits (narcissism and sadism) were not related to abusive relationship behaviours. There was no evidence for a shared DTET factor being more explanatory than the individual subscales. Psychopathy was the strongest predictor of psychological and physical IPV, suggesting that individuals high in subclinical psychopathy demonstrate the darkest traits which allow them to perpetrate multiple forms of abuse. Psychological IPV differed to physical IPV; it was also driven by high Emotionality, low Openness, and low Agreeableness, which was a better individual predictor than both DTET traits. Low Agreeableness is, therefore, cardinal to understanding IPV and the DTET. With MD mediating psychopathy and Machiavellianism's relationships only with psychological IPV, individuals who perpetrate physical IPV do not appear to utilise to same MD process as psychologically violent individuals. This suggests psychological abuse to be premeditated, as opposed to the impulsivity of physical IPV, as shown by the differences in Machiavellian and psychopathic personality traits. This highlights the distinct trajectories in those who perpetrate physical and psychological IPV, which may ultimately require different intervention measures.

Word count: 5999

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Appendices

Appendix A: HEXACO-60

HEXACO-PI-R

(SELF REPORT FORM)

DIRECTIONS

On the following pages you will find a series of statements about you. Please read each statement and decide how much you agree or disagree with that statement. Then write your response in the space next to the statement using the following scale:

5 = strongly agree
4 = agree
3 = neutral (neither agree nor disagree)
2 = disagree
1 = strongly disagree

Please answer every statement, even if you are not completely sure of your response.

Please provide the following information about yourself.

1 I would be quite bored by a visit to an art gallery.

2 I plan ahead and organize things, to avoid scrambling at the last minute.

3 I rarely hold a grudge, even against people who have badly wronged me.

4 I feel reasonably satisfied with myself overall.

5 I would feel afraid if I had to travel in bad weather conditions.

6 I wouldn't use flattery to get a raise or promotion at work, even if I thought it would succeed.

7 I'm interested in learning about the history and politics of other countries.

8 I often push myself very hard when trying to achieve a goal.

9 People sometimes tell me that I am too critical of others.

10 I rarely express my opinions in group meetings.

11 I sometimes can't help worrying about little things.

12 If I knew that I could never get caught, I would be willing to steal a million dollars.

13 I would enjoy creating a work of art, such as a novel, a song, or a painting.

14 When working on something, I don't pay much attention to small details.

15 People sometimes tell me that I'm too stubborn.

16 I prefer jobs that involve active social interaction to those that involve working alone.

17 When I suffer from a painful experience, I need someone to make me feel comfortable.

18 Having a lot of money is not especially important to me.

19 I think that paying attention to radical ideas is a waste of time.

20 I make decisions based on the feeling of the moment rather than on careful thought.

21 People think of me as someone who has a quick temper.

22 On most days, I feel cheerful and optimistic.

23 I feel like crying when I see other people crying.

24 I think that I am entitled to more respect than the average person is.

25 If I had the opportunity, I would like to attend a classical music concert.

26 When working, I sometimes have difficulties due to being disorganized.

27 My attitude toward people who have treated me badly is “forgive and forget”.

28 I feel that I am an unpopular person.

29 When it comes to physical danger, I am very fearful.

30 If I want something from someone, I will laugh at that person's worst jokes.

Continued…

31 _____ I've never really enjoyed looking through an encyclopaedia.

32 _____ I do only the minimum amount of work needed to get by.

33 _____ I tend to be lenient in judging other people.

34 _____ In social situations, I'm usually the one who makes the first move.

35 _____ I worry a lot less than most people do.

36 _____ I would never accept a bribe, even if it were very large.

37 _____ People have often told me that I have a good imagination.

38 _____ I always try to be accurate in my work, even at the expense of time.

39 _____ I am usually quite flexible in my opinions when people disagree with me.

40 _____ The first thing that I always do in a new place is to make friends.

41 _____ I can handle difficult situations without needing emotional support from anyone else.

42 _____ I would get a lot of pleasure from owning expensive luxury goods.

43 _____ I like people who have unconventional views.

44 _____ I make a lot of mistakes because I don't think before I act.

45 _____ Most people tend to get angry more quickly than I do.

46 _____ Most people are more upbeat and dynamic than I generally am.

47 _____ I feel strong emotions when someone close to me is going away for a long time.

48 _____ I want people to know that I am an important person of high status.

49 _____ I don't think of myself as the artistic or creative type.

50 _____ People often call me a perfectionist.

51 _____ Even when people make a lot of mistakes, I rarely say anything negative.

52 _____ I sometimes feel that I am a worthless person.

53 _____ Even in an emergency I wouldn't feel like panicking.

54 _____ I wouldn't pretend to like someone just to get that person to do favors for me.

55 _____ I find it boring to discuss philosophy.

56 _____ I prefer to do whatever comes to mind, rather than stick to a plan.

57 _____ When people tell me that I'm wrong, my first reaction is to argue with them.

58 _____ When I'm in a group of people, I'm often the one who speaks on behalf of the group.

59 _____ I remain unemotional even in situations where most people get very sentimental.

60 _____ I'd be tempted to use counterfeit money, if I were sure I could get away with it.

Appendix B: The Multidimensional Measure of Emotional Abuse Scale

	Not in the past year but it did happen before	Once	Twice	3 - 5 times	6 - 10 times	11 - 20 times	More than 20 times	This has never happened	Don't know
1. YOU asked the other person where he or she had been, or who he or she was with, in a suspicious manner.									
2. YOUR PARTNER asked you where you had been, or who you were with, in a suspicious manner.									
3. YOU secretly searched through the other person's belongings.									
4. YOUR PARTNER secretly searched through your belongings.									
5. YOU have secretly gone through the other person's emails, text messages and/or Facebook messages									
6. YOUR PARTNER has secretly gone through your emails, text messages and /or Facebook messages									
7. YOU tried to stop the other person from seeing certain friends or family members.									
8. YOUR PARTNER tried to stop you from seeing certain friends or family members.									
9. YOU complained that the other person spends too much time with friends.									
10. YOUR PARTNER complained that you spend too much time with friends.									
11. YOU got angry because the other person went somewhere without telling him or her.									

12. YOUR PARTNER got angry because you went somewhere without telling him or her.									
13. YOU tried to make the other person feel guilty for not spending enough time together.									
14. YOUR PARTNER tried to make you feel guilty for not spending enough time together.									
15. YOU checked up on the other person by asking friends where he or she was, or whom he or she was with.									
16. YOUR PARTNER checked up on you by asking friends where you were, or whom you were with.									
17. YOU said or implied that the other person was stupid.									
18. YOUR PARTNER said or implied that you were stupid.									
19. YOU called the other person worthless.									
20. YOUR PARTNER called you worthless.									
21. YOU called the other person ugly.									
22. YOUR PARTNER called you ugly.									
23. YOU criticised the other person's appearance.									
24. YOUR PARTNER criticised your appearance.									
25. YOU called the other person a loser, failure, or similar term.									
26. YOUR PARTNER called you a loser, failure, or similar term.									
27. YOU belittled the other person in front of other people.									
28. YOUR PARTNER belittled you in front of other people.									
29. YOU said that someone else would be a better girlfriend or boyfriend.									

30. YOUR PARTNER said that someone else would be a better girlfriend or boyfriend.									
31. YOU became so angry that he or she was unable or unwilling to talk.									
32. YOUR PARTNER became so angry that he or she was unable or unwilling to talk.									
33. YOU acted cold or distant when angry.									
34. YOUR PARTNER acted cold or distant when angry.									
35. YOU refused to have any discussion of a problem.									
36. YOUR PARTNER refused to have any discussion of a problem.									
37. YOU changed the subject on purpose when the other person was trying to discuss a problem.									
38. YOUR PARTNER changed the subject on purpose when you were trying to discuss a problem.									
39. YOU refused to acknowledge a problem that the other felt was important.									
40. YOUR PARTNER refused to acknowledge a problem that the other felt was important.									
41. YOU sulked or refused to talk about an issue.									
42. YOUR PARTNER sulked or refused to talk about an issue.									
43. YOU intentionally avoided the other person during a conflict or disagreement.									
44. YOUR PARTNER intentionally avoided you during a conflict or disagreement.									
45. YOU became angry enough to frighten the other person.									

46. YOUR PARTNER became angry enough to frighten you.									
47. YOU put your face in front of the other person's face to make a point more forcefully.									
48. YOUR PARTNER put his or her face in front of your face to make a point more forcefully.									
49. YOU threatened to hit the other person.									
50. YOUR PARTNER threatened to hit you.									
51. YOU threatened to throw something at the other person.									
52. YOUR PARTNER threatened to throw something at you.									
53. YOU threw, smashed, hit, or kicked something in front of the other person.									
54. YOUR PARTNER threw, smashed, hit, or kicked something in front of you.									
55. YOU drove recklessly to frighten the other person.									
56. YOUR PARTNER drove recklessly to frighten you.									
57. YOU stood or hovered over the other person during a conflict or disagreement.									
58. YOUR PARTNER stood or hovered over you during a conflict or disagreement.									

Appendix C: The Multidimensional Measure of Emotional Abuse Scale Factor Analysis

MMERotated Component Matrix[a]

	Component		
	1	2	3
YOU threatened to hit the other person.	.650		
YOU put your face in front of the other person's face to make a point more forcefully.	.600		
YOU threatened to throw something at the other person.	.597		
YOU threw, smashed, hit, or kicked something in front of the other person.	.586		
YOU became angry enough to frighten the other person.	.486		
YOU called the other person worthless.	.401		
YOU stood or hovered over the other person during a conflict or disagreement.			
YOU called the other person ugly.			
YOU secretly searched through the other person's belongings.			
YOU drove recklessly to frighten the other person.			
YOU belittled the other person in front of other people.			

YOU have secretly gone through the other person's emails, text messages and/or Facebook messages			
YOU sulked or refused to talk about an issue.		.653	
YOU refused to have any discussion of a problem.		.610	
YOU intentionally avoided the other person during a conflict or disagreement.		.511	
YOU refused to acknowledge a problem that the other felt was important.		.493	
YOU acted cold or distant when angry.		.489	
YOU changed the subject on purpose when the other person was trying to discuss a problem.		.485	
YOU became so angry that he or she was unable or unwilling to talk.			
YOU criticised the other person's appearance.			
YOU said or implied that the other person was stupid.			
YOU got angry because the other person went somewhere without telling him or her.			.616
YOU tried to make the other person feel guilty for not spending enough time together.			.520

YOU checked up on the other person by asking friends where he or she was, or whom he or she was with.			.512
YOU complained that the other person spends too much time with friends.			.504
YOU asked the other person where he or she had been, or who he or she was with, in a suspicious manner.			.492
YOU tried to stop the other person from seeing certain friends or family members.			.460
YOU called the other person a loser, failure, or similar term.			.429
YOU said that someone else would be a better girlfriend or boyfriend.			

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.

Appendix D: The Propensity to Morally Disengage Scale

Strongly Disagree ---------- **Strongly Agree**

Propensity to Morally Disengage Scale

Moral Justification

1) It is okay to spread rumours to defend those you care about.*
2) It is alright to lie to keep your friends out of trouble.*
3) Playing dirty is sometimes necessary in order to achieve noble ends.

Euphemistic Labelling

4) Taking something without the owner's permission is okay as long as you're just borrowing it.*
5) It's okay to gloss over certain facts to make your point.*
6) When you're negotiating for something you want, not telling the whole story is just part of the game.

Advantageous Comparison

7) Considering the ways people grossly misrepresent themselves, it's hardly a sin to inflate your own credentials a bit.*
8) Compared to other illegal things people do, taking something small from a store without paying for it isn't worth worrying about.*
9) Damaging property is no big deal when you consider that others are assaulting people.

Displacement of Responsibility

10) People shouldn't be held accountable for doing questionable things when they were just doing what an authority figure told them to do.*
11) People cannot be blamed for misbehaving if their friends pressured them to do it.*
12) You can't blame people for breaking the rules if that's what they were taught to do by their leaders.

Diffusion of Responsibility

13) People can't be blamed for doing things that are technically wrong when all their friends are doing it too.*
14) It's okay to tell a lie if the group agrees that it's the best way to handle the situation.*
15) In contexts where everyone cheats, there's no reason not to.

Distortion of Consequences

16) Taking personal credit for ideas that were not your own is no big deal.*
17) Walking away from a store with some extra change doesn't cause any harm.*
18) It is OK to tell small lies when negotiating because no one gets hurt.

Dehumanization

19) Some people have to be treated roughly because they lack feelings that can be hurt.*
20) It's okay to treat badly somebody who behaves like scum.*
21) Violent criminals don't deserve to be treated like normal human beings.

Attribution of Blame

22) People who get mistreated have usually done something to bring it on themselves.*
23) If a business makes a billing mistake in your favour, it's okay not to tell them about it because it was their fault.*
24) If people have their privacy violated, it's probably because they have not taken adequate precautions to protect it.

Scoring

- Items measured on a 7-point Likert scale ranging from "strongly disagree" to "strongly agree".
- Items in bold comprise the final 8-item measure. Items marked with *comprise the 16-item measure.

Appendix E: The Control Tactics Scale Revised Short Form -2

THE CTS2S SHORT FORM

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Psychological Services

1-800-648-8857; custsvc@wpspublish.com
Murray A. Straus, University of New Hampshire
murray.straus@unh.edu http://pubpages.unh.edu/~mas2

COUPLE CONFLICTS

No matter how well a couple gets along, there are times when they disagree, get annoyed with the other person, want different things from each other, or just have spats or fights because they are in a bad mood, are tired or for some other reason. Couples also have many different ways of trying to settle their differences. This is a list of things that might happen when you have differences. Please mark how many times you did each to these things in the past year, and how many times your partner did them in the past year. If you or your partner did not do one of these things in the past year, but it happened before that, mark a "7" on your answer sheet for that question. If it never happened, mark an "8" on your answer sheet.

How often did this happen?
1 = Once
2 = Twice
3 = 3-5 times
4 = 6-10 times
5 = 11-20 times
6 = More than 20 times
7 = This never happened
8 = This has never happened

1. I explained my side or suggested a compromise for a disagreement with my partner	1	2	3	4	5	6	7	8
2. My partner explained his or her side or suggested a compromise for a disagreement with me	1	2	3	4	5	6	7	8
3. I insulted or swore or shouted or yelled at my partner	1	2	3	4	5	6	7	8
4. My partner insulted or swore or shouted or yelled at me	1	2	3	4	5	6	7	8
5. I had a sprain, bruise, or small cut, or felt pain the next day because of a fight with my partner	1	2	3	4	5	6	7	8
6. My partner had a sprain, bruise, or small cut or felt pain the next day because of a fight with me	1	2	3	4	5	6	7	8
7. I showed respect for, or showed that I cared about my partner's feelings about an issue we disagreed on	1	2	3	4	5	6	7	8
8. My partner showed respect for, or showed that he or she cared about my feeling about an issue we disagreed on	1	2	3	4	5	6	7	8
9. I pushed, shoved, or slapped my partner	1	2	3	4	5	6	7	8
10. My partner pushed, shoved, or slapped me	1	2	3	4	5	6	7	8

11. I punched or kicked or beat-up my partner	1	2	3	4	5	6	7	8
12. My partner punched or kicked or beat-me-up	1	2	3	4	5	6	7	8
13. I destroyed something belonging to my partner or threatened to hit my partner	1	2	3	4	5	6	7	8
14. My partner destroyed something belonging to me or threatened to hit me	1	2	3	4	5	6	7	8
15. I went see a doctor (M.D.) or needed to see a doctor because of a fight with my partner	1	2	3	4	5	6	7	8
16. My partner went to see a doctor (M.D.) or needed to see a doctor because of a fight with me	1	2	3	4	5	6	7	8
17. I used force (like hitting, holding down, or using a weapon) to make my partner have sex	1	2	3	4	5	6	7	8
18. My partner used force (like hitting, holding down, or using a weapon) to make me have sex	1	2	3	4	5	6	7	8
19. I insisted on sex when my partner did not want to or insisted on sex without a condom (but did not use physical force	1	2	3	4	5	6	7	8
20. My partner insisted on sex when I did not want to or insisted on sex without a condom (but did not use physical force)	1	2	3	4	5	6	7	8

Appendix F: Control Tactics Scale Short Form Revised – Factor Analysis

Rotated Component Matrix[a]

	Component	
	1	2
My partner had a sprain, bruise, or small cut or felt pain the next day because of a fight with me	.770	
I punched or kicked or beat-up my partner	.639	
I pushed, shoved, or slapped my partner	.615	
I destroyed something belonging to my partner or threatened to hit my partner	.559	
My partner went to see a doctor (M.D.) or needed to see a doctor because of a fight with me		
I showed respect for, or showed that I cared about my partner's feelings about an issue we disagreed on		.847
I explained my side or suggested a compromise for a disagreement with my partner		.802
I insulted or swore or shouted or yelled at my partner		.467
I used force (like hitting, holding down, or using a weapon) to make my partner have sex		

I insisted on sex when my partner did not want to or insisted on sex without a condom (but did not use physical force	

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.

a. Rotation converged in 3 iterations.

Appendix G: Short Dark Tetrad 4

FOUR IDENTITIES QUESTIONNAIRE (SD4)

Rate your agreement with each statement using a 5-point scale:

1 Strongly agree – 1 Strongly disagree

IDENTITY 1: "CRAFTY"

1. It's not wise to let people know your secrets.
2. Whatever it takes, you must get the important people on your side.
3. Avoid direct conflict with others because they may be useful in the future.
4. Keep a low profile if you want to get your way.
5. Manipulating the situation takes planning.
6. Flattery is a good way to get people on your side.
7. I love it when a tricky plan succeeds.

IDENTITY 2: "SPECIAL"

8. People see me as a natural leader.
9. I have a unique talent for persuading people.
10. Group activities tend to be dull without me.
11. I know that I am special because people keep telling me so.
12. I have some exceptional qualities
13. I'm likely to become a future star in some area.
14. I like to show off every now and then.

IDENTITY 3: "WILD"

15. People often say I'm out of control.
16. I tend to fight against authorities and their rules.
17. I'm tempted to punch people who anger me.
18. I tend to dive in, then ask questions later.
19. I've been in trouble with the law.
20. I sometimes get into dangerous situations.
21. People who mess with me always regret it.

IDENTITY 4: "MEAN"

22. Watching a fist-fight excites me.
23. I really enjoy violent films and video games.
24. It's funny when idiots fall flat on their face.
25. I enjoy watching violent sports.
26. Some people deserve to suffer.
27. I like to troll people on internet sites.
28. I know how to hurt someone with words alone.

Appendix H: SD4 Principal Component Analysis

Descriptive Statistics

	Mean	Std. Deviation	Analysis N
MACHIAVELLIANISM	3.1659	.60007	416
NARCISSISM	2.7122	.72647	416
PSYCHOPATHY	2.0199	.69293	416
SADISM	2.3070	.78512	416

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.659
Bartlett's Test of Sphericity	Approx. Chi-Square	309.817
	df	6
	Sig.	.000

Communalities

	Initial	Extraction
MACHIAVELLIANISM	1.000	.413
NARCISSISM	1.000	.362
PSYCHOPATHY	1.000	.596
SADISM	1.000	.708

Extraction Method: Principal Component Analysis.

Total Variance Explained

	Initial Eigenvalues			Extraction Sums of Squared Loadings		
Component	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	2.079	51.964	51.964	2.079	51.964	51.964
2	.842	21.042	73.006			
3	.687	17.170	90.177			
4	.393	9.823	100.000			

Extraction Method: Principal Component Analysis.

Component Matrix[a]

	Component
	1
MACHIAVELLIANISM	.643
NARCISSISM	.602
PSYCHOPATHY	.772

SADISM	.841

Extraction Method: Principal Component Analysis.

a. 1 components extracted.

Appendix I: Study Advertisement

Masters Research Project.

Individual Differences in Personality, Relationship Conflict Styles and Moral Values.

Hi, my name is Laura Carter. I am a forensic psychology masters student at the University of Nottingham currently undertaking my dissertation research project.

I am interested in how people's romantic relationships differ from one another based on differences in their personality traits and moral behaviours.

Participants should be **aged 18+**, have been in a romantic relationship of at least three months in duration over the last two years and be fluent in the English language.

If you are **aged 18+** and would be willing to fill out some confidential online questionnaires, please follow the link below. This will take roughly 10 minutes of your time. You will not be asked for any personal details which may identify you.

https://nottingham.onlinesurveys.ac.uk/dissertation-4

Thanks again!

Please feel free to contact me:

Laura.carter@nottingham.ac.uk

Appendix J: Information and Consent Sheet

The School of Medicine / Division of Psychiatry and Applied Psychology, The University of Nottingham.

Individual Differences in Personality Traits, Relationship Conflict Styles and Moral Values.

Faculty of Medicine and Health Sciences Research Ethics Committee. Research Ethics Ref: 237-1902

General Information

Thank you for your interest in taking part in this online survey. You have been invited to participate as you are aged 18 + and have been in a romantic relationship of at least three months in duration over the last two years. Please read through this information carefully before agreeing to participate by ticking the 'yes' box below.

This study is being conducted by Laura Jayne Carter, an MSc Forensic and Criminological Psychology student from the University of Nottingham. This research is going to investigate individual differences in personality traits and relationship conflict styles. This is with the aim of providing a better understanding of the different ways in which people respond to conflict in their romantic relationships based on differences in their personality.

You will be given some questions to read and will then be instructed to answer them. It should take you about 10-15 minutes to complete this survey with a total of 160 questions. No background knowledge is required. The data that you provide will only be used in this research project and will be used only by the researchers detailed below. Nobody else will have access to this data.

How will your data be used?

Your answers will be completely anonymous, and all reasonable endeavours will be used to keep them confidential. Your participation in this study is entirely voluntary. You can withdraw at any point during the questionnaire for any reason, before submitting your answers by clicking the Exit button/closing the browser. The data will only be uploaded on completion of the questionnaire by clicking the SUBMIT button. You are free to omit any question. It should be noted that once you have submitted your answers at the end of the questionnaire that they cannot then be subtracted as all data are anonymised.

Your data will be stored in a password-protected file and may be used in academic publications. Your IP address will not be stored. All questions are optional, you do not have to answers any questions which may make you feel uncomfortable.

Who will have access to your data?

The University of Nottingham is the data controller for the purposes of the Data Protection. Your data will not be shared with anybody else.

We believe there are no known risks associated with this research study; however, as with any online research, it is possible that individuals may find some of the questions to be sensitive in nature and lead to minor distress. Should you find that you have experienced any personal distress after completing this research, helplines and contact details for the researchers will be provided at the end of the study. Similarly, as with any online related activity, the risk of a breach is always possible. We will do everything possible to ensure your answers in this study will remain anonymous.

The results of the study may be published in scientific journals and presented at scientific conferences. The data will be reported anonymously, with any identifying information removed.

If you have any questions about this project, you may contact the Lead Researcher (Laura Jayne Carter) or if you have any concerns about any aspect of this study please contact the Research Supervisor: Dr Vincent Egan. If you remain unhappy and wish to complain formally, you should then contact the FMHS Research Ethics Committee Administrator, c/o The University of Nottingham, Faculty PVC Office, B Floor, Medical School, Queen's Medical Centre Campus, Nottingham University Hospitals, Nottingham, NG7 2UH. E-mail: FMHS-ResearchEthics@nottingham.ac.uk

This study has been reviewed and given a favourable opinion by the University of Nottingham, Faculty of Medicine & Health Sciences Research Ethics Committee (**237-1902**).

I have read and understood the above information and consent form, I confirm that I am 18 years old or older and by clicking the NEXT button to begin the online questionnaire, I indicate my willingness to voluntarily take part in the study.

Consent Page

Lead researcher: Laura Jayne Carter (BSc Forensic Psychology)
Laura.Carter@nottingham.ac.uk

Research supervisor: Dr Vincent Egan (PhD, HCPC Chartered Clinical and Forensic Psychologist)

mczve@exmail.nottingham.ac.uk

Thank you for participating!

Please, tick each box to continue:

- ○ I confirm that I have read and understood the information on the previous page and have had the opportunity to ask questions
- ○ I am 18 years old and/or older
- ○ I understand that my participation is voluntary, and I am free to withdraw at any time, without giving any reason
- ○ I understand how to contact the researchers if I have any questions about this study

- ○ I understand the overall anonymised, once I have submitted my responses the data cannot be withdrawn
- ○ I understand that I will be asked questions about my personality, relationship conflicts and moral perspectives
- ○ I understand that the overall anonymise data from this study may be shared with other researchers and used in the future for research (with research ethical approval) and teaching purposes

Appendix K: Demographic Questionnaire

Demographic Questionnaire

1) **What is your gender?***

- Male
- Female
- Other

2) **If you selected other, please specify:***

3) **What is your age?***

4) **What is your ethnicity?**

- White – Welsh/ English/ Scottish/ Northern Irish/ British
- White – Irish
- White – Gypsy or Irish Traveller
- White – Other White Background
- Mixed – White and Black Caribbean
- Mixed – White and Black African
- Mixed – White and Asian
- Mixed – Any Other Background
- Asian or Asian British – Indian
- Asian or Asian British – Pakistani
- Asian or Asian British – Bangladeshi
- Asian or Asian British – Chinese
- Asian or Asian British – Any Other Asian Background
- Black or Black British – Caribbean
- Black or Black British – African
- Black or Black British – Any Other Black Background
- Other Ethnic Group – Arab
- Other

5) **If you selected other, please specify:***

6) **What is your sexual orientation?***

- Heterosexual
- Homosexual
- Bisexual

- Other

7) If you selected other, please specify:*

8) What is your relationships status?*

- Married
- Widowed
- Divorced
- Separated
- Cohabiting
- In a romantic relationship but not cohabiting

Appendix L: Debriefing Sheet

Debriefing sheet

The aim of this study was to examine general and darker personality traits in relation to a variety of negative conflict styles within intimate relationships. This study also looked at the role of moral disengagement in people who adopt negative conflict styles with their romantic partner. Moral disengagement refers to temporarily overlooking one's moral principles. We are testing whether moral disengagement moderates the relationship between personality traits and intimate partner violence. The purpose of this research is to provide a greater understanding of the complexities in potentially violent romantic relationships to help inform future assessment and interventions for victims and perpetrators of intimate partner violence.

If you feel the need to contact either myself or my supervisor regarding any issues, concerns or further information, please feel free. The contact details are as follows:

Lead Researcher: Laura Jayne Carter

The School of Medicine

Division of Psychiatry and Applied Psychology

The University of Nottingham

Email: Laura.carter@nottingham.ac.uk

Chief Academic/Supervisor: Dr Vincent Egan

PhD, HCPC Chartered Clinical Psychologist, HCPC Chartered Forensic Psychologist

Associate Professor of Forensic Psychology Practice

The School of Medicine

Department of Psychiatry and Applied Psychology

The University of Nottingham

Email: mczve@exmail.nottingham.ac.uk

Similarly, if you have any further inquiries about the project and do not wish to speak to myself please contact the FMHS Research Ethics Committee Administrator, c/o The University of Nottingham, Faculty PVC Office, B Floor, Medical School, Queen's Medical Centre Campus, Nottingham University Hospitals, Nottingham, NG7 2UH.

Email: FMHSResearchEthics@nottingham.ac.uk

If you have been affected by any of the questions in this study and feel that you require further support, please do not hesitate to contact the following charitable helplines:

Mind: 0300 123 3393

The National Domestic Violence Helpline: 0808 2000 247

Finally, thank you for taking the time to participate in my research.

Appendix M: Test for Normal Distribution

Tests of Normality

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
What is your gender?	.452	416	.000	.593	416	.000
What is your age?	.195	416	.000	.805	416	.000
What is your ethnicity?	.342	416	.000	.659	416	.000
What is your sexual orientation?	.438	416	.000	.618	416	.000
What is your relationship status?	.274	416	.000	.760	416	.000
HONESTYHUMILITY	.079	416	.000	.987	416	.001
EMOTIONALITY	.063	416	.000	.985	416	.000
EXTROVERSION	.075	416	.000	.989	416	.003
AGREEABLENESS	.077	416	.000	.987	416	.001
CONSCIENTIOUSNESS	.090	416	.000	.981	416	.000
OPENNESS	.088	416	.000	.980	416	.000
MORAL_JUSTIFICATION	.091	416	.000	.974	416	.000
EUPHEMISTIC_LABELLING	.082	416	.000	.967	416	.000
ADVANTAGEOUS_COMPARISON	.145	416	.000	.921	416	.000
DISPLACED_RESPONSIBILITY	.117	416	.000	.928	416	.000
DIFFUSED_RESPONSIBILITY	.169	416	.000	.919	416	.000
DISORTED_CONSEQUENCES	.118	416	.000	.956	416	.000
BLAME_ATTRIBUTION	.134	416	.000	.935	416	.000
DENHUMANISATION	.111	416	.000	.945	416	.000
TOTALmd	.053	416	.007	.987	416	.001
MACHIAVELLIANISM	.066	416	.000	.991	416	.017
NARCISSISM	.072	416	.000	.991	416	.010
PSYCHOPATHY	.092	416	.000	.957	416	.000
SADISM	.073	416	.000	.973	416	.000
PHYSICAL_IPV	.439	416	.000	.401	416	.000
PSYCHOLOGICAL_IPV	.098	416	.000	.940	416	.000
DOMINATION_INTIMIDATION	.295	416	.000	.725	416	.000
HOSTILE_WITHDRAWAL	.079	416	.000	.976	416	.000

RESTRICTIVE_ENGULFMENT	.103	416	.000	.946	416	.000

a. Lilliefors Significance Correction

Appendix N: Reliability Analysis

Honesty-Humility

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.761	.759	10

Summary Item Statistics

	Mean	Minimum	Maximum	Range	Maximum / Minimum	Variance	N of Items
Item Means	3.515	3.050	4.115	1.065	1.349	.104	10

Scale Statistics

Mean	Variance	Std. Deviation	N of Items
35.1514	44.457	6.66757	10

Emotionality

Reliability Statistics

Cronbach's Alpha	N of Items
.800	10

Summary Item Statistics

	Mean	Minimum	Maximum	Range	Maximum / Minimum	Variance	N of Items
Item Means	3.395	2.832	4.096	1.264	1.447	.174	10

Scale Statistics

Mean	Variance	Std. Deviation	N of Items
33.9471	50.455	7.10317	10

Extraversion

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.827	.830	10

Summary Item Statistics

	Mean	Minimum	Maximum	Range	Maximum / Minimum	Variance	N of Items
Item Means	3.069	2.757	3.361	.603	1.219	.051	10

Scale Statistics

Mean	Variance	Std. Deviation	N of Items
30.6899	55.323	7.43794	10

Agreeableness

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.813	.811	10

Summary Item Statistics

	Mean	Minimum	Maximum	Range	Maximum / Minimum	Variance	N of Items
Item Means	3.155	2.632	3.659	1.026	1.390	.089	10

Scale Statistics

Mean	Variance	Std. Deviation	N of Items

31.5529	48.951	6.99653	10

Conscientiousness

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.741	.741	10

Summary Item Statistics

	Mean	Minimum	Maximum	Range	Maximum / Minimum	Variance	N of Items
Item Means	3.596	3.147	4.036	.889	1.283	.095	10

Scale Statistics

Mean	Variance	Std. Deviation	N of Items
35.9567	34.890	5.90675	10

Openness

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.759	.759	10

Summary Item Statistics

	Mean	Minimum	Maximum	Range	Maximum / Minimum	Variance	N of Items
Item Means	3.630	3.190	3.995	.805	1.252	.048	10

Scale Statistics

Mean	Variance	Std. Deviation	N of Items
36.2957	41.153	6.41509	10

Total Moral Disengagement

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.851	.859	8

Summary Item Statistics

	Mean	Minimum	Maximum	Range	Maximum / Minimum	Variance	N of Items
Item Means	7.551	4.623	9.942	5.320	2.151	2.426	8

Scale Statistics

Mean	Variance	Std. Deviation	N of Items
60.4063	357.924	18.91887	8

Machiavellianism

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.654	.656	7

Summary Item Statistics

	Mean	Minimum	Maximum	Range	Maximum / Minimum	Variance	N of Items
Item Means	3.166	2.745	3.488	.743	1.271	.097	7

Scale Statistics

Mean	Variance	Std. Deviation	N of Items
22.16	17.644	4.200	7

Narcissism

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.766	.770	7

Summary Item Statistics

	Mean	Minimum	Maximum	Range	Maximum / Minimum	Variance	N of Items
Item Means	2.712	2.159	3.214	1.055	1.489	.201	7

Scale Statistics

Mean	Variance	Std. Deviation	N of Items
18.99	25.860	5.085	7

Psychopathy

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.728	.731	7

Summary Item Statistics

	Mean	Minimum	Maximum	Range	Maximum / Minimum	Variance	N of Items
Item Means	2.020	1.632	2.317	.685	1.420	.078	7

Scale Statistics

Mean	Variance	Std. Deviation	N of Items
14.14	23.528	4.851	7

Sadism

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.759	.761	7

Summary Item Statistics

	Mean	Minimum	Maximum	Range	Maximum / Minimum	Variance	N of Items
Item Means	2.307	1.488	3.300	1.813	2.218	.379	7

Scale Statistics

Mean	Variance	Std. Deviation	N of Items
16.15	30.204	5.496	7

Psychological IPV

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.684	.689	19

Summary Item Statistics

	Mean	Minimum	Maximum	Range	Maximum / Minimum	Variance	N of Items
Item Means	5.779	4.303	6.820	2.517	1.585	.550	19

Scale Statistics

Mean	Variance	Std. Deviation	N of Items
109.81	210.638	14.513	19

Physical IPV

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.560	.590	4

Summary Item Statistics

	Mean	Minimum	Maximum	Range	Maximum / Minimum	Variance	N of Items
Item Means	6.634	6.358	6.858	.500	1.079	.044	4

Scale Statistics

Mean	Variance	Std. Deviation	N of Items
26.54	12.500	3.536	4

Appendix O: Correlation Analysis Between Predictor and Criterion Variables

Correlations

				HONESTY HUMILITY	EMOTION ALITY	EXTROVE RSION	AGREEAB LENESS	CONSCIE NTIOUSNE SS	OPENNE SS	MACHIAV ELLIANIS M	NARCISSI SM	PSYCHOP ATHY	SADIS M	PHYSICAL _IPV	PSYCHOL OGICAL_I PV	GDTE T
HONESTYHUMILITY	Pearson Correlation			1	.085	-.044	.277**	.279**	.000	-.383**	-.281**	-.377**	-.388**	.015	-.156**	-.496**
	Sig. (2-tailed)				.083	.369	.000	.000	.993	.000	.000	.000	.000	.753	.001	.000
	N			416	416	416	416	416	416	416	416	416	416	416	416	416
	Bootstrap[c]	Bias		0	.001	-.001	.000	.001	.000	.000	.002	.001	.000	.000	.002	.001
		Std. Error		0	.049	.051	.049	.050	.055	.053	.052	.046	.051	.050	.047	.052
		BCa 95% Confidence Interval	Lower	.	-.015	-.149	.175	.176	-.100	-.480	-.377	-.466	-.481	-.088	-.249	-.576
			Upper	.	.178	.058	.376	.380	.108	-.271	-.174	-.278	-.283	.110	-.055	-.392
EMOTIONALITY	Pearson Correlation			.085	1	-.269**	-.066	.003	-.079	-.037	-.208**	-.148**	-.187**	.008	.146**	-.202**
	Sig. (2-tailed)			.083		.000	.180	.956	.109	.447	.000	.002	.000	.878	.003	.000
	N			416	416	416	416	416	416	416	416	416	416	416	416	416
	Bootstrap[c]	Bias		.001	0	-.001	.001	-.001	.001	.001	-.001	.001	.001	.007	.003	.001
		Std. Error		.049	0	.054	.053	.054	.052	.053	.056	.051	.060	.054	.051	.055
		BCa 95% Confidence Interval	Lower	-.015	.	-.374	-.169	-.104	-.179	-.141	-.315	-.247	-.309	-.097	.038	-.310
			Upper	.178	.	-.165	.039	.106	.031	.069	-.100	-.043	-.058	.147	.251	-.085
EXTROVERSION	Pearson Correlation			-.044	-.269**	1	.133**	.102*	.037	-.103*	.549**	.032	-.012	-.078	-.106*	.134**
	Sig. (2-tailed)			.369	.000		.007	.037	.454	.036	.000	.510	.803	.111	.030	.006
	N			416	416	416	416	416	416	416	416	416	416	416	416	416
	Bootstrap[c]	Bias		-.001	-.001	0	-.003	.001	-.001	.000	.001	.000	.000	.000	.001	.000
		Std. Error		.051	.054	0	.052	.050	.050	.053	.038	.044	.058	.061	.048	.053

	BCa 95% Confidence Interval	Lower	-.149	-.374	.	.024	.000	-.064	-.204	.467	-.049	-.131	-.211	-.200	.028
		Upper	.058	-.165	.	.225	.207	.133	.001	.629	.120	.097	.039	-.012	.241
AGREEABLENESS	Pearson Correlation		.277**	-.066	.133**	1	.049	.105*	-.174**	-.016	-.360**	-.269**	-.136**	-.278**	-.301**
	Sig. (2-tailed)		.000	.180	.007		.319	.033	.000	.751	.000	.000	.005	.000	.000
	N		416	416	416	416	416	416	416	416	416	416	416	416	416
	Bootstrap[c]	Bias	.000	.001	-.003	0	.002	.001	-.001	.000	-.002	.002	-.003	-.001	.000
		Std. Error	.049	.053	.052	0	.054	.052	.046	.052	.043	.047	.045	.043	.045
		BCa 95% Confidence Interval Lower	.175	-.169	.024	.	-.059	-.004	-.266	-.121	-.443	-.358	-.221	-.359	-.390
		BCa 95% Confidence Interval Upper	.376	.039	.225	.	.162	.213	-.084	.088	-.281	-.178	-.060	-.198	-.209
CONSCIENTIOUSNESS	Pearson Correlation		.279**	.003	.102*	.049	1	.007	-.102*	-.001	-.330**	-.139**	-.025	-.126*	-.211**
	Sig. (2-tailed)		.000	.956	.037	.319		.890	.038	.979	.000	.005	.606	.010	.000
	N		416	416	416	416	416	416	416	416	416	416	416	416	416
	Bootstrap[c]	Bias	.001	-.001	.001	.002	0	.003	-.001	.001	.000	.000	.002	.000	.000
		Std. Error	.050	.054	.050	.054	0	.056	.054	.052	.049	.055	.047	.047	.055
		BCa 95% Confidence Interval Lower	.176	-.104	.000	-.059	.	-.094	-.198	-.111	-.416	-.239	-.124	-.217	-.305
		BCa 95% Confidence Interval Upper	.380	.106	.207	.162	.	.125	.001	.102	-.235	-.027	.071	-.033	-.100
OPENNESS	Pearson Correlation		.000	-.079	.037	.105*	.007	1	.030	.111*	.038	.054	-.047	-.107*	.077
	Sig. (2-tailed)		.993	.109	.454	.033	.890		.542	.024	.435	.273	.341	.029	.115
	N		416	416	416	416	416	416	416	416	416	416	416	416	416
	Bootstrap[c]	Bias	.000	.001	-.001	.001	.003	0	-.002	-.001	-.001	-.002	-.002	-.002	-.002
		Std. Error	.055	.052	.050	.052	.056	0	.056	.054	.049	.051	.039	.050	.053
		BCa 95% Confidence Interval Lower	-.100	-.179	-.064	-.004	-.094	.	-.064	.003	-.059	-.043	-.125	-.209	-.020

			Upper	.108	.031	.133	.213	.125	.	.130	.210	.137	.149	.026	-.017	.175
MACHIAVELLIANISM	Pearson Correlation			-.383**	-.037	-.103*	-.174**	-.102*	.030	1	.192**	.252**	.455**	.061	.190**	.643**
	Sig. (2-tailed)			.000	.447	.036	.000	.038	.542		.000	.000	.000	.216	.000	.000
	N			416	416	416	416	416	416	416	416	416	416	416	416	416
	Bootstrap[c]	Bias		.000	.001	.000	-.001	-.001	-.002	0	.000	.001	.000	-.003	-.001	.000
		Std. Error		.053	.053	.053	.046	.054	.056	0	.055	.043	.036	.044	.046	.030
		BCa 95% Confidence Interval	Lower	-.480	-.141	-.204	-.266	-.198	-.064	.	.076	.168	.385	-.031	.101	.579
			Upper	-.271	.069	.001	-.084	.001	.130	.	.299	.339	.523	.138	.270	.701
NARCISSISM	Pearson Correlation			-.281**	-.208**	.549**	-.016	-.001	.111*	.192**	1	.341**	.312**	-.037	.003	.602**
	Sig. (2-tailed)			.000	.000	.000	.751	.979	.024	.000		.000	.000	.454	.946	.000
	N			416	416	416	416	416	416	416	416	416	416	416	416	416
	Bootstrap[c]	Bias		.002	-.001	.001	.000	.001	-.001	.000	0	-.003	-.001	-.003	.000	-.001
		Std. Error		.052	.056	.038	.052	.052	.054	.055	0	.049	.053	.057	.050	.037
		BCa 95% Confidence Interval	Lower	-.377	-.315	.467	-.121	-.111	.003	.076	.	.244	.198	-.143	-.095	.527
			Upper	-.174	-.100	.629	.088	.102	.210	.299	.	.434	.406	.059	.103	.668
PSYCHOPATHY	Pearson Correlation			-.377**	-.148**	.032	-.360**	-.330**	.038	.252**	.341**	1	.553**	.231**	.252**	.772**
	Sig. (2-tailed)			.000	.002	.510	.000	.000	.435	.000	.000		.000	.000	.000	.000
	N			416	416	416	416	416	416	416	416	416	416	416	416	416
	Bootstrap[c]	Bias		.001	.001	.000	-.002	.000	-.001	.001	-.003	0	-.002	-.003	.000	-.001
		Std. Error		.046	.051	.044	.043	.049	.049	.043	.049	0	.035	.049	.050	.022
		BCa 95% Confidence Interval	Lower	-.466	-.247	-.049	-.443	-.416	-.059	.168	.244	.	.488	.134	.155	.725
			Upper	-.278	-.043	.120	-.281	-.235	.137	.339	.434	.	.613	.314	.345	.811
SADISM	Pearson Correlation			-.388**	-.187**	-.012	-.269**	-.139**	.054	.455**	.312**	.553**	1	.108*	.170**	.841**

	Sig. (2-tailed)		.000	.000	.803	.000	.005	.273	.000	.000	.000		.028	.000	.000
	N		416	416	416	416	416	416	416	416	416	416	416	416	416
	Bootstrap[c]	Bias	.000	.001	.000	.002	.000	-.002	.000	-.001	-.002	0	-.004	-.002	.000
		Std. Error	.051	.060	.058	.047	.055	.051	.036	.053	.035	0	.050	.050	.015
		BCa 95% Confidence Interval	Lower	-.481	-.309	-.131	-.358	-.239	-.043	.385	.198	.488	.	.017	.077	.809
			Upper	-.283	-.058	.097	-.178	-.027	.149	.523	.406	.613	.	.194	.261	.870
PHYSICAL_IPV	Pearson Correlation		.015	.008	-.078	-.136**	-.025	-.047	.061	-.037	.231**	.108*	1	.368**	.138**
	Sig. (2-tailed)		.753	.878	.111	.005	.606	.341	.216	.454	.000	.028		.000	.005
	N		416	416	416	416	416	416	416	416	416	416	416	416	416
	Bootstrap[c]	Bias	.000	.007	.000	-.003	.002	-.002	-.003	-.003	-.003	-.004	0	.002	-.004
		Std. Error	.050	.054	.061	.045	.047	.039	.044	.057	.049	.050	0	.044	.052
		BCa 95% Confidence Interval	Lower	-.088	-.097	-.211	-.221	-.124	-.125	-.031	-.143	.134	.017	.	.286	.035
			Upper	.110	.147	.039	-.060	.071	.026	.138	.059	.314	.194	.	.457	.225
PSYCHOLOGICAL_IPV	Pearson Correlation		-.156**	.146**	-.106*	-.278**	-.126*	-.107*	.190**	.003	.252**	.170**	.368**	1	.222**
	Sig. (2-tailed)		.001	.003	.030	.000	.010	.029	.000	.946	.000	.000	.000		.000
	N		416	416	416	416	416	416	416	416	416	416	416	416	416
	Bootstrap[c]	Bias	.002	.003	.001	-.001	.000	-.002	-.001	.000	.000	-.002	.002	0	-.001
		Std. Error	.047	.051	.048	.043	.047	.050	.046	.050	.050	.050	.044	0	.049
		BCa 95% Confidence Interval	Lower	-.249	.038	-.200	-.359	-.217	-.209	.101	-.095	.155	.077	.286	.	.126
			Upper	-.055	.251	-.012	-.198	-.033	-.017	.270	.103	.345	.261	.457	.	.314
GDTET	Pearson Correlation		-.496**	-.202**	.134**	-.301**	-.211**	.077	.643**	.602**	.772**	.841**	.138**	.222**	1
	Sig. (2-tailed)		.000	.000	.006	.000	.000	.115	.000	.000	.000	.000	.005	.000	
	N		416	416	416	416	416	416	416	416	416	416	416	416	416
		Bias	.001	.001	.000	.000	.000	-.002	.000	-.001	-.001	.000	-.004	-.001	0

Bootstrap[c]	Std. Error		.052	.055	.053	.045	.055	.053	.030	.037	.022	.015	.052	.049	0
	BCa 95% Confidence Interval	Lower	-.576	-.310	.028	-.390	-.305	-.020	.579	.527	.725	.809	.035	.126	.
		Upper	-.392	-.085	.241	-.209	-.100	.175	.701	.668	.811	.870	.225	.314	.

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

c. Unless otherwise noted, bootstrap results are based on 1000 bootstrap samples

Appendix P: Bootstrapped Hierarchical Multiple Regression Analysis

Physical IPV and Individual DTET Traits

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.126[a]	.016	.004	.46306	.016	1.324	5	410	.253
2	.209[b]	.044	.017	.45989	.028	1.947	6	404	.072
3	.319[c]	.102	.068	.44784	.058	6.505	4	400	.000

a. Predictors: (Constant), What is your relationship status?, What is your ethnicity?, What is your sexual orientation?, What is your gender?, What is your age?

b. Predictors: (Constant), What is your relationship status?, What is your ethnicity?, What is your sexual orientation?, What is your gender?, What is your age?, AGREEABLENESS, CONSCIENTIOUSNESS, OPENNESS, EXTROVERSION, EMOTIONALITY, HONESTYHUMILITY

c. Predictors: (Constant), What is your relationship status?, What is your ethnicity?, What is your sexual orientation?, What is your gender?, What is your age?, AGREEABLENESS, CONSCIENTIOUSNESS, OPENNESS, EXTROVERSION, EMOTIONALITY, HONESTYHUMILITY, MACHIAVELLIANISM, PSYCHOPATHY, NARCISSISM, SADISM

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1.419	5	.284	1.324	.253[b]
	Residual	87.915	410	.214		
	Total	89.334	415			
2	Regression	3.889	11	.354	1.672	.077[c]
	Residual	85.445	404	.211		
	Total	89.334	415			

3	Regression	9.108	15	.607	3.028	.000[d]
	Residual	80.226	400	.201		
	Total	89.334	415			

a. Dependent Variable: PHYSICAL_IPV

b. Predictors: (Constant), What is your relationship status?, What is your ethnicity?, What is your sexual orientation?, What is your gender?, What is your age?

c. Predictors: (Constant), What is your relationship status?, What is your ethnicity?, What is your sexual orientation?, What is your gender?, What is your age?, AGREEABLENESS, CONSCIENTIOUSNESS, OPENNESS, EXTROVERSION, EMOTIONALITY, HONESTYHUMILITY

d. Predictors: (Constant), What is your relationship status?, What is your ethnicity?, What is your sexual orientation?, What is your gender?, What is your age?, AGREEABLENESS, CONSCIENTIOUSNESS, OPENNESS, EXTROVERSION, EMOTIONALITY, HONESTYHUMILITY, MACHIAVELLIANISM, PSYCHOPATHY, NARCISSISM, SADISM

Bootstrap for Coefficients

			Bootstrap[a]				
						BCa 95% Confidence Interval	
Model		B	Bias	Std. Error	Sig. (2-tailed)	Lower	Upper
1	(Constant)	.021	-.004	.183	.895	-.342	.376
	What is your gender?	.038	.003	.043	.368	-.059	.136
	What is your age?	.002	3.234E-5	.003	.628	-.004	.008
	What is your ethnicity?	.013	.000	.008	.132	.000	.027
	What is your sexual orientation?	-.013	.000	.019	.480	-.047	.025
	What is your relationship status?	-.001	.000	.015	.945	-.031	.027
2	(Constant)	.572	-.012	.293	.052	.119	1.105
	What is your gender?	.025	.002	.050	.614	-.076	.130

	What is your age?	.001	4.489E-5	.003	.746	-.005	.007
	What is your ethnicity?	.013	-.001	.008	.129	-.001	.027
	What is your sexual orientation?	-.014	-9.871E-5	.019	.457	-.049	.024
	What is your relationship status?	-.006	-7.098E-5	.015	.699	-.036	.022
	HONESTYHUMILITY	.045	-.001	.041	.269	-.030	.123
	EMOTIONALITY	-.016	.002	.038	.685	-.102	.060
	EXTROVERSION	-.039	.001	.039	.315	-.125	.038
	AGREEABLENESS	-.095	-.001	.032	.002	-.160	-.036
	CONSCIENTIOUSNESS	-.021	.002	.040	.623	-.102	.065
	OPENNESS	-.027	.000	.031	.407	-.090	.032
3	(Constant)	-.434	.017	.435	.318	-1.271	.518
	What is your gender?	.050	.001	.057	.401	-.049	.165
	What is your age?	.000	3.721E-5	.003	.919	-.006	.007
	What is your ethnicity?	.011	.000	.008	.173	-.003	.025
	What is your sexual orientation?	-.024	.000	.019	.203	-.057	.014
	What is your relationship status?	-.010	3.859E-5	.014	.472	-.041	.018
	HONESTYHUMILITY	.081	-.003	.047	.108	-.004	.164
	EMOTIONALITY	.005	.002	.037	.890	-.074	.077
	EXTROVERSION	-.013	-9.714E-5	.043	.763	-.107	.073
	AGREEABLENESS	-.032	-.001	.033	.343	-.095	.025
	CONSCIENTIOUSNESS	.039	.002	.042	.356	-.044	.125
	OPENNESS	-.030	.000	.032	.349	-.098	.034
	MACHIAVELLIANISM	.035	-.003	.042	.430	-.053	.106
	NARCISSISM	-.068	.001	.044	.130	-.164	.025
	PSYCHOPATHY	.195	-.003	.052	.001	.098	.289

SADISM	.012	-.001	.044	.805	-.071	.098

a. Unless otherwise noted, bootstrap results are based on 1000 bootstrap samples

Psychological IPV and Individual DTET Traits

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.141[a]	.020	.008	.67108	.020	1.665	5	410	.142
2	.390[b]	.152	.129	.62891	.132	10.471	6	404	.000
3	.433[c]	.187	.157	.61868	.035	4.366	4	400	.002

a. Predictors: (Constant), What is your relationship status?, What is your ethnicity?, What is your sexual orientation?, What is your gender?, What is your age?

b. Predictors: (Constant), What is your relationship status?, What is your ethnicity?, What is your sexual orientation?, What is your gender?, What is your age?, AGREEABLENESS, CONSCIENTIOUSNESS, OPENNESS, EXTROVERSION, EMOTIONALITY, HONESTYHUMILITY

c. Predictors: (Constant), What is your relationship status?, What is your ethnicity?, What is your sexual orientation?, What is your gender?, What is your age?, AGREEABLENESS, CONSCIENTIOUSNESS, OPENNESS, EXTROVERSION, EMOTIONALITY, HONESTYHUMILITY, MACHIAVELLIANISM, PSYCHOPATHY, NARCISSISM, SADISM

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	3.749	5	.750	1.665	.142[b]
	Residual	184.641	410	.450		
	Total	188.390	415			
2	Regression	28.598	11	2.600	6.573	.000[c]
	Residual	159.792	404	.396		
	Total	188.390	415			

3	Regression	35.284	15	2.352	6.145	.000[d]
	Residual	153.106	400	.383		
	Total	188.390	415			

a. Dependent Variable: PSYCHOLOGICAL_IPV

b. Predictors: (Constant), What is your relationship status?, What is your ethnicity?, What is your sexual orientation?, What is your gender?, What is your age?

c. Predictors: (Constant), What is your relationship status?, What is your ethnicity?, What is your sexual orientation?, What is your gender?, What is your age?, AGREEABLENESS, CONSCIENTIOUSNESS, OPENNESS, EXTROVERSION, EMOTIONALITY, HONESTYHUMILITY

d. Predictors: (Constant), What is your relationship status?, What is your ethnicity?, What is your sexual orientation?, What is your gender?, What is your age?, AGREEABLENESS, CONSCIENTIOUSNESS, OPENNESS, EXTROVERSION, EMOTIONALITY, HONESTYHUMILITY, MACHIAVELLIANISM, PSYCHOPATHY, NARCISSISM, SADISM

Bootstrap for Coefficients

			Bootstrap[a]				
						BCa 95% Confidence Interval	
Model		B	Bias	Std. Error	Sig. (2-tailed)	Lower	Upper
1	(Constant)	.935	-.006	.225	.001	.507	1.343
	What is your gender?	-.018	.003	.073	.796	-.157	.141
	What is your age?	.002	.000	.004	.676	-.006	.010
	What is your ethnicity?	.016	6.629E-5	.008	.051	.000	.032
	What is your sexual orientation?	.020	-.001	.035	.554	-.050	.086
	What is your relationship status?	-.022	.000	.019	.235	-.061	.014
2	(Constant)	2.330	-.002	.442	.001	1.440	3.210
	What is your gender?	-.102	.002	.071	.147	-.243	.047
	What is your age?	.005	.000	.004	.177	-.002	.013

	What is your ethnicity?	.015	.000	.008	.042	.000	.030
	What is your sexual orientation?	.021	.001	.035	.531	-.052	.092
	What is your relationship status?	-.029	-3.501E-5	.018	.106	-.064	.004
	HONESTYHUMILITY	-.082	.000	.052	.118	-.183	.019
	EMOTIONALITY	.151	-7.391E-5	.050	.002	.058	.253
	EXTROVERSION	-.033	.004	.044	.459	-.124	.065
	AGREEABLENESS	-.231	-.002	.048	.001	-.329	-.143
	CONSCIENTIOUSNESS	-.096	.001	.057	.087	-.221	.024
	OPENNESS	-.097	-.004	.054	.072	-.194	-.005
3	(Constant)	.885	.009	.572	.118	-.212	2.112
	What is your gender?	-.061	.002	.077	.422	-.214	.099
	What is your age?	.006	5.965E-5	.004	.161	-.002	.013
	What is your ethnicity?	.012	.000	.008	.121	-.003	.028
	What is your sexual orientation?	.008	.001	.036	.809	-.069	.085
	What is your relationship status?	-.033	.000	.018	.067	-.070	.001
	HONESTYHUMILITY	-.015	-.001	.055	.801	-.126	.090
	EMOTIONALITY	.172	.000	.049	.001	.079	.277
	EXTROVERSION	-.016	.003	.057	.771	-.135	.100
	AGREEABLENESS	-.168	-.002	.050	.003	-.275	-.079
	CONSCIENTIOUSNESS	-.047	.002	.059	.413	-.168	.079
	OPENNESS	-.103	-.005	.051	.050	-.206	-.015
	MACHIAVELLIANISM	.142	-.004	.068	.045	.009	.260
	NARCISSISM	-.035	.000	.061	.561	-.154	.092
	PSYCHOPATHY	.178	.001	.065	.009	.048	.314
	SADISM	-.002	.001	.053	.962	-.107	.104

a. Unless otherwise noted, bootstrap results are based on 1000 bootstrap samples

Psychological IPV and the General DTET Variable

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.141[a]	.020	.008	.67108	.020	1.665	5	410	.142
2	.390[b]	.152	.129	.62891	.132	10.471	6	404	.000
3	.419[c]	.175	.151	.62084	.024	11.566	1	403	.001

a. Predictors: (Constant), What is your relationship status?, What is your ethnicity?, What is your sexual orientation?, What is your gender?, What is your age?

b. Predictors: (Constant), What is your relationship status?, What is your ethnicity?, What is your sexual orientation?, What is your gender?, What is your age?, AGREEABLENESS, CONSCIENTIOUSNESS, OPENNESS, EXTROVERSION, EMOTIONALITY, HONESTYHUMILITY

c. Predictors: (Constant), What is your relationship status?, What is your ethnicity?, What is your sexual orientation?, What is your gender?, What is your age?, AGREEABLENESS, CONSCIENTIOUSNESS, OPENNESS, EXTROVERSION, EMOTIONALITY, HONESTYHUMILITY, GDTET

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	3.749	5	.750	1.665	.142[b]
	Residual	184.641	410	.450		
	Total	188.390	415			
2	Regression	28.598	11	2.600	6.573	.000[c]
	Residual	159.792	404	.396		
	Total	188.390	415			
3	Regression	33.056	12	2.755	7.147	.000[d]

	Residual	155.334	403	.385		
	Total	188.390	415			

a. Dependent Variable: PSYCHOLOGICAL_IPV

b. Predictors: (Constant), What is your relationship status?, What is your ethnicity?, What is your sexual orientation?, What is your gender?, What is your age?

c. Predictors: (Constant), What is your relationship status?, What is your ethnicity?, What is your sexual orientation?, What is your gender?, What is your age?, AGREEABLENESS, CONSCIENTIOUSNESS, OPENNESS, EXTROVERSION, EMOTIONALITY, HONESTYHUMILITY

d. Predictors: (Constant), What is your relationship status?, What is your ethnicity?, What is your sexual orientation?, What is your gender?, What is your age?, AGREEABLENESS, CONSCIENTIOUSNESS, OPENNESS, EXTROVERSION, EMOTIONALITY, HONESTYHUMILITY, GDTET

Bootstrap for Coefficients

Model			Bootstrap[a]				
						BCa 95% Confidence Interval	
		B	Bias	Std. Error	Sig. (2-tailed)	Lower	Upper
1	(Constant)	.935	-.006	.225	.001	.507	1.343
	What is your gender?	-.018	.003	.073	.796	-.157	.141
	What is your age?	.002	.000	.004	.676	-.006	.010
	What is your ethnicity?	.016	6.629E-5	.008	.051	.000	.032
	What is your sexual orientation?	.020	-.001	.035	.554	-.050	.086
	What is your relationship status?	-.022	.000	.019	.235	-.061	.014
2	(Constant)	2.330	-.002	.442	.001	1.440	3.210
	What is your gender?	-.102	.002	.071	.147	-.243	.047
	What is your age?	.005	.000	.004	.177	-.002	.013
	What is your ethnicity?	.015	.000	.008	.042	.000	.030

	What is your sexual orientation?	.021	.001	.035	.531	-.052	.092
	What is your relationship status?	-.029	-3.501E-5	.018	.106	-.064	.004
	HONESTYHUMILITY	-.082	.000	.052	.118	-.183	.019
	EMOTIONALITY	.151	-7.391E-5	.050	.002	.058	.253
	EXTROVERSION	-.033	.004	.044	.459	-.124	.065
	AGREEABLENESS	-.231	-.002	.048	.001	-.329	-.143
	CONSCIENTIOUSNESS	-.096	.001	.057	.087	-.221	.024
	OPENNESS	-.097	-.004	.054	.072	-.194	-.005
3	(Constant)	1.824	.003	.441	.001	.982	2.707
	What is your gender?	-.037	.003	.075	.616	-.189	.120
	What is your age?	.006	8.799E-5	.004	.086	-.001	.014
	What is your ethnicity?	.013	.000	.008	.081	-.002	.028
	What is your sexual orientation?	.009	.001	.036	.807	-.071	.083
	What is your relationship status?	-.030	.000	.018	.097	-.066	.004
	HONESTYHUMILITY	-.016	.000	.054	.785	-.123	.094
	EMOTIONALITY	.170	-.001	.049	.001	.078	.267
	EXTROVERSION	-.060	.004	.045	.194	-.153	.041
	AGREEABLENESS	-.185	-.002	.049	.002	-.280	-.097
	CONSCIENTIOUSNESS	-.077	.001	.055	.148	-.200	.039
	OPENNESS	-.109	-.004	.052	.037	-.206	-.023
	GDTET	.133	5.330E-5	.043	.002	.040	.215

a. Unless otherwise noted, bootstrap results are based on 1000 bootstrap samples

Physical IPV and the General DTET Variable

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.126[a]	.016	.004	.46306	.016	1.324	5	410	.253
2	.209[b]	.044	.017	.45989	.028	1.947	6	404	.072
3	.263[c]	.069	.041	.45424	.026	11.116	1	403	.001

a. Predictors: (Constant), What is your relationship status?, What is your ethnicity?, What is your sexual orientation?, What is your gender?, What is your age?

b. Predictors: (Constant), What is your relationship status?, What is your ethnicity?, What is your sexual orientation?, What is your gender?, What is your age?, AGREEABLENESS, CONSCIENTIOUSNESS, OPENNESS, EXTROVERSION, EMOTIONALITY, HONESTYHUMILITY

c. Predictors: (Constant), What is your relationship status?, What is your ethnicity?, What is your sexual orientation?, What is your gender?, What is your age?, AGREEABLENESS, CONSCIENTIOUSNESS, OPENNESS, EXTROVERSION, EMOTIONALITY, HONESTYHUMILITY, GDTET

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1.419	5	.284	1.324	.253[b]
	Residual	87.915	410	.214		
	Total	89.334	415			
2	Regression	3.889	11	.354	1.672	.077[c]
	Residual	85.445	404	.211		
	Total	89.334	415			
3	Regression	6.183	12	.515	2.497	.004[d]
	Residual	83.151	403	.206		
	Total	89.334	415			

a. Dependent Variable: PHYSICAL_IPV

b. Predictors: (Constant), What is your relationship status?, What is your ethnicity?, What is your sexual orientation?, What is your gender?, What is your age?

c. Predictors: (Constant), What is your relationship status?, What is your ethnicity?, What is your sexual orientation?, What is your gender?, What is your age?, AGREEABLENESS, CONSCIENTIOUSNESS, OPENNESS, EXTROVERSION, EMOTIONALITY, HONESTYHUMILITY

d. Predictors: (Constant), What is your relationship status?, What is your ethnicity?, What is your sexual orientation?, What is your gender?, What is your age?, AGREEABLENESS, CONSCIENTIOUSNESS, OPENNESS, EXTROVERSION, EMOTIONALITY, HONESTYHUMILITY, GDTET

Bootstrap for Coefficients

Model			Bootstrap[a]				
						BCa 95% Confidence Interval	
		B	Bias	Std. Error	Sig. (2-tailed)	Lower	Upper
1	(Constant)	.021	-.008	.181	.923	-.351	.381
	What is your gender?	.038	.001	.045	.400	-.057	.124
	What is your age?	.002	.000	.003	.616	-.004	.010
	What is your ethnicity?	.013	.000	.008	.136	-.002	.031
	What is your sexual orientation?	-.013	.000	.018	.484	-.048	.025
	What is your relationship status?	-.001	3.324E-5	.015	.940	-.032	.029
2	(Constant)	.572	.008	.299	.067	.047	1.171
	What is your gender?	.025	.002	.052	.630	-.086	.139
	What is your age?	.001	.000	.003	.742	-.005	.009
	What is your ethnicity?	.013	.000	.008	.125	-.002	.029
	What is your sexual orientation?	-.014	.000	.018	.451	-.049	.022

	What is your relationship status?	-.006	.000	.015	.712	-.038	.025
	HONESTYHUMILITY	.045	-.003	.040	.275	-.026	.113
	EMOTIONALITY	-.016	-.002	.038	.677	-.097	.053
	EXTROVERSION	-.039	.000	.037	.304	-.111	.033
	AGREEABLENESS	-.095	9.986E-5	.033	.009	-.170	-.029
	CONSCIENTIOUSNESS	-.021	.001	.038	.590	-.098	.058
	OPENNESS	-.027	-.002	.035	.437	-.104	.038
3	(Constant)	.210	.007	.318	.523	-.359	.866
	What is your gender?	.072	.002	.057	.210	-.045	.192
	What is your age?	.002	.000	.003	.553	-.004	.010
	What is your ethnicity?	.011	.000	.008	.150	-.003	.027
	What is your sexual orientation?	-.024	.000	.018	.207	-.060	.014
	What is your relationship status?	-.006	.000	.015	.661	-.038	.024
	HONESTYHUMILITY	.092	-.003	.048	.062	.003	.184
	EMOTIONALITY	-.002	-.002	.036	.938	-.078	.064
	EXTROVERSION	-.058	.000	.037	.132	-.132	.016
	AGREEABLENESS	-.061	.000	.032	.061	-.131	.001
	CONSCIENTIOUSNESS	-.007	.001	.037	.863	-.080	.070
	OPENNESS	-.035	-.002	.036	.322	-.114	.030
	GDTET	.096	.000	.039	.019	.028	.169

a. Unless otherwise noted, bootstrap results are based on 1000 bootstrap samples

Appendix Q: Mediation Analysis

Psychological IPV and Psychopathy

Run MATRIX procedure:

```
*************************************************************************
Model  : 4
   Y  : PSYCHOLO
   X  : PSYCHOPA
   M  : TOTALmd
Sample
Size:  416
*************************************************************************
OUTCOME VARIABLE:
 TOTALmd
Model Summary
       R      R-sq       MSE         F       df1       df2         p
    .5432     .2950   215.1138   173.2636    1.0000   414.0000     .0000

Model
          coeff       se         t         p      LLCI      ULCI
constant   28.1583    2.2185   12.6925     .0000   23.7974   32.5192
PSYCHOPA   13.6765    1.0390   13.1630     .0000   11.6341   15.7189

Standardized coefficients
          coeff
PSYCHOPA     .5432
*************************************************************************
OUTCOME VARIABLE:
 PSYCHOLO
Model Summary
       R      R-sq       MSE         F       df1       df2         p
```

```
    .2810     .0790     .4201    17.7040     2.0000   413.0000     .0000

Model
          coeff       se         t         p       LLCI      ULCI
constant     .2819     .1156     2.4393     .0151     .0547     .5090
PSYCHOPA     .1675     .0547     3.0631     .0023     .0600     .2750
TOTALmd      .0057     .0022     2.6196     .0091     .0014     .0100

Standardized coefficients
          coeff
PSYCHOPA     .1723
TOTALmd      .1473
************************** TOTAL EFFECT MODEL ****************************
OUTCOME VARIABLE:
 PSYCHOLO
Model Summary
        R      R-sq       MSE         F       df1       df2         p
    .2523     .0637     .4261    28.1473     1.0000   414.0000     .0000

Model
          coeff       se         t         p       LLCI      ULCI
constant     .4421     .0987     4.4775     .0000     .2480     .6362
PSYCHOPA     .2453     .0462     5.3054     .0000     .1544     .3362

Standardized coefficients
          coeff
PSYCHOPA     .2523

************** TOTAL, DIRECT, AND INDIRECT EFFECTS OF X ON Y **************
Total effect of X on Y
   Effect        se         t         p       LLCI      ULCI       c_ps      c_cs
```

.2453 .0462 5.3054 .0000 .1544 .3362 .3641 .2523

Direct effect of X on Y

Effect se t p LLCI ULCI c'_ps c'_cs

.1675 .0547 3.0631 .0023 .0600 .2750 .2486 .1723

Indirect effect(s) of X on Y:

Effect BootSE BootLLCI BootULCI

TOTALmd .0778 .0334 .0149 .1470

Partially standardized indirect effect(s) of X on Y:

Effect BootSE BootLLCI BootULCI

TOTALmd .1155 .0493 .0228 .2153

Completely standardized indirect effect(s) of X on Y:

Effect BootSE BootLLCI BootULCI

TOTALmd .0800 .0346 .0151 .1510

********** BOOTSTRAP RESULTS FOR REGRESSION MODEL PARAMETERS **********

OUTCOME VARIABLE:

TOTALmd

Coeff BootMean BootSE BootLLCI BootULCI

constant 28.1583 28.1833 2.2094 23.9688 32.5254

PSYCHOPA 13.6765 13.6697 1.0950 11.5066 15.7776

OUTCOME VARIABLE:

PSYCHOLO

Coeff BootMean BootSE BootLLCI BootULCI

constant .2819 .2812 .1189 .0425 .5120

PSYCHOPA .1675 .1670 .0582 .0523 .2841

TOTALmd .0057 .0057 .0023 .0012 .0103

********** ANALYSIS NOTES AND ERRORS **********

Level of confidence for all confidence intervals in output:

95.0000

Number of bootstrap samples for percentile bootstrap confidence intervals:

5000

------ END MATRIX -----

Psychological IPV and Machiavellianism

****

Model : 4

Y : PSYCHOLO

X : MACHIAVE

M : TOTALmd

Sample

Size: 416

****

OUTCOME VARIABLE:

TOTALmd

Model Summary

R	R-sq	MSE	F	df1	df2	p
.4866	.2368	232.8989	128.4179	1.0000	414.0000	.0000

Model

	coeff	se	t	p	LLCI	ULCI
constant	10.9952	4.0225	2.7334	.0065	3.0881	18.9024
MACHIAVE	14.1473	1.2484	11.3322	.0000	11.6933	16.6013

Standardized coefficients

coeff

MACHIAVE .4866

****

OUTCOME VARIABLE:

PSYCHOLO

Model Summary

R	R-sq	MSE	F	df1	df2	p
.2548	.0649	.4265	14.3396	2.0000	413.0000	.0000

Model

	coeff	se	t	p	LLCI	ULCI
constant	.1805	.1737	1.0390	.2994	-.1610	.5219
MACHIAVE	.1067	.0612	1.7448	.0818	-.0135	.2269
TOTALmd	.0075	.0021	3.5744	.0004	.0034	.0117

Standardized coefficients

	coeff
MACHIAVE	.0950
TOTALmd	.1947

********** TOTAL EFFECT MODEL **********

OUTCOME VARIABLE:

PSYCHOLO

Model Summary

R	R-sq	MSE	F	df1	df2	p
.1898	.0360	.4387	15.4633	1.0000	414.0000	.0001

Model

	coeff	se	t	p	LLCI	ULCI
constant	.2631	.1746	1.5072	.1325	-.0800	.6063
MACHIAVE	.2131	.0542	3.9323	.0001	.1066	.3196

Standardized coefficients

	coeff
MACHIAVE	.1898

********** TOTAL, DIRECT, AND INDIRECT EFFECTS OF X ON Y **********

Total effect of X on Y

Effect	se	t	p	LLCI	ULCI	c_ps	c_cs
.2131	.0542	3.9323	.0001	.1066	.3196	.3162	.1898

Direct effect of X on Y

Effect	se	t	p	LLCI	ULCI	c'_ps	c'_cs
.1067	.0612	1.7448	.0818	-.0135	.2269	.1584	.0950

Indirect effect(s) of X on Y:

	Effect	BootSE	BootLLCI	BootULCI
TOTALmd	.1064	.0353	.0410	.1784

Partially standardized indirect effect(s) of X on Y:

	Effect	BootSE	BootLLCI	BootULCI
TOTALmd	.1579	.0514	.0611	.2603

Completely standardized indirect effect(s) of X on Y:

	Effect	BootSE	BootLLCI	BootULCI
TOTALmd	.0947	.0307	.0370	.1565

********** BOOTSTRAP RESULTS FOR REGRESSION MODEL PARAMETERS **********

OUTCOME VARIABLE:

TOTALmd

	Coeff	BootMean	BootSE	BootLLCI	BootULCI

constant 10.9952 10.9995 3.7026 3.6156 18.1485

MACHIAVE 14.1473 14.1489 1.1898 11.9014 16.5405

OUTCOME VARIABLE:

PSYCHOLO

	Coeff	BootMean	BootSE	BootLLCI	BootULCI
constant	.1805	.1828	.1688	-.1404	.5304
MACHIAVE	.1067	.1055	.0615	-.0185	.2224
TOTALmd	.0075	.0075	.0023	.0030	.0121

********** ANALYSIS NOTES AND ERRORS **********

Level of confidence for all confidence intervals in output:

95.0000

Number of bootstrap samples for percentile bootstrap confidence intervals:

5000

------ END MATRIX -----

Physical IPV and Psychopathy

****

Model : 4

Y : PHYSICAL

X : PSYCHOPA

M : TOTALmd

Sample

Size: 416

****

OUTCOME VARIABLE:

TOTALmd

Model Summary

R	R-sq	MSE	F	df1	df2	p
.5432	.2950	215.1138	173.2636	1.0000	414.0000	.0000

Model

	coeff	se	t	p	LLCI	ULCI
constant	28.1583	2.2185	12.6925	.0000	23.7974	32.5192
PSYCHOPA	13.6765	1.0390	13.1630	.0000	11.6341	15.7189

Standardized coefficients

	coeff
PSYCHOPA	.5432

****

OUTCOME VARIABLE:

PHYSICAL

Model Summary

R	R-sq	MSE	F	df1	df2	p
.2325	.0540	.2046	11.7987	2.0000	413.0000	.0000

Model

	coeff	se	t	p	LLCI	ULCI
constant	-.1272	.0806	-1.5771	.1155	-.2857	.0313
PSYCHOPA	.1663	.0382	4.3573	.0000	.0913	.2413
TOTALmd	-.0009	.0015	-.5638	.5732	-.0038	.0021

Standardized coefficients

	coeff
PSYCHOPA	.2484
TOTALmd	-.0321

********** TOTAL EFFECT MODEL **********

OUTCOME VARIABLE:

PHYSICAL

Model Summary

R	R-sq	MSE	F	df1	df2	p
.2309	.0533	.2043	23.3179	1.0000	414.0000	.0000

Model

	coeff	se	t	p	LLCI	ULCI
constant	-.1512	.0684	-2.2123	.0275	-.2856	-.0169
PSYCHOPA	.1546	.0320	4.8289	.0000	.0917	.2175

Standardized coefficients

	coeff
PSYCHOPA	.2309

********** TOTAL, DIRECT, AND INDIRECT EFFECTS OF X ON Y **********

Total effect of X on Y

Effect	se	t	p	LLCI	ULCI	c_ps	c_cs
.1546	.0320	4.8289	.0000	.0917	.2175	.3332	.2309

Direct effect of X on Y

Effect	se	t	p	LLCI	ULCI	c'_ps	c'_cs
.1663	.0382	4.3573	.0000	.0913	.2413	.3584	.2484

Indirect effect(s) of X on Y:

	Effect	BootSE	BootLLCI	BootULCI
TOTALmd	-.0117	.0232	-.0567	.0339

Partially standardized indirect effect(s) of X on Y:

	Effect	BootSE	BootLLCI	BootULCI
TOTALmd	-.0252	.0500	-.1188	.0773

Completely standardized indirect effect(s) of X on Y:

	Effect	BootSE	BootLLCI	BootULCI

TOTALmd -.0175 .0347 -.0827 .0530

********** BOOTSTRAP RESULTS FOR REGRESSION MODEL PARAMETERS **********

OUTCOME VARIABLE:

TOTALmd

	Coeff	BootMean	BootSE	BootLLCI	BootULCI
constant	28.1583	28.2315	2.2123	24.0130	32.6723
PSYCHOPA	13.6765	13.6406	1.0956	11.4150	15.7546

OUTCOME VARIABLE:

PHYSICAL

	Coeff	BootMean	BootSE	BootLLCI	BootULCI
constant	-.1272	-.1271	.0790	-.2866	.0202
PSYCHOPA	.1663	.1659	.0500	.0720	.2666
TOTALmd	-.0009	-.0008	.0017	-.0041	.0025

********** ANALYSIS NOTES AND ERRORS **********

Level of confidence for all confidence intervals in output:

95.0000

Number of bootstrap samples for percentile bootstrap confidence intervals:

5000

------ END MATRIX -----

Physical IPV and General DTET Variable

****

Model : 4

Y : PHYSICAL

X : GDTET

M : TOTALmd

Sample

Size: 416

****

OUTCOME VARIABLE:

TOTALmd

Model Summary

R	R-sq	MSE	F	df1	df2	p
.6811	.4639	163.5825	358.2620	1.0000	414.0000	.0000

Model

	coeff	se	t	p	LLCI	ULCI
constant	55.7837	.6271	88.9580	.0000	54.5510	57.0163
GDTET	11.8835	.6278	18.9278	.0000	10.6494	13.1176

Standardized coefficients

	coeff
GDTET	.6811

****

OUTCOME VARIABLE:

PHYSICAL

Model Summary

R	R-sq	MSE	F	df1	df2	p
.1382	.0191	.2122	4.0201	2.0000	413.0000	.0187

Model

	coeff	se	t	p	LLCI	ULCI
constant	.1361	.1013	1.3436	.1798	-.0630	.3352
GDTET	.0585	.0309	1.8956	.0587	-.0022	.1192
TOTALmd	.0004	.0018	.2529	.8005	-.0030	.0039

Standardized coefficients

	coeff
GDTET	.1262
TOTALmd	.0168

********** TOTAL EFFECT MODEL **********

OUTCOME VARIABLE:

PHYSICAL

Model Summary

R	R-sq	MSE	F	df1	df2	p
.1376	.0189	.2117	7.9942	1.0000	414.0000	.0049

Model

	coeff	se	t	p	LLCI	ULCI
constant	.1611	.0226	7.1396	.0000	.1167	.2054
GDTET	.0639	.0226	2.8274	.0049	.0195	.1083

Standardized coefficients

	coeff
GDTET	.1376

********** TOTAL, DIRECT, AND INDIRECT EFFECTS OF X ON Y **********

Total effect of X on Y

Effect	se	t	p	LLCI	ULCI	c_ps	c_cs
.0639	.0226	2.8274	.0049	.0195	.1083	.1376	.1376

Direct effect of X on Y

Effect	se	t	p	LLCI	ULCI	c'_ps	c'_cs

```
    .0585     .0309    1.8956     .0587    -.0022     .1192     .1262     .1262

Indirect effect(s) of X on Y:
        Effect    BootSE   BootLLCI   BootULCI
TOTALmd     .0053     .0239    -.0401     .0540

Partially standardized indirect effect(s) of X on Y:
        Effect    BootSE   BootLLCI   BootULCI
TOTALmd     .0115     .0524    -.0849     .1216

Completely standardized indirect effect(s) of X on Y:
        Effect    BootSE   BootLLCI   BootULCI
TOTALmd     .0115     .0523    -.0844     .1206
********** BOOTSTRAP RESULTS FOR REGRESSION MODEL PARAMETERS ************
OUTCOME VARIABLE:
 TOTALmd

         Coeff   BootMean    BootSE   BootLLCI   BootULCI
constant   55.7837   55.7754     .6254   54.5676   56.9975
GDTET      11.8835   11.8843     .6347   10.6425   13.1199
----------
OUTCOME VARIABLE:
 PHYSICAL

         Coeff   BootMean    BootSE   BootLLCI   BootULCI
constant     .1361     .1347     .1147    -.0922     .3602
GDTET        .0585     .0579     .0383    -.0158     .1356
TOTALmd      .0004     .0005     .0020    -.0034     .0046
********************** ANALYSIS NOTES AND ERRORS ************************
Level of confidence for all confidence intervals in output:
  95.0000
```

Number of bootstrap samples for percentile bootstrap confidence intervals:

5000

------ END MATRIX -----

Psychological IPV and General DTET Variable

****

Model : 4

Y : PSYCHOLO

X : GDTET

M : TOTALmd

Sample

Size: 416

****

OUTCOME VARIABLE:

TOTALmd

Model Summary

R	R-sq	MSE	F	df1	df2	p
.6811	.4639	163.5825	358.2620	1.0000	414.0000	.0000

Model

	coeff	se	t	p	LLCI	ULCI
constant	55.7837	.6271	88.9580	.0000	54.5510	57.0163
GDTET	11.8835	.6278	18.9278	.0000	10.6494	13.1176

Standardized coefficients

	coeff
GDTET	.6811

****

OUTCOME VARIABLE:

PSYCHOLO

Model Summary

R	R-sq	MSE	F	df1	df2	p
.2537	.0643	.4268	14.2004	2.0000	413.0000	.0000

Model

	coeff	se	t	p	LLCI	ULCI
constant	.5777	.1437	4.0217	.0001	.2954	.8601
GDTET	.0731	.0438	1.6679	.0961	-.0130	.1592
TOTALmd	.0065	.0025	2.5699	.0105	.0015	.0114

Standardized coefficients

	coeff
GDTET	.1084
TOTALmd	.1671

********** TOTAL EFFECT MODEL **********

OUTCOME VARIABLE:

PSYCHOLO

Model Summary

R	R-sq	MSE	F	df1	df2	p
.2222	.0494	.4326	21.5054	1.0000	414.0000	.0000

Model

	coeff	se	t	p	LLCI	ULCI
constant	.9376	.0322	29.0767	.0000	.8742	1.0010
GDTET	.1497	.0323	4.6374	.0000	.0863	.2132

Standardized coefficients

	coeff
GDTET	.2222

********** TOTAL, DIRECT, AND INDIRECT EFFECTS OF X ON Y **********

Total effect of X on Y

Effect	se	t	p	LLCI	ULCI	c_ps	c_cs
.1497	.0323	4.6374	.0000	.0863	.2132	.2222	.2222

Direct effect of X on Y

Effect	se	t	p	LLCI	ULCI	c'_ps	c'_cs
.0731	.0438	1.6679	.0961	-.0130	.1592	.1084	.1084

Indirect effect(s) of X on Y:

	Effect	BootSE	BootLLCI	BootULCI
TOTALmd	.0767	.0333	.0117	.1432

Partially standardized indirect effect(s) of X on Y:

	Effect	BootSE	BootLLCI	BootULCI
TOTALmd	.1138	.0491	.0175	.2125

Completely standardized indirect effect(s) of X on Y:

	Effect	BootSE	BootLLCI	BootULCI
TOTALmd	.1138	.0495	.0176	.2137

********** BOOTSTRAP RESULTS FOR REGRESSION MODEL PARAMETERS **********

OUTCOME VARIABLE:

TOTALmd

	Coeff	BootMean	BootSE	BootLLCI	BootULCI
constant	55.7837	55.7697	.6240	54.5266	56.9701
GDTET	11.8835	11.8822	.6431	10.6435	13.1491

OUTCOME VARIABLE:

PSYCHOLO

	Coeff	BootMean	BootSE	BootLLCI	BootULCI
constant	.5777	.5809	.1544	.2699	.8787
GDTET	.0731	.0732	.0459	-.0158	.1648
TOTALmd	.0065	.0064	.0027	.0010	.0119

********** ANALYSIS NOTES AND ERRORS **********

Level of confidence for all confidence intervals in output:

95.0000

Number of bootstrap samples for percentile bootstrap confidence intervals:

5000

------ END MATRIX -----

Executive Summary

This report is aims to inform the police and probation services about IPV perpetrators.

Background

Intimate Partner Violence (IPV) is a specialised crime whereby the victim and the perpetrator share a romantic relationship. This affects roughly 600,000 male and 1.3 million female victims in the UK each year. This may include physical (hitting, kicking), sexual (forceful sex, sexual coercion), and/or psychological violence (degrading, threatening behaviour), which all significantly impact the victim's life. There are many factors to consider when questioning why individuals commit IPV. However, people who display high levels of certain personality traits may be more likely to be violent towards their romantic partner.

One way of measuring general personality traits is a scale called the HEXACO dimensions. HEXACO consists of Honesty-Humility (sincerity), Emotionality (sensitivity), Extraversion (sociability), Agreeableness (flexibility and forgiveness), Conscientiousness (perfectionism), and Openness (to experience). These personality traits help to understand various antisocial behaviours, especially low agreeableness and low conscientiousness. Another way of understanding antisocial behaviour is by considering dark personality traits called the Dark Tetrad (DTET). The DTET includes Machiavellianism (manipulativeness), psychopathy (lesser empathy), narcissism (self-admiration), and sadism (experiencing pleasure from cruelty in everyday situations).

Rationale

People who are high in the DTET traits may be more likely to perpetrate IPV. However, sadism has only recently been added to the DTET, so less is known about this traits relationship with IPV. One difficulty is that each DTET trait is related to multiple forms of IPV. For example, psychological IPV has been associated with psychopathy, narcissism, and Machiavellianism traits. Therefore, although the traits are distinct, they may share an underlying core of dark personality. Hence, it remains unclear whether these traits are better examined collectively, as one dark trait, or individually.

Although the relationship between the DTET traits and IPV is well documented, there is little knowledge of the other factors which enable this relationship. One theory states that while people generally act in accordance with their moral values, others can act immorally by using mechanisms to justify their behaviour, called moral disengagement (MD). People who use MD are thought to share similarities with those who are high in the DTET traits, such as demonstrating lesser feelings of guilt and empathy. Some studies have found that individuals who use MD are higher in psychopathy and Machiavellianism traits. Therefore, people who display high levels of the DTET traits may perpetrate IPV by using MD mechanisms.

Aims

This study explores three questions:

1) Are individuals who display high levels of the DTET traits more likely to commit IPV, and should an overall dark personality trait be examined to understand IPV?
2) Do the DTET traits explain IPV better than general personality traits (HEXACO)?

3) Are people who display high levels of the DTET traits able to commit IPV by using MD?

Data Collection and Analysis

Overall, 416 participants who were aged 18+, fluent in English, able to give consent, and had been in a romantic relationship of at least six months were collected from the general population. Participants completed six online questionnaires measuring; demographics, general personality, dark personality, IPV perpetration, and likelihood of using MD.

Analyses were conducted using a software called SPSS statistics to establish whether general personality (HEXACO) and dark personality traits (DTET) were related to physical and psychological IPV. Additionally, whether an overall dark personality score was more strongly related to IPV than the individual traits. Another test examined whether the DTET traits were related to IPV because those individuals readily used MD. Tests highlighted methodological difficulties with examining sexual IPV, excluding it from the study.

Key Findings and Implications

Not all DTET traits were related to IPV. Psychopathy and Machiavellianism were related to psychological IPV, but only psychopathy was related to physical IPV. Therefore, it was more valuable to look at the individual traits rather than an overall dark personality score. This suggests that individuals who are high in narcissistic and sadistic traits are less likely to perpetrate IPV. Additionally, those high in Machiavellian traits are more likely to be psychologically abusive compared to individuals high in psychopathy who may be both physically and psychologically abusive.

Secondly, the DTET traits explained physical IPV better than general personality traits (HEXACO). However, three general personality traits (high Emotionality, low Openness and low Agreeableness) demonstrated strong relationships with psychological IPV. Low levels of Agreeableness demonstrated the strongest relationship with psychological IPV. Therefore, some general personality traits are important for understanding psychologically violent partners.

Finally, the likelihood of using MD was also important for understanding IPV. People who scored highly in Machiavellianism and psychopathy were more likely to be psychologically abusive by using MD. However, MD was not related to physical IPV. This suggests that physical IPV is more impulsive and psychological IPV appears to be more calculated in nature. Therefore, physical IPV perpetrators may require interventions which focus on controlling intense emotions. Conversely, psychological IPV may be best addressed by looking at an individual's tendency to ruminate over their grievances with their partner.

Future Recommendations

Future research should replicate these findings to increase the knowledge about the interventions for IPV offenders. Additionally, this study only looked at IPV in the present and not how these behaviours develop over time. Future research should examine IPV at different time points to better understand the development of partner abuse. Finally, to establish treatments for sexual IPV offenders, a more reliable measure of sexual IPV should be created.

PowerPoint Presentation

The Dark Tetrad, Intimate Partner Violence and the Mediating Role of Moral Disengagement

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Aims and Rationale

- Intimate Partner Violence (IPV) includes physical, sexual and psychological abuse towards a romantic partner (Straus & Douglas, 2004).
- People who are higher in certain personality traits are more likely to commit this crime (Kiire, 2017).
- This includes general personality (HEXACO; Lee & Ashton, 2004) and dark personality traits called the Dark Tetrad (DTET; Buckels, Jones & Paulhus, 2013).
- The DTET includes Machiavellianism (manipulativeness), psychopathy (callousness), narcissism (self-admiration), and sadism (taking pleasure from everyday cruelty), which possibly all share a common dark core.
- Some people can behave unethically by justifying their immoral behaviour, known as moral disengagement (MD; Bandura 1986).
- Research has not individually or collectively examined the DTET within IPV, or the role of MD.

Hypothesis 1
People who display high levels of the DTET traits will be more likely to commit IPV, but examining the DTET traits collectively will be more useful for understanding IPV

Hypothesis 2
The DTET traits will explain IPV perpetration better than general personality traits (HEXACO)

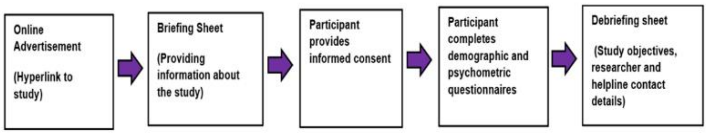
Hypothesis 3
People who display high levels of the DTET traits will be able to commit IPV by using MD

Methods

Participants: 416 people (96 males, 313 females, 7 'other'), aged 18+, fluent in English, in a romantic relationship of at least 6 months, and able to provide informed consent.

What was measured: Demographics, general personality, dark personality, IPV perpetration, and the likelihood of using MD. Sexual IPV could not be measured as the questionnaire was unreliable.

Procedures:



Results

A table to show which factors were related to each form of IPV and their concurrent relationships with MD.

	Physical IPV	Psychological IPV
DTET	High-level psychopathy High overall DTET score**	High-level psychopathy High-level Machiavellianism High overall DTET score**
HEXACO	No relationship	Low-level agreeableness* Low-level openness High-level emotionality
MD	No relationship	Psychopathy Machiavellianism

* Low agreeableness was more strongly related to psychological IPV than psychopathy and Machiavellianism
** The overall DTET score was not as strongly related to IPV as the individual traits

Implications and Future Research

- **H1** –People high in Machiavellianism traits are more likely to be psychologically abusive while people high in psychopathic traits are more likely to be physically and psychologically abusive. The DTET traits are best understood individually, not collectively.
- **H2** – Dark personality traits explain physical IPV better than general personality traits. However, some general personality traits (low agreeableness) are more strongly related to psychological IPV than the DTET.
- **H3-** Psychologically abusive partners differ from psychically abusive partners as they are more likely to be calculated and use MD, suggesting that there are different intervention needs.

Future Research: Find reliable ways to measure sexual IPV, use longitudinal methodology, continue to examine MD in IPV to develop new intervention strategies.



References

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Reflective Report

Introduction

As part of my masters degree in Forensic and Criminological Psychology (by research), I undertook a forensic psychology research project. This project comprised a research proposal and ethics application, research paper, executive summary, PowerPoint presentation, and this reflective report. This document will highlight my reflective account of my personal strengths and the challenges that I have encountered during this project, how I dealt with these issues, and the lessons that I have learnt. This includes the conceptualisation and preparation of the research project, data collection, data analysis, the study write up, and the valuable contribution of academic supervision.

Conceptualisation and Preparation

When I first set out to produce a study rationale in November 2018, I found it difficult to conceptualise my ideas into a research proposal. My initial thoughts were to examine basic individual characteristics such as expressions of guilt and empathy for others and their relation to intimate partner violence. However, after conducting a more thorough literature review, I realised the importance of exploring the overarching personality traits which encompassed these characteristics, such as the HEXACO dimensions and the Dark Tetrad. This ultimately changed my research proposal and rationale. I was initially disheartened that I had wasted time writing a proposal for which I would not use, however, this enabled me to understand the need to look at more empirically driven psychological constructs. Having realised that what I wanted to examine was more complex than I had first realised, I then created more sophisticated research questions which were more suitable to an MSc research project. In the

future, I will begin by looking at overarching constructs as opposed to their more basic elements.

Data Collection

There are several aspects of my data collection which warrant reflection. I started my data collection on the 24th of March 2019 and closed my study on the 9th of May 2019. By adopting an online questionnaire methodology in an opportunity sample from the general population, I was able to accrue a large sample size of 416 participants. To do this, I consistently posted my advertisement on various online platforms at regular intervals. By having broad inclusion criteria, I found this to be a relatively straightforward process as it did not require a large amount of time to maximise my participant recruitment. This allowed me to focus on other areas of the project whilst I collected data. Having collected a large sample size, I now further understand the importance of collecting data regarding forensic issues which are prevalent in the general population. However, considering the nature of student research, I also found it frustrating that, due to time constraints, that I could not focus my research more narrowly on forensic samples who may have more serious IPV convictions. Although research in the general population is crucial, in future research, I wish to consider looking directly at forensic samples so that I can draw firmer conclusions about more severe partner abuse. I believe this would ultimately be more useful for advising organisations as to the possible offender interventions.

In hindsight, another issue that I faced when collecting data is that I did not collect enough crucial demographic information. In my research, I employed a relatively standard demographic questionnaire, assessing gender, age, ethnicity, sexuality, and relationship status. However, considering the nature of my research, I did not ask participants how long they had been in the

relationship in question. I feel that this may have limited my research as relationships of e.g. six months were treated the same as those which were significantly longer in duration. It may be that some of the factors which are associated with IPV perpetration, such as jealously, may change in romantic relationships over time. Therefore, in the future, I will pay more attention to tailoring these minute details to my research as this would have added valuable information to my study.

Data Analysis

Perhaps the greatest lessons that I have learnt during this project are how to conduct more complex data analysis. In my undergraduate research, I had not considered to the same extent the importance of testing whether my data violated the assumptions of the employed analytical tests. In this project, my data did violate the assumptions of a linear regression which I did not know how to rectify. Therefore, I had to learn about bootstrapping techniques. Likewise, I was initially unsure which statistical tests would be most appropriate for me to answer my research questions. At first, I found this very confusing. I had primarily thought that a simple multiple regression would suffice. However, by having a more complex design than my previous research project, I realised this would not be enough. Therefore, I taught myself how to conduct a factor analysis, hierarchical regression, and both a mediation and moderation analysis. I found this very difficult, but ultimately rewarding and enjoyable as it enabled me to answer more sophisticated research questions. This has inevitably enhanced my confidence and research skills for possibly later conducting doctoral level research. In the future, I will continue to utilise more complex statistical analysis to enable myself to produce a more professional standard of research.

Write Up

When I began writing the report on the 1st of June 2019, I found it very challenging to adhere to the word count. In my study, I tested several hypotheses which individually comprised multiple different elements. I was extremely unsure how I would balance discussing all these concepts to a high standard in enough detail whilst still being succinct. However, after then conducting a more thorough literature review, and scrutinising the layout of different academic journals, I began to understand the importance of conciseness in academic research and the style of academic writing required. By basing the dissertation on a specific psychological journal, I now also feel much more prepared for writing in a journal style. However, I amended my report style after I had already written the article. In the future, when writing up research, I will have a journal style in mind before writing the paper to avoid wasting time cutting out content once it is already written. However, I was also able to highlight personal strengths when writing the report. Having taken the time to thoroughly teach myself how to conduct various analyses, I feel that I had a very good understanding of my data and its implications. Furthermore, I did not find the discussion as difficult to write as I had previously anticipated as it came a lot more naturally. In the future, I shall continue to recap on all statistical analysis before I examine and discuss my own data.

Supervision

I also found my academic supervision to be a very positive experience. I felt that both myself and my supervisor had a good level of communication and a shared interest in the research project. I think that one of my personal strengths during this process is that I was able to work well independently whilst still seeking an appropriate level of support when necessary. By having a highly experienced supervisor, I found this process to be very useful and the feedback to be extremely

helpful which allowed me to consider certain elements of my research in a more complex way, e.g. the incremental validity of the Dark Tetrad over the HEXACO dimensions. I now have an even better understanding of the importance of working independently to try to resolve a problem before asking for help, as will be the case in future doctoral research and professional practice.

Conclusion

In conclusion, I feel that I have accumulated a variety of skills and have learnt some extremely useful lessons whilst undertaking this research project. Namely, I feel much more competent in producing a sophisticated research project which adds a valuable contribution to psychological research. I also have a much better understanding of complex statistical analysis and the possible difficulties that may be encountered along the way, such as the violation of parametric assumptions and how to account for this. Additionally, I feel that my academic writing style has greatly improved to a level where I can be a lot more concise in adhering to academic journal guidelines. Overall, I feel that with all of this, and the important contribution of academic supervision, that this has inevitably increased my skills and understanding for future and research and clinical practice.