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Assessed Coursework Cover Sheet for Applied Psychology Postgraduate Courses

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Coursework Title:

HEXACO and Dark Triad predictors of psychological abuse in romantic relationships: forgiveness as a mediator.

Word Count (excluding references and appendices): 5700

Journal: Journal of interpersonal Violence.

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

Leanne Taylor

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Forgiveness as a moderating variable between psychological abuse and personality in romantic relationships

Introduction:

Psychological abuse is a form of abuse in which individuals subject a partner to behaviours which may result in psychological trauma, such as anxiety, depression, and possibly suicide (Dutton, Goodman & Bennett, 1999). Behaviours can include humiliation, manipulation or control (NSPCC, 2019). Psychological abuse in romantic relationships is suggested to have a prevalence rate of around 80-90% in unhappy relationships (Henning & Klesges, 2003; White & Koss, 1991), even in undergraduate/college relationships (Jezl, Molidor & Wright, 1996; Jouriles, Garrido, Rosenfield & McDonald, 2009). The importance and impact of psychological abuse has been recognised by law in the UK ('Controlling or Coercive behaviour in an intimate or family relationship'; Gov, 2015).

Victims and offenders process abusive experiences via personality (Richmond, Flaherty & Rospenda, 1996). Personality traits are thought to be reasonably stable, and can help to explain behaviour patterns as well as thoughts and feelings (McCrae & Costa, 1995; The Five Factor Model; FFM). The HEXACO (Ashton et al., 2004) structure of personality conceptualises personality along six dimensions: Honesty-Humility (H), Emotionality (E), Extraversion (X), Agreeableness (A), Conscientiousness (C), and Openness (O). Three of these dimensions (X, C, O) are similar to factors in the FFM (Costa & McCrae, 1992). Agreeableness and Emotionality are variants of Agreeableness and Neuroticism in the Big Five. Agreeableness in the HEXACO model includes lack of anger and an inclination to forgiveness, whereas Agreeableness in the Big Five highlights politeness and

compassion. Emotionality includes measures surrounding fearfulness, rather than irritability and volatility (Anglim & O'Connor, 2019). HEXACO also includes the honesty-humility factor, represented by facets of fairness, modesty and greed avoidance (Anglim & O'Connor, 2019). Studies have emphasised negative correlations for Honesty, Emotionality, Agreeableness and Conscientiousness with offending and delinquency (Ashton & Lee, 2008; Dunlop, Morrison, Koenig & Silcox, 2012; Mededovic, 2017). Some research suggests Honesty is a better predictor of offending behaviour (Dunlop, Morrison, Koenig & Silcox, 2012), whereas others suggest Agreeableness is the best predictor (Mededovic, 2017; Carton & Egan, 2017). However, previous research by Rolison, Hanoch & Gummerum (2012) found that offenders differed on five (H, E, X, C, O) out of six dimensions compared to non-offenders, where A scores were similar. Another model of personality focuses on antagonistic traits; the Dark Triad (DT) comprises of three elements: Machiavellianism, narcissism and psychopathy (Paulhus & Williams, 2002). The core component of DT traits is suggested to be the inclination to exploit others when it is seemingly beneficial (Lee & Ashton, 2014), and this is at the opposite pole of honesty-humility (Lee et al., 2013; Ashton & Lee, 2009; Ashton & Lee, 2005). The HEXACO measure is being used this study alongside the DT as it may provide a better framework for criminal behaviour. DT traits are associated with increased levels of control of a romantic partner (Brewer et al., 2018) and associated with psychological, and physical/sexual abuse (Carton & Egan, 2017).

Forgiveness is generally a good thing: it is defined as release of resentment towards an individual regarding an offense, and is proposed to have positive effects of marriage satisfaction. Higher levels of contrition are linked with

heightened abuse, as highlighted by Walker (1979) in their cycle of abuse template (third phase: reconciliation; as cited in Walker, 1989). Research has highlighted forgiveness to be positively correlated with The Big 5's Agreeableness dimension, but negatively associated with Neuroticism (Brose, Rye, Lutz-Zois & Ross, 2005). There is little literature regarding the correlates between HEXACO and forgiveness, although studies that have included this measure have noted Honesty-Humility, Agreeableness and Emotionality are related to forgiveness (Shepard & Belicki, 2008). In addition, forgiveness has been linked to offending behaviours. For example, McNulty (2010) found that individuals were more likely to report negative behaviour from a partner on days after they had forgiven that partner. In terms of psychological abuse, forgiveness of psychological aggression predicted further reports of psychological aggression (Fincham & Beach, 2002). Individuals who reported higher levels of abuse are more susceptible to both psychological and physical abuse, which is stable over time (McNulty, 2011). This suggests that forgiveness from the victim provokes revictimisation.

Although studies have used the HEXACO as a template for offending, few, if any, have used it as a template for psychological abuse. The HEXACO measure is useful due to its inclusion of the Honesty-humility factor, in which DT traits are at the opposite pole (mischief, greed, arrogance; Lee & Ashton, 2006). Furthermore, there are links between personality, offending, and forgiveness. Thus, the current research proposes to look at which personality (HEXACO; DT) factors link to psychological abuse, and whether forgiveness moderates this relationship.

Research questions:

- 1) To assess which personality traits (HEXACO and DT) influence perpetration or victimisation of psychological abuse
- 2) To assess whether forgiveness influences perpetration or victimisation of psychological abuse
- 3) To assess whether forgiveness moderates the relationship between psychological abuse and personality

Method:

Participants:

G*Power indicates that, to achieve a moderate effect size of 0.15 and $p=.01$ employing multiple regression, a minimum of 287 participants, would be needed to achieve a power of 0.99. Participants will be recruited via volunteer sampling, through the use of adverts on social media (i.e. Facebook, Twitter, Instagram etc.), or snowball sampling. Individuals should be aged 18-65, and should be currently or previously in a relationship lasting over one year in duration. Ideally, an equal, or similar, number of males and females should be recruited in order to include gender as a predictor variable.

I will attempt to obtain a representative sample through the similar gender responses, the broad age range, and include different types of relationships (i.e. homosexual, open relationships). In order to avoid bias, which may be an issue if only younger individuals respond to the questionnaire, I will try to target older individuals through social means which they frequent more, e.g. Facebook, and employ a snowball sampling technique. If needed to post on specialist pages, I will get moderator approval first.

Apparatus and materials:

Individuals will need a computer or smart phone which they can access the survey through.

Scales:

The Marital Offence-Specific Forgiveness Scale (MOFS; Paleari, Regalia & Fincham, 2009)

This measure will be used to measure forgiveness towards a partner after an offence. The questionnaire consists of 10 items, comprising of two dimensions; one of these is positive (benevolence), the other negative (resentment-avoidant). The questionnaire is measured along a 6-point Likert scale (1 – strongly disagree, 3 – somewhat disagree, 6 – strongly agree). The measure has high internal-consistency reliability and predictive validity over a 6-month period (Paleari, Regalia & Fincham, 2009).

HEXACO-PI-R (HEXACO-60; Lee & Ashton, 2009):

The HEXACO Personality Inventory – Revised will assess an individual's personality. This measure consists of 60 items, indexing six personality dimensions (honesty-humility, emotionality, extraversion, agreeableness, conscientiousness, and openness). Participants should respond using a 5-point Likert scale (1 = strongly disagree, 5 = strongly agree). This questionnaire will be used as it is a shorter instrument, which is suitable in this instance as there are 3 other questionnaires in this study, reducing the time in comparison to using the full questionnaire. However, the questionnaire still has high internal-consistency reliability ($\alpha = .72$ to $.82$; Sousa, 2018), with the properties being similar to the longer versions of the HEXACO-IP-R.

Short Dark Triad (SD3; Jones & Paulhus, 2014):

The Short Dark Triad (SD3) will assess antagonistic of personality. This consists of 27 items, relating to Machiavellianism, narcissism, and psychopathy. Participants respond using a 5-point Likert scale (1 = strongly disagree, strongly agree). The questionnaire reliable, efficient and wisely used (Jones & Paulhus, 2014), with test-retest reliability over 4-weeks ($\geq .73$; Malesza, Ostaszewski, Buchner & Kaczmarek, 2019)

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

This consists of 28 items, rated along an 8-point Likert scale measuring 4 dimensions of emotional abuse (restrictive engulfment, denigration, hostile withdrawal, and dominance/intimidation), rated as perpetrated by the participant and by their partner. Responses are shown to correlate with social desirability bias (Murphy, Hoover & Taft, 1999). However, this was on a small scale, suggesting social desirability does not impact the responses greatly, meaning it is a suitable measure to use. The different subscales have a Chronbach alpha ranging from .84 to .92 (Murphy & Hoover, 1999).

Procedure:

After receiving information about the study, and giving informed consent, individuals will complete the questionnaires, which will be delivered via JISC online surveys. Participants will be asked demographic information, pertaining to their age, gender, whether they are, or have been, in a relationship which lasted longer than a year in duration, the type of relationship (e.g. heterosexual, homosexual, polyamorous), and the status of that relationship (e.g. dating, cohabiting,

married). Participants should then complete the questionnaires in the following order: HEXACO-60, SD3, MOFS and MMEA. Participants will then be provided with a debrief sheet, highlighting the aims and hypotheses of the study, and telephone numbers and links for psychological abuse helplines.

Proposed analysis:

Non-respondent individuals will not be included in the analysis. Reliability and kurtosis will be assessed. A Pearson's correlation, using SPSS (IBM, 2019: version 26), will assess the relationships between the elements in the HEXACO-60, SD3, MOFS and MMEA. A hierarchical regression will also be employed. Pre-analysis checks will be completed to check for normality, outliers, singularity etc. If the data is normal, I will enter all aspects of the HEXACO-60 at step 1. Next, I propose to enter the SD3 at step 2. Finally, I will enter the MOFS at step 3. Psychological abuse (the MMEA) will be the outcome variable.

If enough participants are recruited, with a similar gender split, I propose to include gender at step 1 to assess whether gender has an impact of the perpetration, or with the receiving, of psychological abuse. The other predictor variables will be entered at subsequent steps (i.e. HEXACO-60 at step 2, etc.).

A moderation analysis will be conducted to assess whether forgiveness moderates the relationship between personality traits and MMEA scores. This will be done using Hayes' PROCESS macros for SPSS. Throughout the analysis, I will test both infliction and the receiving of abuse.

Estimated timescale:

Ethics approval will be sought by January/February. Once ethics is approved, I will begin to collect my data up until May, which is when I plan to analyse the data. Once the data is analysed, I will begin to write up my results and discussion section, ready for submission in July.

References

- Anglim, J., & O'Connor, P. (2019). Measurement and research using the Big Five, HEXACO, and narrow traits: A primer for researchers and practitioners. *Australian Journal of Psychology*, 71(1), 16-25. DOI: 10.1111/ajpy.12202
- Ashton, M. C., & Lee, K. (2005). Honesty-humility, the Big Five, and the five-factor model. *Journal of personality*, 73(5), 1321-1354. DOI: [10.1111/j.1467-6494.2005.00351.x](https://doi.org/10.1111/j.1467-6494.2005.00351.x)
- Ashton, M. C., & Lee, K. (2008). The prediction of Honesty-Humility-related criteria by the HEXACO and Five-Factor Models of personality. *Journal of Research in Personality*, 42(5), 1216-1228. DOI: [10.1016/j.jrp.2008.03.006](https://doi.org/10.1016/j.jrp.2008.03.006)
- Ashton, M. C., & Lee, K. (2009). The HEXACO-60: A short measure of the major dimensions of personality. *Journal of personality assessment*, 91(4), 340-345. DOI: [10.1080/00223890902935878](https://doi.org/10.1080/00223890902935878)
- Ashton, M. C., Lee, K., Perugini, M., Szarota, P., de Vries, R. E., Di Blas, L., Boies, K., & De Raad, B. (2004). A Six-Factor Structure of Personality-Descriptive Adjectives: Solutions From Psycholexical Studies in Seven Languages. *Journal of Personality and Social Psychology*, 86(2), 356-366. DOI: 10.1037/0022-3514.86.2.356
- Brewer, G., Bennett, C., Davidson, L., Ireen, A., Phipps, A. J., Stewart-Wilkes, D., & Wilson, B. (2018). Dark triad traits and romantic relationship attachment, accommodation, and control. *Personality and Individual Differences*, 120, 202-208. DOI: [10.1016/j.paid.2017.09.008](https://doi.org/10.1016/j.paid.2017.09.008)
- Brose, L. A., Rye, M. S., Lutz-Zois, C., & Ross, S. R. (2005). Forgiveness and personality traits. *Personality and Individual Differences*, 39(1), 35-46. DOI: 10.1016/j.paid.2004.11.001
- Carton, H., & Egan, V. (2017). The dark triad and intimate partner violence. *Personality and Individual Differences*, 105, 84-88. DOI: [10.1016/j.paid.2016.09.040](https://doi.org/10.1016/j.paid.2016.09.040)
- Costa, P. T., & McCrae, R. R. (1992). Normal personality assessment in clinical practice: The NEO Personality Inventory. *Psychological assessment*, 4(1), 5.
- Dunlop, P. D., Morrison, D. L., Koenig, J., & Silcox, B. (2012). Comparing the Eysenck and HEXACO models of personality in the prediction of adult delinquency. *European Journal of Personality*, 26(3), 194-202. DOI: [10.1002/per.824](https://doi.org/10.1002/per.824)
- Dutton, M. A., Goodman, L. A., & Bennett, L. (1999). Court-involved battered women's responses to violence: The role of psychological, physical, and sexual abuse. *Violence and victims*, 14(1), 89. DOI: 10.1891/0886-6708.14.1.89
- Fincham, F. D., & Beach, S. R. (2002). Forgiveness in marriage: Implications for

- psychological aggression and constructive communication. *Personal Relationships*, 9(3), 239-251. DOI: [10.1111/1475-6811.00016](https://doi.org/10.1111/1475-6811.00016)
- Gov.UK (2015, December). Coercive or controlling behaviour now a crime, retrieved from <https://www.gov.uk/government/news/coercive-or-controlling-behaviour-now-a-crime> (last accessed November 12th 2019).
- Henning, K., & Klesges, L. M. (2003). Prevalence and characteristics of psychological abuse reported by court-involved battered women. *Journal of interpersonal violence*, 18(8), 857-871. DOI: [10.1177/0886260503253878](https://doi.org/10.1177/0886260503253878)
- IBM Corp. Released (2017). IBM SPSS Statistics for Mackintosh, Version 25.0. Armonk, NY: IBM Corp.
- Jezl, D. R., Molitor, C. E., & Wright, T. L. (1996). Physical, sexual and psychological abuse in high school dating relationships: Prevalence rates and self-esteem issues. *Child and adolescent social work journal*, 13(1), 69-87. DOI: [10.1007/BF01876596](https://doi.org/10.1007/BF01876596)
- Jones, D. N., & Paulhus, D. L. (2014). Introducing the short dark triad (SD3) a brief measure of dark personality traits. *Assessment*, 21(1), 28-41. DOI: [10.1177/1073191113514105](https://doi.org/10.1177/1073191113514105)
- Jouriles, E. N., Garrido, E., Rosenfield, D., & McDonald, R. (2009). Experiences of psychological and physical aggression in adolescent romantic relationships: Links to psychological distress. *Child Abuse & Neglect*, 33(7), 451-460. DOI: [10.1016/j.chiabu.2008.11.005](https://doi.org/10.1016/j.chiabu.2008.11.005)
- Lee, K., & Ashton, M. C. (2006). Further assessment of the HEXACO Personality Inventory: Two new facet scales and an observer report form. *Psychological assessment*, 18(2), 182. DOI: [10.1037/1040-3590.18.2.182](https://doi.org/10.1037/1040-3590.18.2.182)
- Lee, K., & Ashton, M. C. (2014). The dark triad, the big five, and the HEXACO model. *Personality and Individual Differences*, 67, 2-5. DOI: [10.1016/j.paid.2014.01.048](https://doi.org/10.1016/j.paid.2014.01.048)
- Lee, K., Ashton, M. C., Wiltshire, J., Bourdage, J. S., Visser, B. A., & Gallucci, A. (2013). Sex, power, and money: Prediction from the Dark Triad and Honesty–Humility. *European Journal of Personality*, 27(2), 169-184. DOI: [10.1002/per.1860](https://doi.org/10.1002/per.1860)
- Malesza, M., Ostaszewski, P., Büchner, S., & Kaczmarek, M. C. (2019). The adaptation of the Short Dark Triad personality measure–psychometric properties of a German sample. *Current Psychology*, 38(3), 855-864. DOI: [10.1007/s12144-017-9662-0](https://doi.org/10.1007/s12144-017-9662-0)
- McCrae, R. R., & Costa Jr, P. T. (1995). Trait explanations in personality psychology. *European Journal of Personality*, 9(4), 231-252. DOI: [10.1002/per.2410090402](https://doi.org/10.1002/per.2410090402)
- McNulty, J. K. (2010). Forgiveness increases the likelihood of subsequent partner transgressions in marriage. *Journal of Family Psychology*, 24(6), 787. DOI: [10.1037/a0021678](https://doi.org/10.1037/a0021678)

- McNulty, J. K. (2011). The dark side of forgiveness: The tendency to forgive predicts continued psychological and physical aggression in marriage. *Personality and Social Psychology Bulletin*, 37(6), 770-783. DOI: 10.1177%2F0146167211407077
- Međedović, J. (2017). The profile of a criminal offender depicted by HEXACO personality traits. *Personality and Individual Differences*, 107, 159-163. DOI: [10.1016/j.paid.2016.11.015](https://doi.org/10.1016/j.paid.2016.11.015)
- Murphy, C. M., & Hoover, S. A. (2001). Measuring emotional abuse in dating relationships as a multifactorial construct. *Psychological abuse in violent domestic relations*, 29-46. DOI: 10.1891/0886-6708.14.1.39
- Murphy, C. M., Hoover, S. A., & Taft, C. (1999). The multidimensional measure of emotional abuse: Factor structure and subscale validity. In *annual meeting of the Association for the Advancement of Behavior Therapy, Toronto, Canada*.
- NSPCC (2019). Emotional abuse, retrieved from <https://www.nspcc.org.uk/what-is-child-abuse/types-of-abuse/emotional-abuse/> (last accessed November 12th 2019).
- Paleari, F. G., Regalia, C., & Fincham, F. D. (2009). Measuring offence-specific forgiveness in marriage: the Marital Offence-Specific Forgiveness Scale (MOFS). *Psychological assessment*, 21(2), 194. DOI: 10.1037/a0016068
- Paulhus, D. L., & Williams, K. M. (2002). The dark triad of personality: Narcissism, Machiavellianism, and psychopathy. *Journal of research in personality*, 36(6), 556-563. DOI: 10.1016/S0092-6566(02)00505-6
- Shepherd, S., & Belicki, K. (2008). Trait forgiveness and traitedness within the HEXACO model of personality. *Personality and Individual Differences*, 45(5), 389-394. DOI: [10.1016/j.paid.2008.05.011](https://doi.org/10.1016/j.paid.2008.05.011)
- Sousa, P. R. S. (2018). *A versão Portuguesa do HEXACO-60: Estudo psicométrico numa amostra de estudantes universitários* (Master's thesis).
- Walker, L. E. (1989). Psychology and violence against women. *American Psychologist*, 44(4), 695.
- White, J. W., & Koss, M. P. (1991). Courtship violence: Incidence in a national sample of higher education students. *Violence and victims*, 6(4), 247.

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: Forgiveness as a moderating variable between psychological abuse and personality in romantic relationships

Short title Psychological abuse, personality and forgiveness

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

Dr. Vincent Egan, Faculty member, Medicine, Centre for Forensic and Family Psychology, Yang Fujia Building, University of Nottingham Jubilee Campus, Wollaton Road, NG8 1BB, mczve@exmail.nottingham.ac.uk

Dr. Simon Duff, Faculty member, Medicine, Centre for Forensic and Family Psychology, Yang Fujia Building, University of Nottingham Jubilee Campus, Wollaton Road, NG8 1BB, mczsd@exmail.nottingham.ac.uk

Leanne Taylor, Student, Medicine, Centre for Forensic and Family Psychology, Yang Fujia Building, University of Nottingham Jubilee Campus, Wollaton Road, NG8 1BB, lpylt3@exmail.nottingham.ac.uk

Chief Academic/Supervisor: Vincent Egan

Other key researchers/collaborators: Simon Duff

Students name and course: Leanne Taylor, Forensic and Criminological Psychology Msc

3 Type of Project: Cross-sectional study

4 Location of study: Online

5 Description and number of participants to be studied:

To achieve a moderate effect size of 0.15 and $p=.01$ employing hierarchical multiple regression, a minimum of 166 participants, calculated through G*Power, would be needed to achieve a power of 0.8. Participants should be aged between 18-65, of a general community sample, in order to get a representative sample. I intend to collect data from an even number of males and females, but understand it may be more difficult to obtain a male sample than females.

6 Summary of Experimental Protocol

Psychological abuse is a form of abuse, whereby individuals subject a partner to behaviours which may result in psychological trauma, such as anxiety, depression, and possibly suicide (Dutton, Goodman & Bennett, 1999). It is a prevalent problem, with research highlighting that the prevalence rate can be as high as 80-90% (Henning & Klesges, 2003; White & Koss, 1992), and could be as high as 96% in undergraduate/college relationships (Jezl, Molitor & Wright, 1996). The importance and impact of psychological abuse has been recognised by law in the UK ('Controlling or Coercive behaviour in an intimate or family relationship'; Gov, 2015).

Offending has been linked with HEXACO personality traits, particularly low Agreeableness (Mededovic, 2017), and low Honesty (Dunlop, Morrison, Koenig & Silcox, 2012). The core component of dark triad (DT) traits is suggested to be the inclination to exploit others when it is seemingly 'antagonistic' (Lee & Ashton, 2014), and are seen to be at the opposite pole of honesty-humility (Ashton & Lee, 2005, 2009; Lee et al., 2013). DT traits

are shown to be associated with increased levels of control of a romantic partner (Brewer et al., 2018) and with psychological and physical/sexual abuse (Carton & Egan, 2017).

Forgiveness is defined as release of resentment towards an individual regarding an offense, and is proposed to have positive effects of marriage satisfaction. There is little literature regarding the HEXACO and forgiveness, although studies that have included this measure have highlighted Honesty-Humility, Agreeableness and Emotionality are related to forgiveness (Shepard & Belicki, 2008). In addition, forgiveness has been demonstrated to have links to offending behaviours. For example, McNulty (2010) found that individuals were more likely to report negative behaviour from a partner on days after they had forgiven that partner. In terms of psychological abuse, forgiveness of psychological aggression predicted further victimisation (Fincham & Beach, 2002), and individuals who reported higher levels of abuse are more susceptible to both psychological and physical abuse, which is stable over time (McNulty, 2011). Thus, though normally a good thing, forgiveness may make an abused person more vulnerable.

Aims:

The aim of this study is:

- 1) To assess which personality traits (HEXACO and DT) influence perpetration or being the victim of psychological abuse
- 2) To assess whether forgiveness influences perpetration or being the victim of psychological abuse
- 3) To assess whether forgiveness moderates the relationship between psychological abuse and personality

I hypothesise that low agreeableness and low honesty-humility is linked to perpetration of psychological abuse. I propose that high agreeableness would predict victimisation of psychological abuse. I also hypothesise that low honesty, but high levels of all three DT traits are linked to higher levels of psychological abuse perpetration. I further suggest there will be an effect of forgiveness on the relationship between psychological abuse and personality traits.

Research protocol and methods:

The research will be advertised on social media (e.g. Facebook, Twitter, Instagram). The participants should be aged 18-65, and of a general community sample, and will be recruited via volunteer sample. The questionnaires will be administered through JISC online surveys. Participants should fill out 2 questionnaires regarding personality (HEXACO-60, Lee & Ashton, 2009; SD3, Jones & Paulhus, 2014), a questionnaire pertaining to forgiveness (The Marital Offence-Specific Forgiveness Scale; MOFS, Paleari, Regalia & Fincham, 2009), and a questionnaire regarding psychological abuse in relationships (The Multidimensional Measure of Emotional Abuse; MMEA, Murphy & Hoover, 1999; Murphy, Hoover & Taft, 1999). Participants will be given information on the study, give informed consent, and be debriefed at the end of the study.

Measurable end points/statistical power of the study:

Reliability and kurtosis will be assessed. A Pearson's correlation, using SPSS (IBM, 2017: version 25), will assess the relationships between the elements in the HEXACO-60, SD3, MOFS and MMEA. A hierarchical regression will also be employed. Pre-analysis checks will be completed to check for normality, outliers, singularity etc. If the data is normal, I will enter all aspects of the HEXACO-60 at step 1. Next, I propose to enter the SD3 at step 2. Finally, I will enter the MOFS at step 3. Psychological abuse (the MMEA) will be the outcome variable. If enough participants are recruited, with a similar gender split, I propose to include gender at step 1 to assess whether gender has an impact of the perpetration, or with the receiving, of psychological abuse. The other predictor variables will be entered at subsequent steps (i.e. HEXACO-60 at step 2, etc.). A moderation analysis will be conducted to assess whether forgiveness moderates the relationship between personality traits and MMEA scores. This will be done using Hayes' PROCESS macros for SPSS. Throughout the analysis, the infliction and receiving of abuse will be assessed.

Key references

Ashton, M. C., Lee, K., Perugini, M., Szarota, P., de Vries, R. E., Di Blas, L., Boies, K., & De Raad, B. (2004). A Six-Factor Structure of Personality-Descriptive Adjectives: Solutions From Psycholexical Studies in Seven Languages. *Journal of Personality and Social Psychology*, 86(2), 356–366. DOI: 10.1037/0022-3514.86.2.356

Brewer, G., Bennett, C., Davidson, L., Ireen, A., Phipps, A. J., Stewart-Wilkes, D., & Wilson, B. (2018). Dark triad traits and romantic relationship attachment, accommodation, and control. *Personality and Individual Differences*, 120, 202-208. DOI: [10.1016/j.paid.2017.09.008](https://doi.org/10.1016/j.paid.2017.09.008)

Carton, H., & Egan, V. (2017). The dark triad and intimate partner violence. *Personality and Individual Differences*, 105, 84-88. DOI: [10.1016/j.paid.2016.09.040](https://doi.org/10.1016/j.paid.2016.09.040)

McNulty, J. K. (2010). Forgiveness increases the likelihood of subsequent partner transgressions in marriage. *Journal of Family Psychology*, 24(6), 787. DOI: [10.1037/a0021678](https://doi.org/10.1037/a0021678)

Paulhus, D. L., & Williams, K. M. (2002). The dark triad of personality: Narcissism, Machiavellianism, and psychopathy. *Journal of research in personality*, 36(6), 556-563.

7 Lay Summary of project

Psychological abuse, characterised by control, manipulation and humiliation, is a prevalent issue in modern relationships (Jouriles, Garrido, Rosenfield, McDonald, 2009). Elements of personality, such as Agreeableness (forgiveness, patience) and Honesty (sincerity, greed avoidance), are shown to have a negative relationship with offending behaviour (Mededovic, 2017; Dunlop, Morrison, Koenig & Silcox, 2012). In addition, forgiveness is related to personality traits (Shepard & Belicki, 2008) and offending (McNulty, 2011) and can make a person vulnerable to further abuse. This research aims to look at: 1) which personality traits predict perpetration and victimisation of psychological abuse, 2) whether forgiveness predict perpetration and victimisation of psychological abuse, and 3) whether forgiveness effects the relationship between psychological abuse and personality traits.

8 Will written consent be obtained from all volunteers?

Consent will be obtained via the online survey.

9 Will an inconvenience allowance be offered No.

10 FUNDING N/A

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?

Individuals will respond to an advertisement on social media. As the study is targeting the general population, as long as they are over the age of 18, and under the age of 65, they can take part in the study.

13 Describe how possible participants will be approached.

The study will be advertised via social media (e.g. on Facebook, Instagram, Twitter). To obtain participants of an older age, to gain a more representative sample, they may be recruited via snowball sampling, as they may not use social media as often as the younger population. If participants are recruited through specialist pages, approval will be authorised by admins first. The same sampling technique can be used for males, as typically females are more willing to participate.

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

N/A

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

N/A

16 For interview/focus groups:

N/A

17 Data Storage and Data management

Data will be collected via JISC online surveys and transferred to Excel/SPSS into a password protected database. This file will then be stored on One Drive which sits on a password protected University Server and uses encryption. Only members of the research team and authorised individuals from the University will have access to these data to check that the study is being correctly carried out. The data collected will be anonymous. At the end of the project, all raw data will be kept securely by the University under the terms of its data protection policy (stored for minimum of 7 years) after which it will be disposed of securely. The data will not be kept elsewhere.

18 What ethical problems do you foresee in this project?

If an individual has been in an abusive relationship, answering questions regarding psychological abuse may be distressing. However, the information sheet presented to participants beforehand states that they will have to answer questions regarding psychological abuse in a current/previous relationship. Therefore, individuals can choose not to consent to the research if they believe they will be in distress when answering some questions about it. Participants will be able to exit the survey at any time if they wish to by clicking the EXIT button.

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

Individuals may not complete the questionnaire, as there are around 120 questions, so may suffer from boredom effects and not complete the questionnaire. Also, individuals may not be open to stating that they suffer/commit psychological abuse towards a partner.

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 Investigator:
28/01/2020

Date:

****Nb If you are student your supervisor must sign this form otherwise it will be rejected**

Name and address for correspondence with applicant:

Leanne Taylor
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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)
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e-mail: louise.sabir@nottingham.ac.uk

Ethical Approval Letter.



**University of
Nottingham**
UK | CHINA | MALAYSIA

**Faculty of Medicine & Health Sciences
Research Ethics Committee**

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25 March 2020

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Dear Ms Taylor

Ethics Reference No: 494-2002 – please always quote	
Study Title: Forgiveness as a moderating variable between psychological abuse and personality in romantic relationships.	
Chief Investigator/Supervisor: Dr Vincent Egan, Associate Professor, Dr Simon Duff, Associate Professor, Centre for Forensic and Family Psychology, Division of Psychiatry and Applied Psychology, School of Medicine.	
Lead Investigators/student: Leanne Taylor, MSc Student, Forensic and Criminological Psychology, Psychiatry and Applied Psychology, School of Medicine.	
Proposed Start Date: 01/03/2020	Proposed End Date: 31/08/2020

Thank you for your responses and revisions requested by the Committee and the following revised documents were received:

- FMHS REC Application form and supporting documents version 3.0: 25.03.2020

These have been reviewed and are satisfactory and the project 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

Dr John Williams, Associate Professor in Anaesthesia and Pain Medicine
Chair, Faculty of Medicine & Health Sciences Research Ethics Committee

HEXACO and Dark Triad predictors of psychological abuse in romantic relationships: forgiveness as a mediator.

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HEXACO and Dark Triad predictors of psychological abuse in romantic relationships: forgiveness as a mediator.

Abstract

The HEXACO model of personality has seldom been used when researching intimate partner violence (IPV). We investigated whether HEXACO and Dark Triad (DT) traits predicted perpetration and victimisation of psychological IPV, and the reciprocity of the relationship between perpetration and victimisation. We also sought to determine whether forgiveness mediated the relationship between personality and perpetration/victimisation. Individuals aged 18-61 ($n = 340$) completed four questionnaires. Factor analysis revealed that Conscientiousness and Openness to experience did not load on any factors, so were subsequently excluded from analysis. Bootstrapped multiple hierarchical regressions found that low Agreeableness and low eXtraversion predicted perpetration, but HEXACO traits failed to predict victimisation. DT traits did not predict victimisation or perpetration. The relationship between victimisation and perpetration was highly reciprocal as both variables strongly predicted the other. Resentment-avoidance was shown to partially mediate the relationship between significant predictors and psychological IPV. This research shows a cyclical relationship of psychological abuse, perpetuated by personality factors and the reciprocal relationship between perpetration and victimisation. It also suggests impulsive rather than instrumental aggression in the current cohort. Limitations and practical implications are discussed.

Keywords: HEXACO, Dark Triad, Intimate Partner Violence (IPV), psychological abuse, reciprocity.

1. Introduction

Psychological abuse is a form of intimate partner violence (IPV) whereby individuals subject an individual to emotional behaviours such as humiliation, manipulation or control (NSPCC, 2019). It also encompasses antagonistic behaviours, such as threats, insults and attempts to belittle the individual (WHO, 2005), often acting as a gateway to physical abuse in romantic relationships (Murphy & O’Leary, 1989). Research into the prevalence of psychological abuse has yielded results ranging from 80-95% when looking at adult and adolescent romantic relationships (Henning & Klesges, 2003; Jezl et al., 1996; Jouriles et al., 2009; White & Koss, 1991).

Being a victim of psychological abuse has shown to be associated with negative mental health outcomes, such as post-traumatic Stress Disorder (PTSD; Street & Arias, 2001), depressive symptomology (Anderson, 2008; Montero et al., 2013) and anxiety (Al-Fayaz et al., 2012; Pico-Alfonso et al., 2006). The importance and impact of psychological abuse has been recognised by UK law, thus considering it an offence (‘Controlling or Coercive behaviour in an intimate or family relationship’; Gov, 2015), carrying a maximum of five-years imprisonment (Gov, 2015). Psychological abuse has received less attention than other elements of IPV (e.g. physical and sexual abuse; Carton & Egan, 2017) however is said to have greater adverse effects than physical IPV (O’Leary, 1999).

1.1 Reciprocity of abuse

Early studies focused on the experiences of women suffering IPV at the hands of male perpetrators (Dobash et al., 1992). More recently, a bi-directional pattern of abuse has emerged, with males *and* females engaging in similar perpetration rates of IPV (Straus, 2008, 2011), presenting a reciprocal relationship which may

be attributable to defensive aggression (Dixon & Graham-Kevan, 2011). Follingstad and Edmundson (2010) found that although respondents reported a lower engagement in psychological abuse than their partners, it was likewise highly reciprocal.

1.2 HEXACO personality model

Personality traits are thought to be reasonably stable, and can help explain behaviour patterns as well as thoughts and feelings (McCrae & Costa, 1995). The Five Factor Model (Costa & McCrae, 1992; FFM) of personality has been researched in relation to criminal behavior (Becerra-Garcia et al., 2013; Fuller, 2012; Jones et al., 2011; Le Corff & Toupin, 2009) and IPV (Carton & Egan, 2017; Hines & Saudino, 2008; Ulloa et al., 2016).

However, other models of personality may be considered more effective in explaining these issues; the HEXACO model of personality (Lee & Ashton, 2004) may have greater predictive validity than the FFM due to the operationalisation of its factors differentiating Honesty-Humility from Agreeableness (Ashton & Lee, 2008; Mededovic, 2017). The HEXACO structure conceptualises personality along six dimensions: Honesty-Humility, Emotionality, eXtraversion, Agreeableness, Conscientiousness, and Openness to experience; three of which are analogous to factors within the FFM (eXtraversion, Conscientiousness, Openness to experience). Agreeableness and Emotionality are akin to Agreeableness and Neuroticism in the FFM; Agreeableness in the HEXACO model represents patience and an inclination to forgive whereas Agreeableness in the FFM highlights politeness and altruism (Anglim & O'Connor, 2019). The Emotionality factor includes facets surrounding fearfulness and anxiety in the HEXACO model, rather than irritability and volatility characteristic of Neuroticism in the FFM model

(Anglim & O'Connor, 2019). HEXACO's additional dimension, the Honesty-Humility factor, is represented by facets of fairness, modesty and greed avoidance (Anglim & O'Connor, 2019); mischief, hypocrisy and arrogance lie on the opposite pole (Mededovic, 2017).

1.3 HEXACO traits and antagonistic behaviours

To our knowledge, there have been no studies assessing HEXACO personality factors and IPV, although a few have looked at FFM traits. Research has shown that low Agreeableness (Buss, 1991; Carton & Egan, 2017; Hines & Saudino, 2008), high extraversion (Buss, 1991; Hines & Saudino, 2008) and high neuroticism (Barnes et al., 1991; Hines & Saudino, 2008) are associated with perpetration of psychological abuse.

When looking at victimisation of IPV, studies have consistently found an association between low agreeableness and victimisation of psychological abuse (Buss, 1991; Carton & Egan, 2017; Hines & Saudino, 2008); other factors have also been associated with victimisation of IPV, such as low openness (Buss, 1991; Carton & Egan, 2017) and high extraversion (Hines & Saudino, 2008). However, different personality variables are predictive for men and women (Hines & Saudino, 2008).

The facets for Agreeableness differ between the two models of personality. Individuals with low levels of Agreeableness in the HEXACO model are critical of others and feel anger in response to mistreatment (Lee & Ashton, 2004), whereas low levels of Agreeableness in the FFM can be characterised by vindictiveness and arrogance (Costa & McCrae, 1991). Low levels in both models represent antagonistic behaviours, suggesting it is important to consider the research between FFM Agreeableness and IPV.

The relationship between aggression and HEXACO factors has been well documented; low levels of Honesty-Humility, Agreeableness, Conscientiousness and Openness are shown to be predictors of relational aggression (Knight et al., 2018). Low Agreeableness in particular is predictive of narcissistic aggression (Egan & Lewis, 2011) and violent behaviour (Pailing et al., 2014), suggesting Agreeableness is a better predictor of aggression and violence.

Studies have emphasised negative correlations for Honesty, Emotionality, Agreeableness and Conscientiousness with offending and delinquency (Ashton & Lee, 2008; Dunlop et al., 2012; Mededovic, 2017). From the literature, it is unclear whether low Honesty-Humility (Dunlop et al., 2012), or low Agreeableness (Mededovic, 2017) is a better predictor of offending behavior. Rolison et al. (2012) found that offenders differed to non-offenders on all dimensions of the HEXACO model apart from Agreeableness, which both groups were similar in, and casts doubt over Agreeableness as a predictor.

1.4 The Dark Triad

Another personality model exclusively focuses on antagonistic traits; the Dark Triad (DT), which comprises three antagonistic dimensions: Machiavellianism, narcissism and psychopathy (Paulhus & Williams, 2002). Although all associated with callous-manipulation, they are conceptually distinct (Jones & Paulus, 2002); Machiavellianism involves exploitation and manipulation of others (Jakobwitz & Egan, 2006); narcissism, egotism and grandiosity; and psychopathy, a lack of empathy and high impulsivity (Paulhus & Williams, 2002).

DT traits correlate with HEXACO traits; Honesty-Humility is a strong negative correlate of the DT (Furnham et al., 2013), with low levels of the factor suggested to be identical to the core of the DT (Ashton & Lee, 2005, 2009; Lee et al., 2013).

Individually, Machiavellianism has been found to overlap with low Agreeableness and low eXtraversion, psychopathy with low Conscientiousness and Emotionality (Lee et al., 2013), and narcissism with eXtraversion (Egan et al., 2014).

1.5 The Dark Triad and antagonistic behaviours

DT traits correlate with; violence and aggression (Knight et al., 2018; Pailing et al., 2014); delinquency/offending (Chabrol et al., 2009; Flexon et al., 2016); and IPV (Carton & Egan, 2017; Kiire, 2016; Webster et al., 2016). With particular reference to psychological abuse, all three DT traits were associated with perpetration of psychological abuse (Carton & Egan, 2017), with high levels of secondary psychopathy and Machiavellianism being especially associated with increased levels of control of a romantic partner (Brewer et al., 2018).

1.6 Forgiveness and IPV

Forgiveness is generally a good thing: it is defined as release of resentment towards an individual regarding an offence, and is proposed to have positive effects on relationship satisfaction (Fincham et al., 2006) and relationship maintenance (Kato, 2016). However, higher levels of contrition are also linked with further abuse; McNulty (2010) found individuals more likely to report negative behaviours from a partner on days after they had forgiven that partner. In a separate finding, McNulty (2011) found that individuals who had experienced psychological and physical IPV and had forgiven their partner were more likely to continue experiencing the abuse. Therefore, previous research suggests the victim's forgiveness for psychological IPV enables revictimisation. However, other research suggests a lack of forgiveness is associated with increased victimisation of psychological IPV, as forgiveness may act as a 'circuit breaker', preventing

further abuse (Fincham & Beach, 2002).

The effect of forgiveness as a mediator has been studied in relation to violence. Rivera and Fincham (2015) found forgiveness to mediate the relationship between mother-perpetrated violence and offspring violence victimisation in dating relationships. Forgiveness has also been shown to mediate the relationship between partner-malicious attributions and women's intent to return to an abusive partner (Gordon et al., 2004). To our knowledge, this is the first study to look at forgiveness as a mediating variable for psychological IPV.

1.7 Forgiveness and HEXACO

There is little regarding the HEXACO correlates of forgiveness. Shepard and Belicki (2008) noted higher levels of Honesty-Humility and Agreeableness, and low levels of Emotionality as the strongest predictors of forgiveness. They found Agreeableness to be the best predictor of forgiveness, possibly attributable to facets of forgiveness and co-operation; reciprocally, low levels of Agreeableness involve being temperamental and irritable, which is a barrier to forgiveness and may lead to reemerging negative emotions. Higher levels of Honesty-Humility may promote forgiveness as it is connected to prosocial behaviour (Hilbig et al., 2013).

1.8 The current study

Although studies have used the HEXACO model as a template for offending and violence, few have used it to research IPV. The current research examines which personality (HEXACO; DT) dimensions predict participants' perpetration and victimisation of psychological abuse; this is one of the first studies to examine the relationship between HEXACO factors and psychological abuse. Secondly, we sought to examine the reciprocity of psychological IPV. Finally, we tested whether

forgiveness mediates the relationship between personality and psychological IPV.

Based on previous research, the following hypotheses are suggested:

H1: Participants who score highly on all DT traits will show increased perpetration of psychological abuse.

H2: Participants who score low on Honesty-Humility and Agreeableness will show increased perpetration and victimisation of psychological abuse.

H3: The relationship between participants' perpetration and victimisation will be highly reciprocal.

H4: Forgiveness will mediate the relationship between significant predictors and outcomes.

2. Methods

2.1 Participants

G*Power indicated that for a desired moderate effect size of 0.15 and a $p = .05$ significance employing multiple regression, a minimum of 166 participants were needed to achieve a power of 0.95. Participants needed to be over 18 (and no older than 65), and to have previously been, or were currently, in a relationship of a year or more at the time of participation. Persons gave fully informed consent.

A total of 340 participants were recruited via a volunteer sample through advertisements on social media (e.g. Facebook, Twitter, Instagram; appendix A). The sample consisted of 258 females and 79 males, aged 18-61 ($M = 23.19$, $SD = 6.97$). Most participants were in a relationship at the time of participation (70.9%, $n = 241$), whereas 99 participants had formerly been in a relationship of a year or more. Most participants identified these relationships as heterosexual ($n = 324$), 14 as homosexual, 1 polyamorous, and 1 identified as other. Of these

relationships, majority were dating relationships ($n = 261$), 60 were cohabiting, 17 were married, 1 in a civil-partnership, and 1 other.

2.2 Apparatus and materials

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

The HEXACO Personality Inventory–Revised (appendix B) is a 60-item measure, comprising six dimensions of personality (Honesty-Humility, Emotionality, Extraversion, Agreeableness, Conscientiousness, and Openness to experience). Participants respond using a 5-point Likert scale (1 = strongly disagree, 5 = strongly agree).

2.4 The Martial Offence-Specific Forgiveness Scale (MOFS, Paleari et al., 2009).

The MOFS (appendix C) consists of 10 items whereby participants answer questions regarding their forgiveness to a transgression made by the partner. It comprises of two dimensions; one positive (benevolence) and one negative (resentment-avoidance). The questionnaire is measured along a 6-point Likert scale (1 = strongly disagree, 3 = somewhat disagree, 6 = strongly agree).

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

The MMEA (appendix D) consists of 28 items, rated along a 7-point Likert scale measuring the number of times an incident has occurred over the last six months. It measures 4 aspects of emotional abuse: Restrictive Engulfment, Denigration, Hostile Withdrawal, and Dominance/Intimidation, and measures perpetration by the participant and their partner. Higher scores indicate higher

instances of victimisation/perpetration.

2.6 Short Dark Triad (SD3, Jones & Paulhus, 2014).

The SD3 (appendix E) consists of 27 items measuring Machiavellianism, narcissism, and psychopathy. Participants responded along a 5-point Likert scale (1 = strongly disagree, 5 = strongly agree). The questionnaire is a shortened version of the pilot scale, but is as reliable, efficient and valid as the original measure (Jones & Paulhus, 2014); the test-retest reliability over 4-weeks is $\geq .73$ (Malesza, Ostaszewski, Buchner & Kaczmarek, 2019).

2.7 Procedure

Participants were provided with information about the study and gave fully informed consent (appendix F). Respondents provided demographic information (age, gender, whether they are, or have been, in a relationship which lasted longer than a year in duration, the type of relationship [e.g. heterosexual, homosexual, polyamorous], and the status of that relationship [e.g. dating, cohabiting, married]; appendix G). They then completed the questionnaires in the same order: HEXACO-60, SD3, MOFS, MMEA. At debriefing, participants were given information relating to IPV organisations and help lines (appendix H).

3. Results

3.1 Preliminary analysis

Data were analysed using SPSS 26.0 (IBM, 2019). Preliminary analysis revealed that some variables were positively skewed (MMEA_perpetration, MMEA_victimisation, total_psychopathy, total_narc), whilst some were negatively skewed (emotionality_total, total_resent_avoid, benevolence_total; appendix I). To overcome this, statistics were run using bootstrapping techniques. The

hierarchical regressions were employed using bootstrapped samples of 1000, whereas mediation analyses were conducted using bootstrapped samples of 5000. All measures apart from the narcissism subscale demonstrated good internal reliability (see table 1; appendix J).

3.2 Correlational analysis

Validity of the scales were assessed using Pearson's correlations (see table 2) and showed no evidence of collinearity. Perpetration significantly positively correlated with all DT traits, and was significantly negatively correlated with HEXACO's Honesty-Humility, Extraversion, Agreeableness, Conscientiousness and forgiveness's resentment-avoidant subscale. Non-significant correlations were found between perpetration and Openness to experience, and benevolence. Victimisation significantly positively correlated with DT traits, but significantly negatively correlated with Honesty-Humility, Conscientiousness, resentment-avoidance, and benevolence. Victimisation had non-significant correlations with Extraversion, Agreeableness, and Openness to experience (appendix K). Only those with significant correlations were inputted in the regression models.

- Table 2 -

3.3 Factor analysis

As there was a lot of covariance in the data, an Exploratory Factor Analysis (EFA) was conducted to determine factor structure amongst the variables. Several variables exceeded a correlation of .32 (Tabachnick & Fidell 2007; see table 2), hence an oblique rotated EFA was run. Kaiser-Meyer-Olkin (KMO) and Bartlett's Test of Sphericity showed suitability of the data (appendix L). After a parallel analysis had been conducted, two factors were extracted, which explained a total

of 40.77% of the variance. The first factor was labelled antagonism and accounted for 27.39% of the variance. The second factor represented extroversion-narcissism and accounted for 13.39% of the variance. Machiavellianism, psychopathy and honestly-humility cross-loaded onto both factors in the structure matrix, which accounts for the shared variance between factors. Communalities were low for several variables (Emotionality, Agreeableness and benevolence; see table 3), but were particularly low for Conscientiousness and Openness to experience ($< .15$), which also did not load onto either factor (table 3). As a result, these variables were excluded from regression and mediation analyses.

- Table 3 -

3.4 Regression analysis

Two bootstrapped five-stage hierarchical multiple regressions were conducted, using an alpha of .01 to reduce the possibility of spurious associations. Bootstrapping techniques provide confidence intervals and standard errors of the parameter estimates (Field, 2013). If zero does not fall between the lower and upper confidence intervals, the predictor is assumed to be significant.

A bootstrapped five-stage hierarchical multiple regression was employed, with psychological abuse victimisation as the outcome variable (table 4). Demographics (age, gender) were entered at stage one, all DT traits at step two, Honesty-Humility at stage three, perpetration at step four, and resentment-avoidance and benevolence at step five (appendix M). At stage one, demographics did not contribute significantly to the model ($F(2, 337) = .347, p = .707$), accounting for only 0.2% of the variance. DT traits accounted for 15.3% of the variance, significantly contributing to the regression model ($F(3, 334) = 19.82, p < .001$). Adding Honesty-Humility did not explain any additional variance in

psychological abuse victimisation and did not significantly improve the prediction ($F(1, 333) = .15, p < .695$). Perpetration was entered at step four, contributing significantly to the model ($F(1, 332) = 168.31, p < .001$) and accounted for an additional 28.5% of variance. The inclusion of resentment-avoidance and benevolence at the final stage accounted for an additional 4.8% of variance, which significantly improved the prediction ($F(2, 330) = 15.35, p < .001$). Overall, 48.6% of the variance in psychological abuse victimisation was explained by the model. Perpetration of psychological abuse ($b = .980, SE = .10, p = .001$), and resentment-avoidance ($b = -.805, SE = .26, p = .002$) were significant predictors of victimisation in the final model.

- Table 4 -

Another bootstrapped five-stage hierarchical multiple regression was run with psychological abuse perpetration as the outcome variable (table 5). Demographics were entered at step one, all three DT dimensions in step two, Extraversion and Honesty-Humility at step three, victimisation at step four and resentment-avoidance at step five (appendix N). At stage one, again, demographic characteristics did not contribute significantly to the model ($F(2, 337) = 1.60, p = .204$), explaining only 0.9% of the variance in psychological abuse perpetration. The addition of all DT traits at stage two significantly contributed to the model ($F(3, 334) = 30.02, p < .001$), accounting for an additional 21.1% of the variance. The inclusion of the HEXACO factors accounted for an additional 3.3% of variance of perpetration, which was significant ($F(3, 331) = 4.91, p = .002$). Victimisation was entered at the step-four, contributing significantly to the model ($F(1, 330) = 193.16, p < .001$) and accounted for an additional 27.6% of variation in psychological abuse perpetration. Adding

resentment-avoidance at the final stage did not significantly contribute to the model ($F(1, 329) = .14, p = .707$), nor did it explain any additional variance. Overall, 52.9% of the variance in psychological abuse perpetration was explained by the model. Agreeableness ($b = -.388, SE = .086, p = .001$), Extraversion ($b = -.218, SE = .087, p = .015$), and victimisation ($b = .323, SE = .05, p = .001$) were significant independent predictors of psychological abuse perpetration in the final model.

- Table 5 -

3.5 Mediation analysis

Mediation analyses (appendix O), using the same variables and outcomes as above, were conducted using Hayes PROCESS Macro (Hayes, 2012), employing a bootstrap sample of 5000, assessing whether forgiveness influenced the effects observed. In the total effects model, perpetration was shown to significantly predict victimisation ($b = 1.137, \text{BCa } 95\% [.927, 1.347], t = 10.644, p < .001$). Perpetration also significantly predicted the mediator, resentment-avoidance ($b = -.153, \text{BCa } 95\% [-.211, -.096], t = -5.28, p < .001$). With both variables in the model, resentment-avoidance significantly predicted victimisation, when controlling for perpetration ($b = -.986, \text{BCa } 95\% [-1.551, -.420], t = -3.431, p = .001$). When controlling for resentment-avoidance, perpetration significantly predicted victimisation ($b = .986, \text{BCa } 95\% [.767, 1.204], t = 8.87, p < .001$). This indicated that resentment-avoidance partially mediates the relationship between perpetration and the victimisation outcome ($b = .151, \text{BCa } 95\% [.067, .272]$).

The total effects model showed that low Agreeableness significantly predicted perpetration ($b = -.625, \text{BCa } 95\% [-.817, -.433], t = 6.412, p < .001$);

it also significantly predicted the mediator, resentment-avoidance ($b = .161$, BCa 95% [.074, .247], $t = 3.656$, $p < .001$). With both variables in the model, resentment-avoidance significantly predicted perpetration, when controlling for Agreeableness ($b = -.722$, BCa 95% [-1.009, -.536], $t = -6.420$, $p < .001$). When controlling for resentment-avoidance, Agreeableness also significantly predicted perpetration ($b = -.501$, BCa 95% [-.691, -.311], $t = -5.184$, $p < .001$). This indicated that resentment-avoidance partially mediates the relationship between low Agreeableness and perpetration ($b = -.124$, BCa 95% [-.214, -.053]).

The total effect model indicated that low eXtraversion significantly predicted perpetration ($b = -.276$, BCa 95% [-.458, -.093], $t = -2.972$, $p = .003$). Extraversion significantly predicted the mediator, resentment-avoidance ($b = .102$, BCa 95% [.024, .180], $t = 2.575$, $p = .010$). When controlling for Extraversion, resentment-avoidance significantly predicted perpetration ($b = -.866$, BCa 95% [-1.107, -.626], $t = -7.081$, $p < .001$). When controlling for resentment-avoidance, low eXtraversion significantly predicted perpetration ($b = -.187$, BCa 95% [-.350, -.025], $t = -2.264$, $p = .024$). This indicated a partial mediation effect ($b = -.089$, BCa 95% [.067, .272]).

Finally, the total effect model showed that victimisation significantly predicted perpetration ($b = .369$, BCa 95% [.250, .487], $t = 6.104$, $p < .001$). Victimisation significantly predicted the mediator, resentment-avoidance ($b = -.104$, BCa 95% [-.128, -.079], $t = -8.320$, $p < .001$). When controlling for victimisation, resentment-avoidance significantly predicted perpetration ($b = -.260$, BCa 95% [-.488, -.032], $t = -2.244$, $p = .025$). Victimisation also significantly predicts perpetration, when controlling for resentment-avoidance ($b = .342$, BCa 95% [.215, .468], $t = 5.297$, $p < .001$). This indicated a partial mediation effect ($b = .027$ [.003, .256]).

Figures 1, 2, 3, and 4 show the pathways in each analysis.

4. Discussion

This research examined personality as predictors of both perpetration and victimisation of psychological abuse. It was hypothesised that high DT traits would predict perpetration, whereas low Honesty-Humility and low Agreeableness would predict both perpetration and victimisation of psychological abuse. Additionally, it was hypothesised that the relationship between perpetration and victimisation would be highly reciprocal. Finally, it was hypothesised that forgiveness would mediate the relationship between significant predictors and outcomes. Of the personality factors, only low Agreeableness and low eXtraversion predicted perpetration; personality variables failed to predict psychological abuse victimisation. Perpetration was shown to predict victimisation, and vice versa. There was no significant effect of gender. All relationships between significant predictors and outcomes were partially mediated by resentment-avoidance.

4.1 Hypothesis One

The hypothesis that all DT traits would predict perpetration of psychological abuse was not supported. DT traits correlated weakly-to-moderately with perpetration and victimisation, and although accounting for a significant proportion of the variance in both victimisation and perpetration, individual DT traits failed to predict either outcome.

Previous research has shown that DT traits, particularly psychopathy and Machiavellianism, predict perpetration of psychological abuse (Carton & Egan, 2017; Brewer et al., 2018). Both regressions in the current study show

psychopathy to be a strong predictor up until the fourth stage, where victimisation or perpetration was inputted. Psychopathy is formulated without the context; consideration of contextual factors is needed to create a more comprehensive view (Walters, 2004). Thus, the absence of psychopathy suggests that psychological abuse in the current cohort is not driven by lack of empathy, but attributable to contextual factors, representing emotional rather than instrumental aggression. Alternatively, perpetration and victimisation may be associated with psychopathy, and the psychopathic variance has moved to the behaviour, making psychopathy a non-significant predictor.

4.2 Hypothesis Two

The hypothesis that low Agreeableness and low Honesty-Humility would predict both perpetration and victimisation was partially supported. Correlational analysis highlighted that only certain HEXACO variables were associated with the outcomes. EFA revealed that Conscientiousness and Openness to experience expressed low communalities so had little bearing on the other variance, and were therefore excluded from further analysis.

Although HEXACO traits failed to predict victimisation, low Agreeableness was the strongest predictor of psychological abuse perpetration, which was consistent with previous research. Studies utilising Agreeableness from the FFM have shown that low scores on this factor are associated with higher levels of psychological abuse perpetration (Buss, 1991; Carton & Egan, 2017; Hine & Saudino, 2008). The different facets of low Agreeableness give rise to many characterisations of the factor; the Patience facet represents feelings of anger in response to mistreatment, whereas the Gentleness facet signifies being critical of others (Lee & Ashton, 2009), both characteristic of psychologically abusive behaviours. If an

individual is threatened by a partner's behaviour, this may result in the victimised using psychologically abusive tactics such as increased control and humiliation in order to regain control. Retaliation also characterises low Agreeableness (Lee & Ashton, 2012). The results suggest that low Agreeableness initiates perpetration, possibly due to grudges held against the partner or responding to a perceived threat, indicating emotional rather than instrumental aggression.

Contradicting previous research which found high levels of extraversion predicts perpetration of psychological abuse (Buss, 1991; Hines & Saudino, 2008), the current study found that low eXtraversion predicts perpetration. This may be pinpointed to the Social Self-Esteem facet of eXtroversion, whereby low scorers have a diminished sense of worth. Individuals who lack self-esteem may engage in relationship self-sabotage, in which behaviours can be characteristic of psychological abuse (e.g. Peel et al., 2019). Thus, the results suggest that low Agreeableness and eXtraversion trigger psychological IPV perpetration rather than DT traits, showing regular people do unpleasant things to one another, rather than individuals with rare antagonistic traits.

Low Honesty-Humility failed to predict perpetration and victimisation of psychological abuse. Honesty-Humility strongly negatively correlates with DT traits (Furnham et al., 2013), in which the conceptual overlap between the factors is to manipulate others for personal gain (Lee et al., 2013). Much like the DT, this suggests that, in this sample, perpetration of psychological abuse is not characterised by callous-manipulation and may be better explained by contextual elements which indicate emotional aggression rather than antagonistic personality.

4.3 Hypothesis Three

The hypothesis that the relationship between perpetration and victimisation would be highly reciprocal was upheld, supporting previous research (Follingstad and Edmundson, 2010). Participants' perpetration was the best predictor of their victimisation, and victimisation was the second-best predictor of perpetration. Abuse is often viewed as a power imbalance, through which the abusers employ controlling tactics to exert power and prey on the vulnerabilities of the victim (Braiker, 2004). Our results suggest that this may not always be the case: vulnerable personality factors failed to predict being a victim of psychological abuse, and that manipulative and callous traits failed to predict perpetration.

Victimisation was the second-best predictor of perpetration, suggesting that being a victim of psychological IPV increases negative affect which in turn raises hostility between the two parties, resulting retaliation and defensive aggression. Perpetration was the best predictor of victimisation, indicating that the hostile environment encourages both parties to execute psychologically abusive behaviours.

Previous research proposed that psychological IPV can be calculated and instrumental (Carter & Egan, submitted; Hamby & Sugarman, 1999), possibly due to its previously established association with DT traits (Brewer et al., 2018; Carton & Egan, 2017). The current research proposes that, although personality traits may trigger the cycle, the hostile climate gives rise to impulsive psychologically abusive behaviours. The results build on previous research which states that psychological abuse is reciprocal, showing that perpetration predicts victimisation above personality variables, and that victimisation predicts perpetration, although to a lesser extent than personality.

4.4 Hypothesis Four

The hypothesis that forgiveness would mediate the relationship between significant predictors and their outcomes was partially supported. Correlational analysis demonstrated that the resentment-avoidance subscale correlated with both outcome measures, suggesting benevolence was not an appropriate measure for mediation analyses. Resentment-avoidance was found to partially mediate the relationship between Agreeableness, eXtraversion, and victimisation, as predictors, and perpetration. Similarly, it partially mediated the relationship between the perpetration predictor and victimisation outcome.

The bi-directional relationship between victimisation and perpetration was shown to be partially mediated by resentment-avoidance, suggesting that a lack of forgiveness increases the hostility of the environment, and possibly negative affect. Negative emotions are suggested to be a barrier to forgiveness (Riek & Mania, 2012; Shepard & Belicki, 2008). Additionally, self-control diminishes when negative emotions are present (Chester et al., 2015; Schmeichel & Tang, 2015) suggesting that a lack of forgiveness may increase negative affect, resulting in psychologically abusive behaviours from both parties.

Fincham and Beach (2002) found that a lack of forgiveness was associated with an increase of their partners use of psychological IPV. They propose that forgiveness can act as a 'circuit-breaker', resulting in de-escalation of negative situations; increasing forgiveness in perpetrators could therefore reduce the likelihood of becoming a victim (and vice versa), as the antagonistic environment is settled. However, the current study also found that low resentment-avoidance strongly predicted victimisation, suggesting forgiveness of a partner's transgression may result in further victimisation, although reducing the likelihood of being a perpetrator.

Resentment-avoidance was also shown to partially mediate the relationship

between Agreeableness and perpetration. Low Agreeableness is partly characterised by being temperamental and moody (Lee & Ashton, 2009); these traits possibly lead to negative emotions preventing forgiveness towards a partner for a perceived wrongdoing (Shepard & Belicki, 2008), building up to perpetration of psychological IPV.

Resentment-avoidance also partially mediated the relationship between low eXtraversion and perpetration. Particular facets of eXtraversion correlate with forgiveness, whereby optimism and positivity promote forgiving behaviours (Shepherd & Belicki, 2008). Negative emotions, promoted by low extraversion, may encourage resentment which perpetuates psychologically abusive behaviours.

4.5 Limitations

The current research is limited through its use of self-report measures. Social desirability bias has been identified in IPV research (e.g. Babcock et al., 2004; Henning et al., 2005; Mahalik et al., 2005), suggesting some individuals in the current cohort may have responded desirably. The sample was predominantly comprised of young females, limited to those who had been in a relationship longer than one year, and data failed to be collected regarding education status and ethnicity, meaning other possible meaningful conclusions failed to be withdrawn. Participants were recruited via volunteer sample, responding to adverts on social media, meaning only persons with social media accounts on platforms such as Facebook, and those who express willingness, respond to the questionnaire. A further caveat in the study is the limited understanding of context through which the events occurred; contextual information was not gathered, and it is impossible to know whether both parties in the relationship completed the questionnaire.

Gathering information on both sides of the relationship would overcome this issue. Additionally, the forgiveness measure was offence-specific; no information was gathered on the event referred to, meaning participants may have responded regarding events with different severity levels. More severe transgressions are associated with reduced forgiveness (Boon & Silsky, 1997; Fincham et al., 2005), implying that those who responded as less forgiving may actually be forgiving in nature, but are responding to a more severe transgression.

4.6 Practical implications and future research

Several practical implications can be drawn from this research. Current interventions address psychological abuse perpetration and victimisation separately (e.g. Koker et al., 2014). The results from this study highlight that perpetrators are victims, and victims also often perpetrate. Interventions should therefore incorporate victimisation elements, such as vulnerabilities (Braiker, 2004) and negative mental health outcomes (e.g. Anderson, 2008), and factors associated with perpetration, such as low Agreeableness and eXtraversion. Modifiability of personality traits has been shown in reference to social anxiety disorder, as well as altering particular facets of personality factors (Glinski & Page, 2010), suggesting that personality factors which perpetuate 'vicious cycle' perpetration of psychological IPV can be altered.

Forgiveness was shown to predict victimisation, as well as partially mediating the relationship between personality, perpetration, and victimisation. Forgiveness therapy (FT) reduces resentment towards a partner, resulting in reductions in negative symptomology associated with psychological abuse victimisation (Enright & Fitzgibbons, 2000; Reed & Enright, 2006). Applying FT during the relationship could help to decrease instances of perpetration and

victimisation, as resentment-avoidance partially mediated the relationship between predictors and outcomes. Thus, an increase in forgiveness during a dispute could settle the hostile environment, reducing psychological IPV and possibly other forms, as psychological IPV can be a gateway to other forms of IPV (Murphy & O'Leary, 1989).

However, the current study found that resentment-avoidance predicted victimisation, suggesting further exploration is needed to examine the complicated relationship between forgiveness and psychological IPV. Further research should examine the contextual elements which give rise to the reciprocal relationship between perpetration and victimisation, as this plays a similar role as personality factors in perpetration, and is highly important in victimisation. Research should also consider other possible mediators, such as negative emotions, which act as a barrier to forgiveness (Riek & Mania, 2012; Shepard & Belicki, 2008). As the forgiveness measure was offence-specific, further research should incorporate trait forgiveness as this is conceptually different to offence-specific forgiveness (Paleari et al., 2009).

5. Conclusion

Once other factors are considered, though correlated, DT traits failed to predict either perpetration of psychological IPV. Low Agreeableness and eXtraversion were predictive of perpetration, but HEXACO variables failed to predict victimisation. The largest individual predictor of perpetration was low Agreeableness, which supports previous research, whilst perpetration was the greatest predictor of victimisation. This suggests that perpetration is enabled by low Agreeableness and eXtraversion, and the dyadic hostile environment perpetuates psychologically abusive behaviours, resulting in a cyclical

relationship. In the current cohort, psychological abuse appears more impulsive and emotional rather than instrumental. Resentment-avoidance was shown to partially mediate the relationships between all predictor and outcome variables, proposing that increasing positive aspects of forgiveness could reduce further instances of IPV, which supports previous research (Fincham & Beach, 2002). Practical implications may involve modifying particular personality variables and facets, and FT as a way to reduce perpetration and victimisation.

References

- Al-Fayez, G. A., Ohaeri, J. U., & Gado, O. M. (2012). Prevalence of physical, psychological, and sexual abuse among a nationwide sample of Arab high school students: association with family characteristics, anxiety, depression, self-esteem, and quality of life. *Social psychiatry and psychiatric epidemiology*, 47(1), 53-66. DOI: [10.1007/s00127-010-0311-2](https://doi.org/10.1007/s00127-010-0311-2)
- Anderson, K. L. (2008). Is partner violence worse in the context of control?. *Journal of Marriage and Family*, 70(5), 1157-1168. DOI: [10.1111/j.1741-3737.2008.00557.x](https://doi.org/10.1111/j.1741-3737.2008.00557.x)
- Anglim, J., & O'Connor, P. (2019). Measurement and research using the Big Five, HEXACO, and narrow traits: A primer for researchers and practitioners. *Australian Journal of Psychology*, 71(1), 16-25. DOI: [10.1111/ajpy.12202](https://doi.org/10.1111/ajpy.12202)
- Ashton, M. C., & Lee, K. (2008). The prediction of Honesty–Humility-related criteria by the HEXACO and Five-Factor Models of personality. *Journal of Research in Personality*, 42(5), 1216-1228. DOI: [10.1016/j.jrp.2008.03.006](https://doi.org/10.1016/j.jrp.2008.03.006)
- Ashton, M. C., & Lee, K. (2009). The HEXACO–60: A short measure of the major dimensions of personality. *Journal of personality assessment*, 91(4), 340-345. DOI: [10.1080/00223890902935878](https://doi.org/10.1080/00223890902935878)
- Ashton, M. C., Lee, K., Perugini, M., Szarota, P., de Vries, R. E., Di Blas, L., Boies, K., & De Raad, B. (2004). A Six-Factor Structure of Personality-Descriptive Adjectives: Solutions From Psycholexical Studies in Seven Languages. *Journal of Personality and Social Psychology*, 86(2), 356–366.
- Babcock, J. C., Costa, D. M., Green, C. E., & Eckhardt, C. I. (2004). What situations induce intimate partner violence? A reliability and validity study of the Proximal Antecedents to Violent Episodes (PAVE) scale. *Journal of Family*

Psychology, 18(3), 433. DOI: 10.1037/0893-3200.18.3.433

Barnes, G. E., Greenwood, L., & Sommer, R. (1991). Courtship violence in a Canadian sample of male college students. *Family Relations*, 37-44. DOI: 10.2307/585656

Becerra-García, J. A., García-León, A., Muela-Martínez, J. A., & Egan, V. (2013). A controlled study of the Big Five personality dimensions in sex offenders, non-sex offenders and non-offenders: relationship with offending behaviour and childhood abuse. *The Journal of Forensic Psychiatry & Psychology*, 24(2), 233-246. DOI: [10.1080/14789949.2013.764463](https://doi.org/10.1080/14789949.2013.764463)

Boon, S. D., & Sulsky, L. M. (1997). Attributions of blame and forgiveness in romantic relationships: A policy-capturing study. *Journal of Social Behavior and Personality*, 12(1), 19.

Braiker, H. B. (2004). *Who's pulling your strings. How to Break the Cycle of Manipulation and Regain Control of Your Life*. McGraw Hill.

Brewer, G., Bennett, C., Davidson, L., Ireen, A., Phipps, A. J., Stewart-Wilkes, D., & Wilson, B. (2018). Dark triad traits and romantic relationship attachment, accommodation, and control. *Personality and Individual Differences*, 120, 202-208. DOI: [10.1016/j.paid.2017.09.008](https://doi.org/10.1016/j.paid.2017.09.008)

Brose, L. A., Rye, M. S., Lutz-Zois, C., & Ross, S. R. (2005). Forgiveness and personality traits. *Personality and Individual Differences*, 39(1), 35-46. DOI: 10.1016/j.paid.2004.11.001

Buss, D. M. (1991). Conflict in married couples: Personality predictors of anger and upset. *Journal of personality*, 59(4), 663-688. DOI: [10.1111/j.1467-6494.1991.tb00926.x](https://doi.org/10.1111/j.1467-6494.1991.tb00926.x)

Carter, L. J., & Egan, V. (2020). The dark tetrad, intimate partner violence and the

mediating role of moral disengagement. Manuscript submitted for publication.

- Carton, H., & Egan, V. (2017). The dark triad and intimate partner violence. *Personality and Individual Differences*, 105, 84-88. DOI: [10.1016/j.paid.2016.09.040](https://doi.org/10.1016/j.paid.2016.09.040)
- Chabrol, H., Van Leeuwen, N., Rodgers, R., & Séjourné, N. (2009). Contributions of psychopathic, narcissistic, Machiavellian, and sadistic personality traits to juvenile delinquency. *Personality and individual differences*, 47(7), 734-739. DOI: [10.1016/j.paid.2009.06.020](https://doi.org/10.1016/j.paid.2009.06.020)
- Chester, D. S., Lynam, D. R., Milich, R., Powell, D. K., Andersen, A. H., & DeWall, C. N. (2016). How do negative emotions impair self-control? A neural model of negative urgency. *NeuroImage*, 132, 43-50. DOI: [10.1016/j.neuroimage.2016.02.024](https://doi.org/10.1016/j.neuroimage.2016.02.024)
- Costa Jr, P. T., McCrae, R. R., & Dye, D. A. (1991). Facet scales for agreeableness and conscientiousness: A revision of the NEO Personality Inventory. *Personality and individual Differences*, 12(9), 887-898. DOI: 10.1016/0191-8869(91)90177-D
- Costa, P.T. & McCrae, R. R. (1992). Four ways five factors are basic. *Personality and Individual Difference*, 13(6), 653-665. DOI: 10.1016/0191-8869(92)90236-I
- De Koker, P., Mathews, C., Zuch, M., Bastien, S., & Mason-Jones, A. J. (2014). A systematic review of interventions for preventing adolescent intimate partner violence. *Journal of Adolescent Health*, 54(1), 3-13. DOI: [10.1016/j.jadohealth.2013.08.008](https://doi.org/10.1016/j.jadohealth.2013.08.008)
- Dixon, L., & Graham-Kevan, N. (2011). Understanding the nature and etiology of intimate partner violence and implications for practice and policy. *Clinical psychology review*, 31(7), 1145-1155. DOI: 1016/j.cpr.2011.07.001
- Dobash, R. P., Dobash, R. E., Wilson, M., & Daly, M. (1992). The myth of sexual symmetry in marital violence. *Social problems*, 39(1), 71-91. DOI:

10.2307/3096914

- Dunlop, P. D., Morrison, D. L., Koenig, J., & Silcox, B. (2012). Comparing the Eysenck and HEXACO models of personality in the prediction of adult delinquency. *European Journal of Personality*, 26(3), 194-202. DOI: [10.1002/per.824](https://doi.org/10.1002/per.824)
- Egan, V., Chan, S., & Shorter, G. W. (2014). The Dark Triad, happiness and subjective well-being. *Personality and Individual Differences*, 67, 17-22. DOI: [10.1016/j.paid.2014.01.004](https://doi.org/10.1016/j.paid.2014.01.004)
- Egan, V., & Lewis, M. (2011). Neuroticism and agreeableness differentiate emotional and *50(6)*, 845-850. DOI: [10.1016/j.paid.2011.01.007](https://doi.org/10.1016/j.paid.2011.01.007)
- Enright, R. D., & Fitzgibbons, R. P. (2000). *Helping clients forgive: An empirical guide for resolving anger and restoring hope*. American Psychological Association.
- Field, A. (2013). *Discovering statistics using IBM SPSS statistics*. sage.
- Fincham, F. D., & Beach, S. R. (2002). Forgiveness in marriage: Implications for psychological aggression and constructive communication. *Personal Relationships*, 9(3), 239-251. DOI: [10.1111/1475-6811.00016](https://doi.org/10.1111/1475-6811.00016)
- Fincham, F. D., Jackson, H., & Beach, S. R. (2005). Transgression severity and forgiveness: Different moderators for objective and subjective severity. *Journal of Social and Clinical Psychology*, 24(6), 860-875. DOI: [10.1521/jscp.2005.24.6.860](https://doi.org/10.1521/jscp.2005.24.6.860)
- Flexon, J. L., Meldrum, R. C., Young, J. T., & Lehmann, P. S. (2016). Low self-control and the Dark Triad: Disentangling the predictive power of personality traits on young adult substance use, offending and victimization. *Journal of Criminal Justice*, 46, 159-169. DOI: [10.1016/j.jcrimjus.2016.05.006](https://doi.org/10.1016/j.jcrimjus.2016.05.006)
- Follingstad, D. R., & Edmundson, M. (2010). Is psychological abuse reciprocal in intimate relationships? Data from a national sample of American adults. *Journal of Family*

Violence, 25(5), 495-508. DOI: [10.1007/s10896-010-9311-y](https://doi.org/10.1007/s10896-010-9311-y)

Fuller, K. (2012). Personality and crime: An examination of the influence of the Five Factor Model on offending and co-offending.

Furnham, A., Richards, S. C., & Paulhus, D. L. (2013). The Dark Triad of personality: A 10 year review. *Social and Personality Psychology Compass*, 7(3), 199-216. DOI: [10.1111/spc3.12018](https://doi.org/10.1111/spc3.12018)

Glinski, K., & Page, A. C. (2010). Modifiability of neuroticism, extraversion, and agreeableness by group cognitive behaviour therapy for social anxiety disorder. *Behaviour Change*, 27(1), 42-52. DOI: [10.1375/behc.27.1.42](https://doi.org/10.1375/behc.27.1.42)

Gordon, K. C., Burton, S., & Porter, L. (2004). Predicting the intentions of women in domestic violence shelters to return to partners: Does forgiveness play a role?. *Journal of Family Psychology*, 18(2), 331. DOI: [10.1037/0893-3200.18.2.331](https://doi.org/10.1037/0893-3200.18.2.331)

Gov.UK (2015, December). Coercive or controlling behaviour now a crime, retrieved from <https://www.gov.uk/government/news/coercive-or-controlling-behaviour-now-a-crime> (last accessed November 12th 2019).

Hayes, A. F. (2017). *Introduction to mediation, moderation, and conditional process analysis: A regression-based approach*. Guilford publications.

Henning, K., & Klesges, L. M. (2003). Prevalence and characteristics of psychological abuse reported by court-involved battered women. *Journal of interpersonal violence*, 18(8), 857-871. DOI: [10.1177/0886260503253878](https://doi.org/10.1177/0886260503253878)

Henning, K., Jones, A. R., & Holdford, R. (2005). "I didn't do it, but if I did I had a good reason": Minimization, denial, and attributions of blame among male and female domestic violence offenders. *Journal of family violence*, 20(3), 131-139. DOI:

10.1007/s10896-005-3647-8

Hilbig, B. E., Zettler, I., Leist, F., & Heydasch, T. (2013). It takes two: Honesty–Humility and Agreeableness differentially predict active versus reactive cooperation. *Personality and Individual Differences*, 54(5), 598-603. DOI: [10.1016/j.paid.2012.11.008](https://doi.org/10.1016/j.paid.2012.11.008)

Hines, D. A., & Saudino, K. J. (2008). Personality and intimate partner aggression in dating relationships: the role of the “Big Five”. *Aggressive Behavior: Official Journal of the International Society for Research on Aggression*, 34(6), 593-604. DOI: [10.1002/ab.20277](https://doi.org/10.1002/ab.20277)

IBM Corp (2019). IBM SPSS Statistics for Windows, Version 26.0. Armonk, NY: IBM Corp.

Jakobwitz, S., & Egan, V. (2006). The dark triad and normal personality traits. *Personality and Individual differences*, 40(2), 331-339. DOI: 10.1016/j.paid.2005.07.006

Jezl, D. R., Molidor, C. E., & Wright, T. L. (1996). Physical, sexual and psychological abuse in high school dating relationships: Prevalence rates and self-esteem issues. *Child and adolescent social work journal*, 13(1), 69-87. DOI: 10.1007/BF01876596

Jones, D. N., & Paulhus, D. L. (2014). Introducing the short dark triad (SD3) a brief measure of dark personality traits. *Assessment*, 21(1), 28-41. DOI: 10.1177/1073191113514105

Jones, S. E., Miller, J. D., & Lynam, D. R. (2011). Personality, antisocial behavior, and aggression: A meta-analytic review. *Journal of Criminal Justice*, 39(4), 329-337. DOI: [10.1016/j.jcrimjus.2011.03.004](https://doi.org/10.1016/j.jcrimjus.2011.03.004)

Jouriles, E. N., Garrido, E., Rosenfield, D., & McDonald, R. (2009). Experiences of

psychological and physical aggression in adolescent romantic relationships: Links to psychological distress. *Child Abuse & Neglect*, 33(7), 451-460. DOI: [10.1016/j.chiabu.2008.11.005](https://doi.org/10.1016/j.chiabu.2008.11.005)

Kato, T. (2016). Effects of partner forgiveness on romantic break-ups in dating relationships: A longitudinal study. *Personality and Individual Differences*, 95, 185-189. DOI: [10.1016/j.paid.2016.02.050](https://doi.org/10.1016/j.paid.2016.02.050)

Kiire, S. (2016). Psychopathy rather than Machiavellianism or narcissism facilitates intimate partner violence via fast life strategy, *Personality and Individual Difference*, 104(2017), 401-406, DOI: [10.1016/j.paid.2016.08.043](https://doi.org/10.1016/j.paid.2016.08.043)

Knight, N. M., Dahlen, E. R., Bullock-Yowell, E., & Madson, M. B. (2018). The HEXACO model of personality and Dark Triad in relational aggression. *Personality and Individual Differences*, 122, 109-114. DOI: [10.1016/j.paid.2017.10.016](https://doi.org/10.1016/j.paid.2017.10.016)

Le Corff, Y., & Toupin, J. (2009). Comparing persistent juvenile delinquents and normative peers with the Five-Factor Model of Personality. *Journal of Research in Personality*, 43(6), 1105-1108. DOI: [10.1016/j.jrp.2009.06.011](https://doi.org/10.1016/j.jrp.2009.06.011)

Lee, K., & Ashton, M. C. (2004). Psychometric properties of the HEXACO personality inventory. *Multivariate Behavioral Research*, 39, 329-358. DOI: [10.1207/s15327906mbr3902_8](https://doi.org/10.1207/s15327906mbr3902_8)

Lee, K., & Ashton, M. C. (2005). Psychopathy, Machiavellianism, and narcissism in the Five-Factor Model and the HEXACO model of personality structure. *Personality and Individual differences*, 38(7), 1571-1582. DOI: [10.1016/j.paid.2004.09.016](https://doi.org/10.1016/j.paid.2004.09.016)

Lee, K., & Ashton, M. C. (2006). Further assessment of the HEXACO Personality Inventory: Two new facet scales and an observer report form. *Psychological assessment*, 18(2), 182. DOI: [10.1037/1040-3590.18.2.182](https://doi.org/10.1037/1040-3590.18.2.182)

- Lee, K., & Ashton, M. C. (2009). THE HEXACO PERSONALITY INVENTORY – REVISED. Retrieved from <https://hexaco.org/scaledescriptions>
- Lee, K., & Ashton, M. C. (2012). Getting mad and getting even: Agreeableness and Honesty-Humility as predictors of revenge intentions. *Personality and Individual Differences*, 52(5), 596-600. DOI: [10.1016/j.paid.2011.12.004](https://doi.org/10.1016/j.paid.2011.12.004)
- Lee, K., & Ashton, M. C. (2014). The dark triad, the big five, and the HEXACO model. *Personality and Individual Differences*, 67, 2-5. DOI: [10.1016/j.paid.2014.01.048](https://doi.org/10.1016/j.paid.2014.01.048)
- Lee, K., Ashton, M. C., Wiltshire, J., Bourdage, J. S., Visser, B. A., & Gallucci, A. (2013). Sex, power, and money: Prediction from the Dark Triad and Honesty-Humility. *European Journal of Personality*, 27(2), 169-184. DOI: [10.1002/per.1860](https://doi.org/10.1002/per.1860)
- Mahalik, J. R., Aldarondo, E., Gilbert-Gokhale, S., & Shore, E. (2005). The role of insecure attachment and gender role stress in predicting controlling behaviors in men who batter. *Journal of Interpersonal Violence*, 20(5), 617-631. DOI: [10.1177/0886260504269688](https://doi.org/10.1177/0886260504269688)
- Malesza, M., Ostaszewski, P., Büchner, S., & Kaczmarek, M. C. (2019). The adaptation of the Short Dark Triad personality measure—psychometric properties of a German sample. *Current Psychology*, 38(3), 855-864. DOI: [10.1007/s12144-017-9662-0](https://doi.org/10.1007/s12144-017-9662-0)
- McCrae, R. R., & Costa Jr, P. T. (1995). Trait explanations in personality psychology. *European Journal of Personality*, 9(4), 231-252. DOI: [10.1002/per.2410090402](https://doi.org/10.1002/per.2410090402)
- McNulty, J. K. (2010). Forgiveness increases the likelihood of subsequent partner transgressions in marriage. *Journal of Family Psychology*, 24(6), 787. DOI: [10.1037/a0021678](https://doi.org/10.1037/a0021678)
- McNulty, J. K. (2011). The dark side of forgiveness: The tendency to forgive predicts continued psychological and physical aggression in marriage. *Personality and*

Social Psychology Bulletin, 37(6), 770-783. DOI: 10.1177/0146167211407077

Međedović, J. (2017). The profile of a criminal offender depicted by HEXACO personality traits. *Personality and Individual Differences*, 107, 159-163. DOI: 10.1016/j.paid.2016.11.015

Montero, I., Martín-Baena, D., Escribà-Agüir, V., Ruiz-Pérez, I., Vives-Cases, C., & Talavera, M. (2013). Intimate partner violence in older women in Spain: prevalence, health consequences, and service utilization. *Journal of women & aging*, 25(4), 358-371. DOI: [10.1080/08952841.2013.838854](https://doi.org/10.1080/08952841.2013.838854)

Murphy, C. M., & Hoover, S. A. (2001). Measuring emotional abuse in dating relationships as a multifactorial construct. *Psychological abuse in violent domestic relations*, 29-46. DOI: 10.1891/0886-6708.14.1.39

Murphy, C. M., & O'Leary, K. D. (1989). Psychological aggression predicts physical aggression in early marriage. *Journal of Consulting and Clinical Psychology*, 57, 579-582. DOI: [10.1037/0022-006X.57.5.579](https://doi.org/10.1037/0022-006X.57.5.579)

Murphy, C. M., Hoover, S. A., & Taft, C. (1999). The multidimensional measure of emotional abuse: Factor structure and subscale validity. In *annual meeting of the Association for the Advancement of Behavior Therapy, Toronto, Canada*.

NSPCC (2019). Emotional abuse, retrieved from <https://www.nspcc.org.uk/what-is-child-abuse/types-of-abuse/emotional-abuse/> (last accessed November 12th 2019).

O'Leary, K. D. (1999). Psychological abuse: A variable deserving critical attention in domestic violence. *Violence and victims*, 14, 3-24. DOI: 10.1891/0886-6708.14.1.3

- Pailing, A., Boon, J., & Egan, V. (2014). Personality, the Dark Triad and violence. *Personality and Individual Differences*, 67, 81-86. DOI: [10.1016/j.paid.2013.11.018](https://doi.org/10.1016/j.paid.2013.11.018)
- Paleari, F. G., Regalia, C., & Fincham, F. D. (2009). Measuring offence-specific forgiveness in marriage: the Marital Offence-Specific Forgiveness Scale (MOFS). *Psychological assessment*, 21(2), 194. DOI: 10.1037/a0016068
- Paulhus, D. L., & Williams, K. M. (2002). The dark triad of personality: Narcissism, Machiavellianism, and psychopathy. *Journal of research in personality*, 36(6), 556-563. DOI: 10.1016/S0092-6566(02)00505-6
- Peel, R., McBain, K., Caltabiano, N., & Buckby, B. (2019). The romantic self-saboteur: how do people sabotage love?.
- Pico-Alfonso, M. A., Garcia-Linares, M. I., Celda-Navarro, N., Blasco-Ros, C., Echeburúa, E., & Martinez, M. (2006). The impact of physical, psychological, and sexual intimate male partner violence on women's mental health: depressive symptoms, posttraumatic stress disorder, state anxiety, and suicide. *Journal of women's health*, 15(5), 599-611. DOI: [10.1089/jwh.2006.15.599](https://doi.org/10.1089/jwh.2006.15.599)
- Reed, G. L., & Enright, R. D. (2006). The effects of forgiveness therapy on depression, anxiety, and posttraumatic stress for women after spousal emotional abuse. *Journal of consulting and clinical psychology*, 74(5), 920. DOI: [10.1037/0022-006X.74.5.920](https://doi.org/10.1037/0022-006X.74.5.920)
- Riek, B. M., & Mania, E. W. (2012). The antecedents and consequences of interpersonal forgiveness: A meta-analytic review. *Personal Relationships*, 19(2), 304-325. DOI: 10.1111/j.1475-6811.2011.01363.x
- Rivera, P. M., & Fincham, F. (2015). Forgiveness as a mediator of the intergenerational transmission of violence. *Journal of interpersonal violence*, 30(6), 895-910. DOI: [10.1186/s12459-015-9000-0](https://doi.org/10.1186/s12459-015-9000-0)

[10.1177%2F0886260514539765](https://doi.org/10.1177%2F0886260514539765)

- Rolison, J. J., Hanoch, Y., & Gummerum, M. (2013). Characteristics of offenders: The HEXACO model of personality as a framework for studying offenders' personality. *The Journal of Forensic Psychiatry & Psychology*, 24(1), 71-82. DOI: 10.1080/14789949.2012.752024
- Schmeichel, B. J., & Tang, D. (2015). Individual differences in executive functioning and their relationship to emotional processes and responses. *Current Directions in Psychological Science*, 24(2), 93-98. DOI: [10.1177%2F0963721414555178](https://doi.org/10.1177%2F0963721414555178)
- Shepherd, S., & Belicki, K. (2008). Trait forgiveness and traitedness within the HEXACO model of personality. *Personality and Individual Differences*, 45(5), 389-394. DOI: 10.1016/j.paid.2008.05.011
- Straus, M. A. (2008). Dominance and symmetry in partner violence by male and female university students in 32 nations. *Children and youth services review*, 30(3), 252-275. DOI: [10.1016/j.childyouth.2007.10.004](https://doi.org/10.1016/j.childyouth.2007.10.004)
- Straus, M. A. (2011). Gender symmetry and mutuality in perpetration of clinical-level partner violence: Empirical evidence and implications for prevention and treatment. *Aggression and Violent Behavior*, 16(4), 279-288. DOI: [10.1016/j.avb.2011.04.010](https://doi.org/10.1016/j.avb.2011.04.010)
- Street, A. E., & Arias, I. (2001). Psychological abuse and posttraumatic stress disorder in battered women: Examining the roles of shame and guilt. *Violence and victims*, 16(1), 65-78. DOI:
- Tabachnick, B. G., & Fidell, L. S. (2007). Using multivariate statistics (5th ed.). Upper Saddle River, NJ: Pearson Allyn & Bacon.
- Ulloa, E. C., Hammett, J. F., O'Neal, D. N., Lydston, E. E., & Aramburo, L. F. L. (2016).

The Big Five Personality Traits and Intimate Partner Violence: findings from a large, nationally representative sample. *Violence and victims*, 31(6), 1100-1115.

DOI: 10.1891/0886-6708.VV-D-15-00055

Walters, G. D. (2004). The trouble with psychopathy as a general theory of crime. *International Journal of Offender Therapy and Comparative Criminology*, 48(2), 133-148. DOI: [10.1177%2F0306624X03259472](https://doi.org/10.1177/1043986204265947)

Webster, G. D., Gesselman, A. N., Crysel, L. C., Brunell, A. B., Jonason, P. K., Hadden, B. W., & Smith, C. V. (2016). An actor-partner interdependence model of the Dark Triad and aggression in couples: Relationship duration moderates the link between psychopathy and argumentativeness. *Personality and Individual Differences*, 101, 196-207. DOI: [10.1016/j.paid.2016.05.065](https://doi.org/10.1016/j.paid.2016.05.065)

White, J. W., & Koss, M. P. (1991). Courtship violence: Incidence in a national sample of higher education students. *Violence and victims*, 6(4), 247.

World Health Organization. (2005). Summary report: WHO multi-country study on women's health and domestic violence against women. *Initial results on prevalence, health outcomes, and women's responses*. Geneva, Switzerland: World Health Organization.

Tables
Table 1

Means of items within each subscale, standard deviations, and internal reliabilities of the subscales (n = 340).

Measure	Subscales	Mean	SD	Alpha reliability
HEXACO	Honesty-Humility	3.33	6.13	.74
	Emotionality	3.51	7.07	.82
	Extraversion	3.30	6.75	.82
	Agreeableness	3.03	6.46	.80
	Conscientiousness	3.65	5.95	.79
	Openness	3.40	6.12	.73
MMEA	Perpetration	1.56	12.44	.85
	Victimisation	1.74	21.85	.94
MOFS	Resentment-avoidance	3.79	5.59	.73
	Benevolence	4.13	4.26	.80
SD3	Machiavellianism	3.09	5.23	.74
	Psychopathy	2.10	5.14	.72
	Narcissism	2.52	4.77	.65

Note. MMEA (Multidimensional Model of Emotional Abuse), MOFS (Martial Offence-specific Forgiveness Scale), SD3 (Short Dark Triad).

Table 2

Correlations between predictor variables (HEXACO, DT, forgiveness) and outcome variables (MMEA perpetration, MMEA victimisation).

	Vic	Perp	H-H	E	X	A	C	O	M	N	P	R-A
Perp	.65**	--										
H-H	-.20**	-.31**	--									
E	-.11	.20	.06	--								
X	-.03	-.15**	.05	-.24**	--							
A	-.08	-.32**	.36**	-.07	.02	--						
C	-.25**	-.21**	.21**	.17**	.09	.02	--					
O	-.02	-.07	.04	.08	-.01	.06	.08	--				
M	.27**	-.31**	-.58**	-.18**	-.06	-.33**	-.15**	-.12*	--			
N	.14**	.14**	-.40**	-.19**	.48**	-.26**	.01	.09	.35**	--		
P	.37**	.41**	-.47**	-.32**	-.07	-.37**	-.32**	-.10	.49**	.31**	--	
R-A	-.44**	-.37**	.23**	-.06	.13	.20**	.14*	.02	-.26**	-.07	-.28**	--
B	-.23**	-.08	.14*	.08	.06	.18**	.01	.08	-.13*	-.09	-.24**	.547**

Note. * = correlation is significant at the .05 level (2-tailed), ** = correlation is significant at the .01 level (2-tailed)

Vic (MMEA Victimisation), Perp (MMEA perpetration), H-H (Honesty-Humility), E (Emotionality), X (eXtraversion), A (Agreeableness), C (Conscientiousness), O (Openness to experience), M (Machiavellianism), N (Narcissism), P (Psychopathy), R-A (Resentment-Avoidance), B (Benevolence).

Table 3

Pattern and structure matrix factor loadings and communalities based on a principle component analysis with oblique rotation for HEXACO and DT traits, forgiveness, victimisation and perpetration. (N = 340)

	Pattern coefficients		Structure coefficients		Communalities
	Antagonistic	Narcissism/ Extroversion	Antagonistic	Narcissism/ Extroversion	
Perp	.74		.73		.53
Vic	.69		.69		.47
M	.56		.61	.47	.52
P	.65		.69	.43	.50
N		.80		.81	.68
H-H	-.54	-.41	-.59	-.48	.51
E		-.51		-.51	.26
X		.69		.64	.54
A	-.44		-.47		.27
C					.14
O					.02
R-A	-.71		-.69		.52
B	-.48		-.47		.23

Note. Coefficients below .4 were suppressed.

Perp (Perpetration), Vic (Victimisation), M (Machiavellianism), P (Psychopathy), N (Narcissism), H-H (Honesty-Humility), E (Emotionality), X (Extroversion), A (Agreeableness), C (Conscientiousness), O (Openness to experience) R-A (Resentment-avoidance), B (Benevolence).

Table 4

Bootstrapped multiple hierarchical regression coefficients, standard errors, significance and confidence intervals for demographics, DT and HEXACO traits, forgiveness and perpetration predicting victimisation.

Variable	β	SE	p	95% CI		R^2	Adjusted R^2
				LL	UL		
Step 5						.49	.47
Gender	3.04	2.07	.14	-1.03	7.40		
Age	.05	.17	.79	-.28	.39		
M	.14	.25	.60	-.34	.61		
P	.31	.32	.36	-.35	.92		
N	.20	.17	.24	-.13	.53		
H-H	.35	.22	.10	-.06	.74		
Perp	.98	.10	.001**	.80	1.17		
R-A	-.81	.28	.005*	-1.40	-.31		
B	-.38	.28	.18	-.93	.19		

Note. Regression significant at $p < .005^*$, regression significant at $p < .001^{**}$.

M (Machiavellianism), P (Psychopathy), N (Narcissism), H-H (Honesty-Humility), Perp (Perpetration), R-A (Resentment-avoidance), B (Benevolence).

Table 5

Bootstrapped multiple hierarchical regression coefficients, standard errors, significance and confidence intervals for demographics, DT and HEXACO traits, forgiveness and victimisation predicting perpetration.

Variable	β	SE	p	95% CI		R^2	Adjusted R^2
				LL	UL		
Step 5						.53	.52
Gender	-2.14	1.28	.10	-4.72	.40		
Age	.13	.12	.27	-.81	.37		
M	.01	.14	.90	-.25	.30		
P	.23	.15	.12	-.08	.50		
N	.06	.12	.63	-.17	.31		
H-H	-.13	.12	.27	-.35	.12		
X	-.22	.09	.015*	-.38	-.05		
A	-.39	.09	.001**	-.56	-.22		
Vic	.32	.05	.001**	.24	.43		
R-A	-.04	.11	.70	-.26	.18		

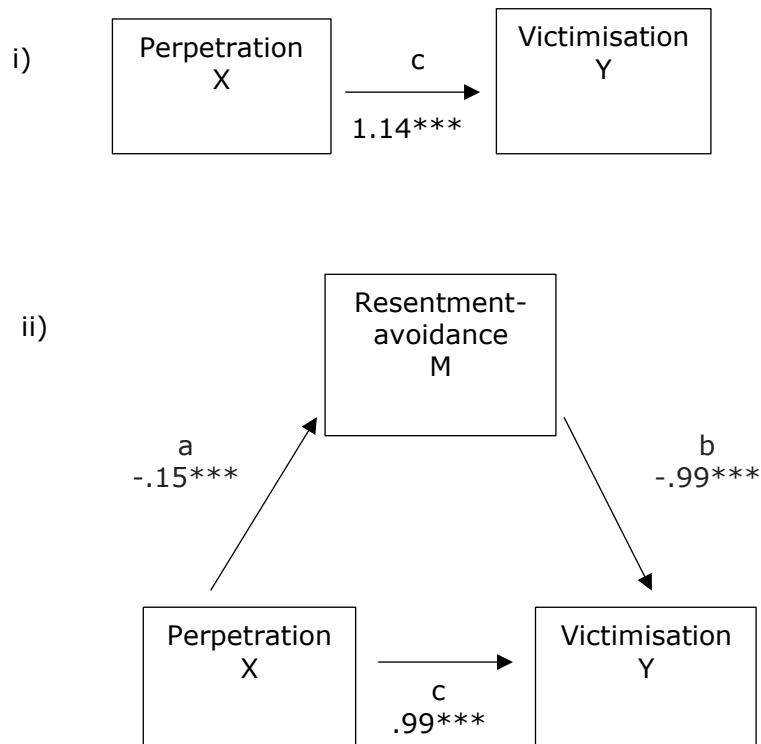
Note. Regression significant at $p < .005^*$, regression significant at $p < .001^{**}$.

M (Machiavellianism), P (Psychopathy), N (Narcissism), H-H (Honesty-Humility), X (Extraversion), A (Agreeableness), Vic (Victimisation), R-A (Resentment-avoidance).

Figures

Figure 1

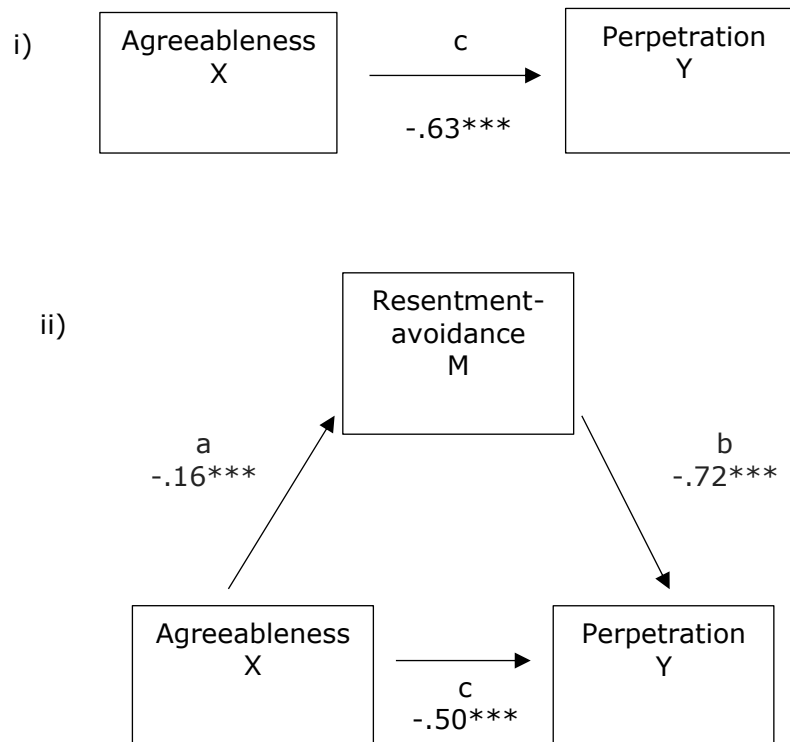
A diagram showing the i) total effect between perpetration and victimisation, and ii) the direct effect of perpetration on victimisation when controlling for resentment-avoidance.



Significant at $p < .001$ level***

Figure 2

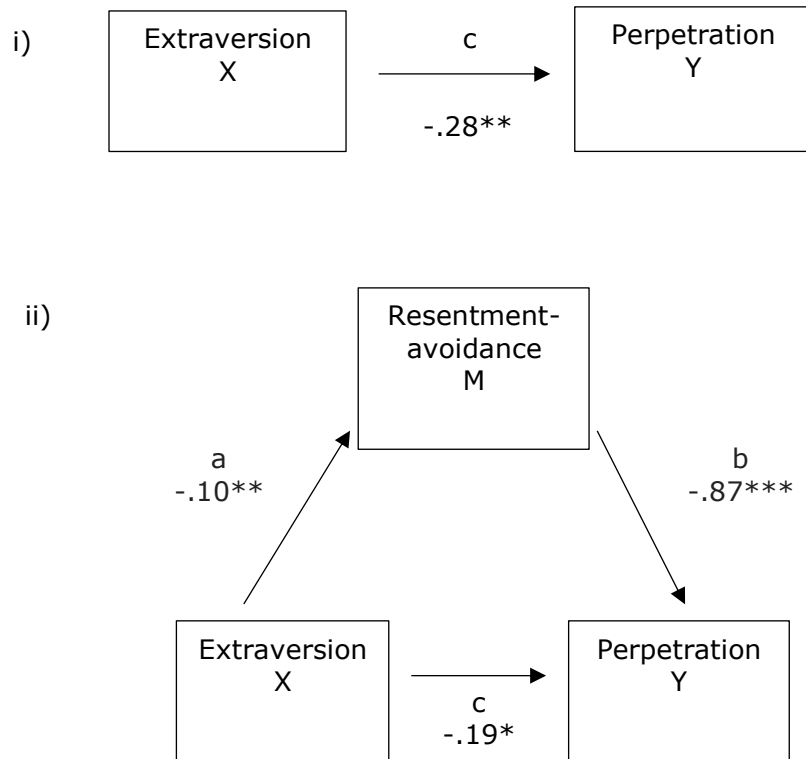
A diagram showing the i) total effect between Agreeableness and perpetration, and ii) the direct effect of Agreeableness on perpetration when controlling for resentment-avoidance.



Significant at $p < .001$ level***.

Figure 3

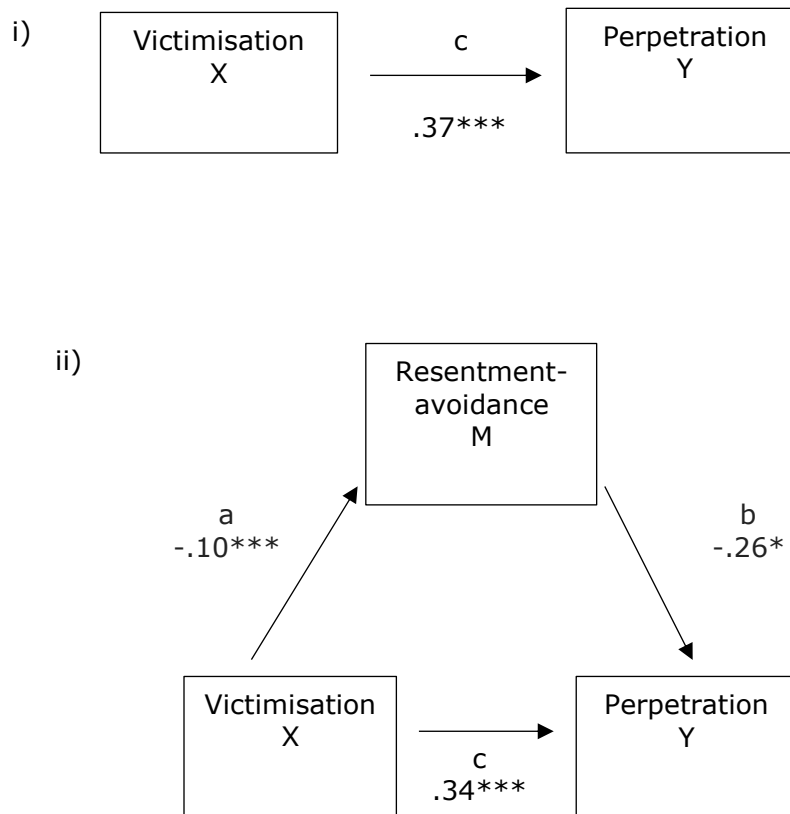
A diagram showing the i) total effect between eXtraversion and perpetration, and ii) the direct effect of eXtraversion on perpetration when controlling for resentment-avoidance.



Significant at $p < .05$ level*, significant at $p < .01$ level**, significant at $p < .001$ level***.

Figure 4

A diagram showing the i) total effect between victimisation and perpetration, and ii) the direct effect of victimisation on perpetration when controlling for resentment-avoidance.



Significant at $p < .05$ level*, significant at $p < .01$ level**, significant at $p < .001$ level***.

Appendices

Appendix A: social media advert

For my Masters dissertation, I am conducting research looking at whether forgiveness impacts the relationship between relationship conflict and personality.

If you are:

- Between the ages of 18-65
- Have been, or are currently, in a relationship which has lasted longer than one year in duration

Please could you spare some time to fill out my questionnaire. It should take no longer than around 30 minutes to complete.

Any questions, please feel free to contact me – lpylt3@nottingham.ac.uk

Appendix B: The HEXACO questionnaire and scoring scale.

Scale:

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

- 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.
- 31 I've never really enjoyed looking through an encyclopedia.
- 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 C: The Marital Offense-Specific Forgiveness Scale questionnaire

Scale:

1 = strongly disagree, 2 = disagree, 3 = somewhat disagree, 4 = somewhat agree, 5 = agree, 6 = strongly agree

1. Since my partner behaved that way, I have been less willing to talk to him/her
2. Although he/she hurt me, I definitely put what happened aside so that we could resume our relationship
3. Since my partner behaved that way, I get annoyed with him/her more easily
4. I make my partner feel guilty for what happened
5. Since my partner behaved that way, I have done my best to restore my relationship with her/him
6. I would like to behave toward my partner in the same way that she/he behaved toward me
7. Because of what happened, I find it difficult to be loving toward her/him
8. I still hold some grudge against my partner because of what he/she did
9. I forgave her/him completely, thoroughly
10. I soon forgave him/her

Appendix D: The Multidimensional Measure of Emotional Abuse and scoring scale. Both questions are answered for the participant and their partner.

Scale:

0 = never, 1 = once, 2 = twice, 3 = 3-5 times, 4 = 6-10 times, 5 = 11-20, 6 = 21+

1. Asked the other person where they had been or who they were with, in a suspicious manner
2. Secretly searched through the other person's belongings
3. Tried to stop the other person from seeing certain friends or family members
4. Complained that the other person spends too much time with friends
5. Got angry because the other person went somewhere without telling him/her
6. Tried to make the other person feel guilty for not spending enough time together
7. Checked up on the other person by asking friends or relatives where they were or who they were with
8. Called the other person worthless
9. Called the other person ugly
10. Criticized the other person's appearance
11. Called the other person a loser, failure, or similar term
12. Belittled the other person in front of other people
13. Said that someone else would be a better partner (better spouse, better girlfriend or boyfriend)
14. Became so angry that they were unable or unwilling to talk
15. Acted cold or distant when angry
16. Refused to have any discussion of a problem
17. Changed the subject on purpose when the other person was trying to discuss a problem
18. Refused to acknowledge a problem that the other person felt was important
19. Sulked or refused to talk about an issue
20. Intentionally avoided the other person during a conflict or disagreement
21. Became angry enough to frighten the other person
22. Put his/her face right in front of the other person's face to make a point more forcefully
23. Threatened to hit the other person
24. Threatened to throw something at the other person
25. Threw, smashed, hit, or kicked something in front of the other person
26. Drove recklessly to frighten the other person
27. Stood or hovered over the other person during a conflict or disagreement

Appendix E: The Short Dark Triad questionnaire and scoring scale.

Scale:

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

1. It's not wise to tell your secrets.
2. Generally speaking, people won't work hard unless they have to.
3. Whatever it takes, you must get the important people on your side.
4. Avoid direct conflict with others because they may be useful in the future.
5. It's wise to keep track of information that you can use against people later.
6. You should wait for the right time to get back at people.
7. There are things you should hide from other people because they don't need to know.
8. Make sure your plans benefit yourself, not others.
9. Most people can be manipulated.
10. People see me as a natural leader.
11. I hate being the centre of attention.
12. Many group activities tend to be dull without me.
13. I know that I am special because everyone keeps telling me so.
14. I like to get acquainted with important people.
15. I feel embarrassed if someone compliments me.
16. I have been compared to famous people.
17. I am an average person.
18. I insist on getting the respect I deserve.
19. I like to get revenge on authorities.
20. I avoid dangerous situations.
21. Payback needs to be quick and nasty.
22. People often say I'm out of control.
23. It's true that I can be mean to others.
24. People who mess with me always regret it.
25. I have never gotten into trouble with the law.
26. I enjoy having sex with people I hardly know.
27. I'll say anything to get what I want.

Appendix F: The information sheet and consent form filled out by participants.

This study is looking at personality, relationships and forgiveness. We aim to assess whether forgiveness has an effect on the relationship between relationship conflict and personality.

We appreciate your interest in taking part in this online questionnaire. You have been invited to participate because you are between 18-65 years old and have been, or are currently, in a relationship lasting more than one year. Please read through this information before agreeing to participate by ticking the 'yes' box below. You may ask any questions before taking part by contacting the researchers (details below).

You will be given 120 questions to answer in relation to your personality, forgiveness, and you *and* your partner's behaviour in the relationship. These are validated questionnaires and should take you about **30** minutes to complete. On completion of the survey you will be presented with a Debrief form. No background knowledge is required.

What are the possible risks of taking part?

There are specific risks of taking part in this project. It is important that you consider these carefully before deciding whether or not to take part. While many find that completing questionnaires about relationships can be a positive experience, others can find it is upsetting or distressing. Please do think carefully about whether you think that it will be a positive or a challenging experience for you. If you feel at the moment this might be distressing for you, you may wish to opt out of this research study. After you have submitted the questionnaire you will be presented with a study debrief with details of where you can seek help if you have become upset.

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. We will minimize any risks by using Jisc Online surveys which is a tool designed for academic research, Education and Public sector organization for further information please see <https://www.onlinesurveys.ac.uk/security/>

Do I have to take part?

Taking part is entirely voluntary and you are free to withdraw at any point and during the questionnaire for any reason, before submitting your answers, by pressing the 'Exit' button / closing the browser. Your answers will only be uploaded after you have clicked the submit button on the final page.

How will your data be used?

Your answers will be completely anonymous (we will not ask for your name other personal ID during the questionnaire). Your IP address will not be stored. Once you have completed and submitted the questionnaire, we will not be able to see who it is from and for this reason it will not be possible to withdraw the data. Your anonymous data (research data) will be stored in a password-protected file sitting on restricted access servers at the University of Nottingham under the terms of its data protection policy after which it will be disposed of securely.

This questionnaire is for a Masters project and the answers received from all participants will be combined in a password protected database ready for analysis. The results will be written up as a dissertation and may be used in academic publications and presentations. The overall anonymised data from this study may be shared for use in future research and teaching (with research ethics approval).

If you contact us to ask questions we will receive your e-mail address but this will be received separately from your completed questionnaire and it will not be possible to link the two sets of data. Your e-mail address will be stored separately and only for as long as needed to resolve your queries.

Who will have access to your data?

The University of Nottingham is the data controller (legally responsible for data security) and the Supervisor of this study (named above) is the data custodian (manages access to the data) and as such will determine how your data is used in the study. Your research and personal data will be used for the purposes of the research only. Research is a task that we perform in the public interest. The only personal data we will receive is your e-mail if you contact us to ask further questions. Further information about your rights with respect to your personal data is available from:

<https://www.nottingham.ac.uk/utilities/privacy.aspx/>

Responsible members of the University of Nottingham and funders may be given access to data for monitoring and/or audit of the study to ensure we are complying with guidelines, or as otherwise required by law.

If you have any further questions or concerns about this study please email the researchers: Leanne Taylor e-mail: lpylt3@nottingham.ac.uk, Supervisors: Dr Vince Egan E-mail: mczve@exmail.nottingham.ac.uk, Dr Simon Duff e-mail: mczsd@exmail.nottingham.ac.uk. The researcher should acknowledge your concern and give you an indication of how they will deal with it. If you wish to complain formally, please contact the FMHS Research Ethics Committee Administrator, E-mail: FMHS-ResearchEthics@nottingham.ac.uk. Please quote: FMHS REC ref no 494-2002.

I have read and understood the above information, 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.

NEXT – I consent to take part

EXIT - I do not give consent

Thank you for participating. Please tick each box to continue.

Have you understood the information sheet? Yes/no

I am 18 years old or older. Yes/no

I understand that my participation is voluntary and I can end the study at any time and withdraw my data by clicking the EXIT button. Yes/no

I understand that my answers will be anonymous. Yes/no

I understand the overall anonymized data from this study may be shared in the future (with research ethics approval) for research and teaching purposes. Yes/no

Have you had the opportunity to ask questions about the research? Yes/no

Do you consent to taking part in this research? Yes/no

Next- to be taken the survey.

Appendix G: The demographic questionnaire participants completed.

Before starting the questionnaire, please provide the following information about yourself:

Gender – male/female/non-binary/prefer not to say

Age – (text box)

Are you currently, or have been in, a relationship which has lasted longer than a year in duration? – Currently in a relationship of a year or more/previously in a relationship of a year or more/I haven't been in a relationship of a year or more

What type of relationship was this? -

Heterosexual/homosexual/polyamorous/other (text box to specify other)

What was the status of the relationship? – married/dating/co-habiting/civil partnership/other (text box to specify other)

Appendix H: Debrief sheet explaining the hypotheses and aims of the research, which was presented to participants after completion of the study.

Background/Hypothesis:

We have conducted this study to investigate whether an individuals' forgiveness towards a partner affects the relationship between psychological abuse and personality. Previous research has demonstrated a link between agreeableness, honesty, dark triad traits and psychological abuse.

In this experiment, you were asked to fill out questionnaires regarding psychological abuse in a past/current relationship (the Multidimensional Measure of Emotional Abuse; MMEA) forgiveness towards that partner (The Marital Offence-Specific Forgiveness Scale; MOFS), and your personality (HEXACO-PI-R; Short Dark Triad; SD3).

Hypotheses and Analysis:

We hypothesised that low agreeableness, low honesty and all three dark triad traits would be linked with the perpetration of psychological abuse.

We also suggested that low forgiveness would be linked with the perpetration of psychological abuse, whereas high forgiveness would correlate with the likelihood of being a victim of psychological abuse.

Furthermore, we suggested there would be an effect of forgiveness on the relationship between personality and psychological abuse.

Support if you are suffering abuse:

Relate

0300 003 0396

You can talk to Relate about your relationship, including issues around emotional abuse.

Women's Refuge

0808 2000 247

A helpline for women

ManKind

0182 3334 244 (Monday to Friday, 10am to 4pm)

A helpline for men

Useful Reading:

Carton, H., & Egan, V. (2017). The dark triad and intimate partner violence. *Personality and Individual Differences*, 105, 84-88.

McNulty, J. K. (2011). The dark side of forgiveness: The tendency to forgive predicts continued psychological and physical aggression in marriage. *Personality and Social Psychology Bulletin*, 37(6), 770-783.

Thank you for all your time and effort.

Appendix I: Tests of normal distribution.

Descriptive Statistics

	N	Mean	Std. Deviation	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
perpetration	340	41.7147	12.43951	1.897	.132	5.396	.264
victimisation	340	47.0088	21.84884	2.403	.132	7.912	.264
total_mach	340	27.7824	5.21680	.168	.132	.105	.264
total_psych	340	18.8794	5.13822	.517	.132	.509	.264
total_narc	340	22.6853	4.78115	.219	.132	-.060	.264
HH	340	33.9265	6.10555	-.130	.132	-.162	.264
emo_total	340	35.0088	7.12323	-.556	.132	-.044	.264
extra_TOTAL	340	32.9882	6.75399	-.165	.132	-.378	.264
agree_TOTAL	340	30.3176	6.45422	-.108	.132	-.379	.264
total_resent_avoid	340	18.7324	5.13897	-.089	.132	-.403	.264
total_benev	340	16.5029	4.25964	-.513	.132	-.124	.264
Valid N (listwise)	340						

Tests of Normality

	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
perpetration	.121	340	.000	.848	340	.000
victimisation	.177	340	.000	.766	340	.000
total_mach	.063	340	.003	.993	340	.151
total_psych	.067	340	.001	.978	340	.000
total_narc	.054	340	.018	.989	340	.015
HH	.046	340	.077	.994	340	.228
emo_total	.070	340	.000	.970	340	.000
extra_TOTAL	.061	340	.004	.992	340	.077
agree_TOTAL	.057	340	.009	.992	340	.060
total_resent_avoid	.065	340	.002	.990	340	.021
total_benev	.111	340	.000	.971	340	.000

a. Lilliefors Significance Correction

Appendix J: Chronbach Alpha's test of reliability on all variables.

Honesty-Humility:

Case Processing Summary

		N	%
Cases	Valid	337	99.1
	Excluded ^a	3	.9
	Total	340	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.740	.740	10

Summary Item Statistics

	Mean	Minimum	Maximum	Range	Maximum / Minimum	Variance	N of Items
Item Means	3.325	2.393	4.260	1.867	1.780	.300	10

Scale Statistics

Mean	Variance	Std. Deviation	N of Items
33.9258	37.533	6.12643	10

Emotionality:

Case Processing Summary

		N	%
Cases	Valid	338	99.4
	Excluded ^a	2	.6
	Total	340	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.821	.823	10

Summary Item Statistics

	Mean	Minimum	Maximum	Range	Maximum / Minimum	Variance	N of Items
Item Means	3.505	2.713	4.260	1.547	1.570	.250	10

Scale Statistics

Mean	Variance	Std. Deviation	N of Items
35.0473	50.004	7.07133	10

Extraversion:

Case Processing Summary

		N	%
Cases	Valid	338	99.4
	Excluded ^a	2	.6
	Total	340	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.823	.824	10

Summary Item Statistics

	Mean	Minimum	Maximum	Range	Maximum / Minimum	Variance	N of Items
Item Means	3.303	2.822	3.680	.858	1.304	.076	10

Scale Statistics

Mean	Variance	Std. Deviation	N of Items
33.0325	45.551	6.74914	10

Agreeableness:

Case Processing Summary

		N	%
Cases	Valid	339	99.7
	Excluded ^a	1	.3
	Total	340	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.796	.796	10

Summary Item Statistics

	Mean	Minimum	Maximum	Range	Maximum / Minimum	Variance	N of Items
Item Means	3.032	2.487	3.437	.950	1.382	.084	10

Scale Statistics

Mean	Variance	Std. Deviation	N of Items
30.3186	41.780	6.46373	10

Conscientiousness:

Case Processing Summary

		N	%
Cases	Valid	338	99.4
	Excluded ^a	2	.6
	Total	340	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.794	.796	10

Summary Item Statistics

	Mean	Minimum	Maximum	Range	Maximum / Minimum	Variance	N of Items
Item Means	3.659	3.249	4.080	.831	1.256	.101	10

Scale Statistics

Mean	Variance	Std. Deviation	N of Items
36.5917	35.400	5.94975	10

Openness:

Case Processing Summary

		N	%
Cases	Valid	339	99.7
	Excluded ^a	1	.3
	Total	340	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.732	.729	10

Summary Item Statistics

	Mean	Minimum	Maximum	Range	Maximum / Minimum	Variance	N of Items
Item Means	3.401	2.941	3.702	.761	1.259	.079	10

Scale Statistics

Mean	Variance	Std. Deviation	N of Items
34.0118	37.491	6.12299	10

MMEA perpetration:

Case Processing Summary

		N	%
Cases	Valid	340	100.0
	Excluded ^a	0	.0
	Total	340	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.847	.856	27

Summary Item Statistics

	Mean	Minimum	Maximum	Range	Maximum / Minimum	Variance	N of Items
Item Means	1.545	1.047	3.221	2.174	3.076	.284	27

Scale Statistics

Mean	Variance	Std. Deviation	N of Items
41.7147	154.741	12.43951	27

MMEA victimisation:

Case Processing Summary

		N	%
Cases	Valid	340	100.0
	Excluded ^a	0	.0
	Total	340	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.935	.943	27

Summary Item Statistics

	Mean	Minimum	Maximum	Range	Maximum / Minimum	Variance	N of Items
Item Means	1.741	1.141	3.018	1.876	2.644	.269	27

Scale Statistics

Mean	Variance	Std. Deviation	N of Items
47.0088	477.372	21.84884	27

Machiavellianism:

Case Processing Summary

		N	%
Cases	Valid	339	99.7
	Excluded ^a	1	.3
	Total	340	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.744	.741	9

Summary Item Statistics

	Mean	Minimum	Maximum	Range	Maximum / Minimum	Variance	N of Items
Item Means	3.087	2.407	3.799	1.392	1.578	.249	9

Scale Statistics

Mean	Variance	Std. Deviation	N of Items
27.78	27.295	5.225	9

Narcissism:

Case Processing Summary

		N	%
Cases	Valid	339	99.7
	Excluded ^a	1	.3
	Total	340	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.646	.651	9

Summary Item Statistics

	Mean	Minimum	Maximum	Range	Maximum / Minimum	Variance	N of Items
Item Means	2.523	2.029	3.047	1.018	1.501	.143	9

Scale Statistics

Mean	Variance	Std. Deviation	N of Items
22.7080	22.752	4.76988	9

Psychopathy:

Case Processing Summary

		N	%
Cases	Valid	340	100.0
	Excluded ^a	0	.0
	Total	340	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.723	.739	9

Summary Item Statistics

	Mean	Minimum	Maximum	Range	Maximum / Minimum	Variance	N of Items
Item Means	2.098	1.750	3.088	1.338	1.765	.190	9

Scale Statistics

Mean	Variance	Std. Deviation	N of Items
18.8794	26.401	5.13822	9

Resentment-avoidance:

Case Processing Summary

		N	%
Cases	Valid	340	100.0
	Excluded ^a	0	.0
	Total	340	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.729	.739	6

Summary Item Statistics

	Mean	Minimum	Maximum	Range	Maximum / Minimum	Variance	N of Items
Item Means	3.794	3.303	4.147	.844	1.256	.107	6

Scale Statistics

Mean	Variance	Std. Deviation	N of Items
22.7618	31.279	5.59280	6

Benevolence:

Case Processing Summary

		N	%
Cases	Valid	340	100.0
	Excluded ^a	0	.0
	Total	340	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.797	.796	4

Summary Item Statistics

	Mean	Minimum	Maximum	Range	Maximum / Minimum	Variance	N of Items
Item Means	4.126	3.788	4.571	.782	1.207	.113	4

Scale Statistics

Mean	Variance	Std. Deviation	N of Items
16.50	18.145	4.260	4

Appendix K: Pearson's correlations between subscales.

		Correlations												
		perpetration	victimisation	total_mach	total_psych	total_narc	HH	emo_total	extra_TOTAL	agree_TOTAL	cons_TOTAL	open_TOTAL	total_resent_avoid	total_benev
perpetration	Pearson Correlation	1	.647**	.309**	.405**	.141**	-.308**	.020	-.150**	-.324**	-.206**	-.071	-.372**	-.077
	Sig. (2-tailed)		.000	.000	.000	.009	.000	.712	.006	.000	.000	.192	.000	.155
	N	340	340	340	340	340	340	340	340	340	340	340	340	340
victimisation	Pearson Correlation	.647**	1	.268**	.365**	.141**	-.203**	-.105	-.032	-.080	-.246**	-.023	-.440**	-.234**
	Sig. (2-tailed)	.000		.000	.000	.009	.000	.053	.551	.140	.000	.671	.000	.000
	N	340	340	340	340	340	340	340	340	340	340	340	340	340
total_mach	Pearson Correlation	.309**	.268**	1	.492**	.346**	-.583**	-.179**	-.067	-.325**	-.149**	-.122*	-.259**	-.129*
	Sig. (2-tailed)	.000	.000		.000	.000	.000	.001	.218	.000	.006	.024	.000	.017
	N	340	340	340	340	340	340	340	340	340	340	340	340	340
total_psych	Pearson Correlation	.405**	.365**	.492**	1	.310**	-.472**	-.321**	-.071	-.366**	-.317**	-.098	-.281**	-.240**
	Sig. (2-tailed)	.000	.000	.000		.000	.000	.000	.194	.000	.000	.070	.000	.000
	N	340	340	340	340	340	340	340	340	340	340	340	340	340
total_narc	Pearson Correlation	.141**	.141**	.346**	.310**	1	-.402**	-.186**	.478**	-.259**	.010	.087	-.068	-.092
	Sig. (2-tailed)	.009	.009	.000	.000		.000	.001	.000	.000	.847	.110	.208	.091
	N	340	340	340	340	340	340	340	340	340	340	340	340	340
HH	Pearson Correlation	-.308**	-.203**	-.583**	-.472**	-.402**	1	.058	.045	.362**	.207**	.035	.228**	.139*
	Sig. (2-tailed)	.000	.000	.000	.000	.000		.284	.404	.000	.000	.518	.000	.010
	N	340	340	340	340	340	340	340	340	340	340	340	340	340
emo_total	Pearson Correlation	.020	-.105	-.179**	-.321**	-.186**	.058	1	-.240**	-.073	.169**	.079	-.059	.082
	Sig. (2-tailed)	.712	.053	.001	.000	.001	.284		.000	.179	.002	.145	.279	.131
	N	340	340	340	340	340	340	340	340	340	340	340	340	340
extra_TOTAL	Pearson Correlation	-.150**	-.032	-.067	-.071	.478**	.045	-.240**	1	.022	.093	-.002	.134*	.057
	Sig. (2-tailed)	.006	.551	.218	.194	.000	.404	.000		.688	.088	.966	.013	.293
	N	340	340	340	340	340	340	340	340	340	340	340	340	340
agree_TOTAL	Pearson Correlation	-.324**	-.080	-.325**	-.366**	-.259**	.362**	-.073	.022	1	.015	.055	.202**	.177**
	Sig. (2-tailed)	.000	.140	.000	.000	.000	.000	.179	.688		.780	.311	.000	.001
	N	340	340	340	340	340	340	340	340	340	340	340	340	340
cons_TOTAL	Pearson Correlation	-.206**	-.246**	-.149**	-.317**	.010	.207**	.169**	.093	.015	1	.076	.137*	.007
	Sig. (2-tailed)	.000	.000	.006	.000	.847	.000	.002	.088	.780		.163	.011	.898
	N	340	340	340	340	340	340	340	340	340	340	340	340	340
open_TOTAL	Pearson Correlation	-.071	-.023	-.122*	-.098	.087	.035	.079	-.002	.055	.076	1	.023	.075
	Sig. (2-tailed)	.192	.671	.024	.070	.110	.518	.145	.966	.311	.163		.678	.170
	N	340	340	340	340	340	340	340	340	340	340	340	340	340
total_resent_avoid	Pearson Correlation	-.372**	-.440**	-.259**	-.281**	-.068	.228**	-.059	.134*	.202**	.137*	.023	1	.547**
	Sig. (2-tailed)	.000	.000	.000	.000	.208	.000	.279	.013	.000	.011	.678	.000	.000
	N	340	340	340	340	340	340	340	340	340	340	340	340	340
total_benev	Pearson Correlation	-.077	-.234**	-.129*	-.240**	-.092	.139*	.082	.057	.177**	.007	.075	.547**	1
	Sig. (2-tailed)	.155	.000	.017	.000	.091	.010	.131	.293	.001	.898	.170	.000	
	N	340	340	340	340	340	340	340	340	340	340	340	340	340

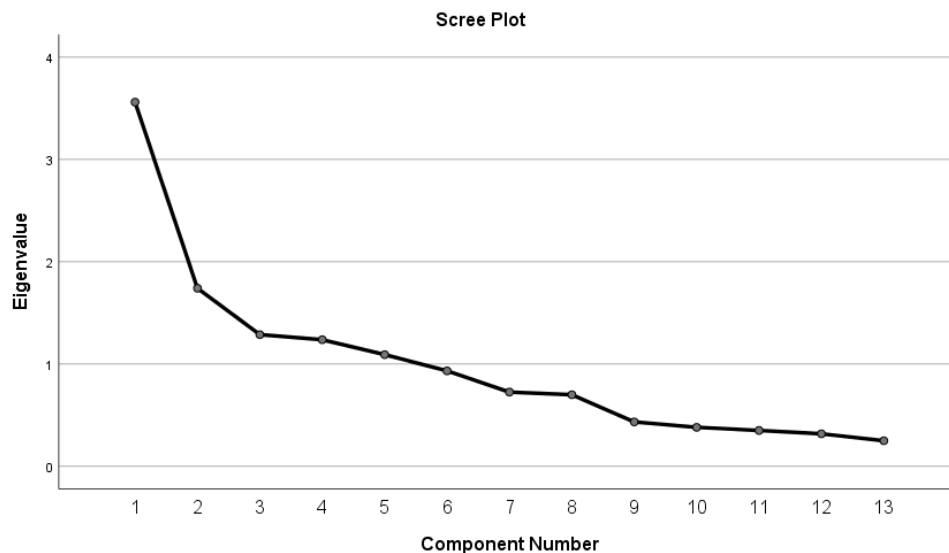
** . Correlation is significant at the 0.01 level (2-tailed).

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

Appendix L: Exploratory Factor Analysis SPSS outputs.

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.684
Bartlett's Test of Sphericity	Approx. Chi-Square	1257.652
	df	78
	Sig.	.000



Component Matrix^a

	Component	
	1	2
perpetration	.668	
victimisation	.629	
total_mach	.700	
total_psych	.766	
total_narc	.450	.689
HH	-.686	
emo_total		-.458
extra_TOTAL		.734
agree_TOTAL	-.518	
cons_TOTAL		
open_TOTAL		
total_benev	-.411	
total_resent_avoid	-.580	.429

Extraction Method: Principal Component Analysis.

a. 2 components extracted.

Pattern Matrix^a

	Component	
	1	2
perpetration	.735	
victimisation	.693	
total_mach	.559	
total_psych	.651	
total_narc		.801
HH	-.538	-.413
emo_total		-.508
extra_TOTAL		.686
agree_TOTAL	-.442	
cons_TOTAL		
open_TOTAL		
total_benev	-.477	
total_resent_avoid	-.712	

Extraction Method: Principal Component Analysis.

Rotation Method: Oblimin with Kaiser Normalization.^a

a. Rotation converged in 8 iterations.

Structure Matrix

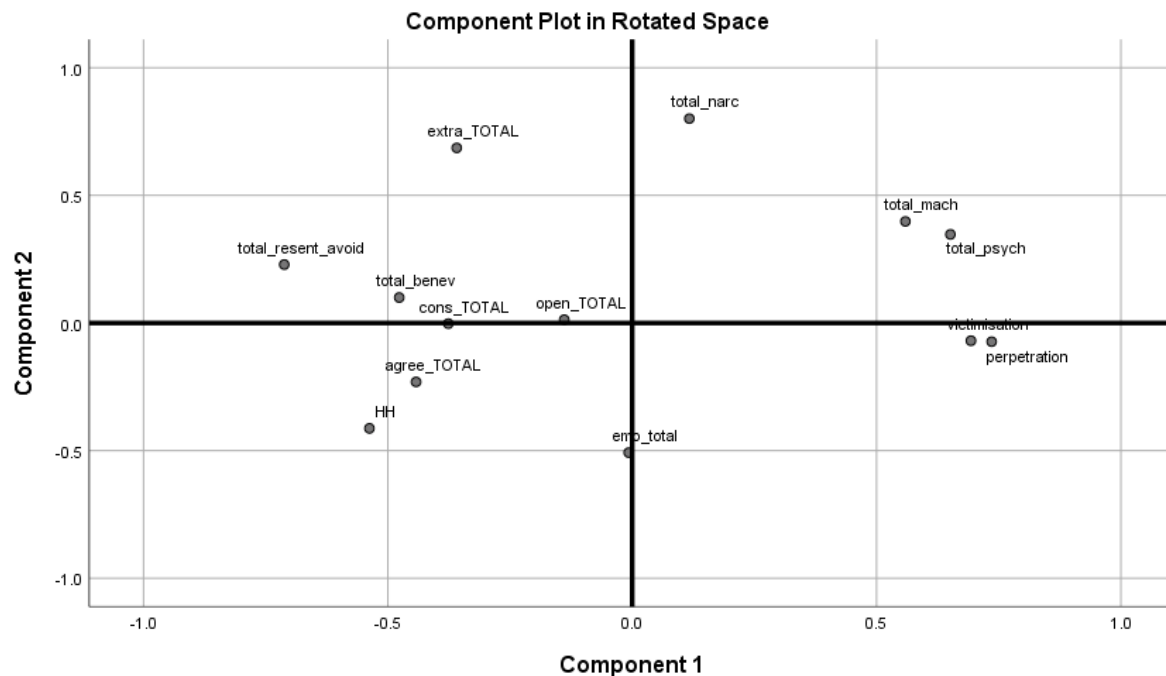
	Component	
	1	2
perpetration	.727	
victimisation	.685	
total_mach	.607	.465
total_psych	.693	.425
total_narc		.815
HH	-.587	-.477
emo_total		-.508
extra_TOTAL		.643
agree_TOTAL	-.470	
cons_TOTAL		
open_TOTAL		
total_benev	-.465	
total_resent_avoid	-.685	

Extraction Method: Principal Component Analysis.
Rotation Method: Oblimin with Kaiser Normalization.

Component Correlation Matrix

Component	1	2
1	1.000	.120
2	.120	1.000

Extraction Method: Principal Component Analysis.
Rotation Method: Oblimin with Kaiser Normalization.



Appendix M: Hierarchical multiple regression outputs, with MMEA victimisation as the outcome variable.

Variables Entered/Removed^a

Model	Variables Entered	Variables Removed	Method
1	Gender:, Age: ^b	.	Enter
2	total_narc, total_psych, total_mach ^b	.	Enter
3	HH ^b	.	Enter
4	perpetration ^b	.	Enter
5	total_benev, total_resent_ avoid ^b	.	Enter

a. Dependent Variable: victimisation

b. All requested variables entered.

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	Change Statistics			Sig. F Change
						F Change	df1	df2	
1	.045 ^a	.002	-.004	21.89104	.002	.347	2	337	.707
2	.391 ^b	.153	.140	20.26000	.151	19.815	3	334	.000
3	.391 ^c	.153	.138	20.28571	.000	.154	1	333	.695
4	.662 ^d	.438	.426	16.54973	.285	168.314	1	332	.000
5	.697 ^e	.486	.472	15.87761	.048	15.352	2	330	.000

a. Predictors: (Constant), Gender:, Age:

b. Predictors: (Constant), Gender:, Age:, total_narc, total_psych, total_mach

c. Predictors: (Constant), Gender:, Age:, total_narc, total_psych, total_mach, HH

d. Predictors: (Constant), Gender:, Age:, total_narc, total_psych, total_mach, HH, perpetration

e. Predictors: (Constant), Gender:, Age:, total_narc, total_psych, total_mach, HH, perpetration, total_benev, total_resent_avoid

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	332.611	2	166.306	.347	.707 ^b
	Residual	161496.362	337	479.218		
	Total	161828.974	339			
2	Regression	24732.743	5	4946.549	12.051	.000 ^c
	Residual	137096.231	334	410.468		
	Total	161828.974	339			
3	Regression	24796.188	6	4132.698	10.043	.000 ^d
	Residual	137032.786	333	411.510		
	Total	161828.974	339			
4	Regression	70896.293	7	10128.042	36.978	.000 ^e
	Residual	90932.681	332	273.894		
	Total	161828.974	339			
5	Regression	78636.516	9	8737.391	34.659	.000 ^f
	Residual	83192.457	330	252.098		
	Total	161828.974	339			

a. Dependent Variable: victimisation

b. Predictors: (Constant), Gender:, Age:

c. Predictors: (Constant), Gender:, Age:, total_narc, total_psych, total_mach

d. Predictors: (Constant), Gender:, Age:, total_narc, total_psych, total_mach, HH

e. Predictors: (Constant), Gender:, Age:, total_narc, total_psych, total_mach, HH, perpetration

f. Predictors: (Constant), Gender:, Age:, total_narc, total_psych, total_mach, HH, perpetration, total_benev, total_resent_avoid

HEXACO, Dark Triad, and psychological IPV

Coefficients ^a					
Model		Unstandardized Coefficients		Standardized Coefficients	Sig.
		B	Std. Error	Beta	
1	(Constant)	40.416	9.310		
	Age:	.115	.171	.037	.502
	Gender:	1.221	2.649	.025	.645
2	(Constant)	9.279	10.507		
	Age:	.259	.160	.083	.106
	Gender:	-2.970	2.512	-.061	.238
	total_mach	.501	.250	.120	.046
	total_psych	1.367	.252	.321	.000
	total_narc	.069	.250	.015	.782
3	(Constant)	4.033	17.006		
	Age:	.261	.160	.083	.104
	Gender:	-3.036	2.521	-.062	.229
	total_mach	.546	.276	.130	.049
	total_psych	1.391	.260	.327	.000
	total_narc	.093	.258	.020	.719
	HH	.093	.237	.026	.695
4	(Constant)	-33.189	14.167		
	Age:	.020	.132	.007	.877
	Gender:	1.680	2.089	.035	.422
	total_mach	.240	.226	.057	.290
	total_psych	.492	.223	.116	.028
	total_narc	.148	.210	.032	.483
	HH	.312	.194	.087	.109
	perpetration	1.065	.082	.607	.000
5	(Constant)	-9.330	14.280		
	Age:	.045	.127	.014	.726
	Gender:	3.036	2.023	.062	.134
	total_mach	.136	.219	.032	.536
	total_psych	.311	.218	.073	.155
	total_narc	.201	.202	.044	.323
	HH	.350	.186	.098	.062
	perpetration	.980	.083	.558	.000
	total_resent_avoid	-.805	.223	-.189	.000
	total_benev	-.384	.250	-.075	.125

a. Dependent Variable: victimisation

Bootstrap for Coefficients						
Model		B	Bias	Std. Error	Bootstrap ^a	
					Sig. (2-tailed)	95% Confidence Interval
						Lower Upper
1	(Constant)	40.416	.196	9.706	.001	20.146 59.238
	Age:	.115	-.005	.194	.553	-.239 .526
	Gender:	1.221	-.016	2.729	.665	-3.992 6.754
2	(Constant)	9.279	.898	11.534	.421	-14.052 31.504
	Age:	.259	-.010	.201	.206	-.108 .673
	Gender:	-2.970	-.101	2.826	.301	-8.357 2.356
	total_mach	.501	-.002	.247	.044	.033 .993
	total_psych	1.367	-.009	.365	.001	.636 2.068
	total_narc	.069	-.003	.200	.732	-.338 .452
3	(Constant)	4.033	.570	20.988	.862	-34.758 45.879
	Age:	.261	-.010	.202	.208	-.109 .666
	Gender:	-3.036	-.151	2.840	.297	-8.627 2.353
	total_mach	.546	.002	.307	.072	-.048 1.133
	total_psych	1.391	-.006	.384	.001	.645 2.123
	total_narc	.093	-.003	.202	.648	-.323 .501
	HH	.093	.009	.269	.744	-.403 .617
4	(Constant)	-33.189	.307	18.354	.071	-67.491 2.863
	Age:	.020	-.005	.178	.903	-.327 .390
	Gender:	1.680	.019	2.062	.396	-2.390 5.991
	total_mach	.240	-.001	.276	.408	-.279 .779
	total_psych	.492	-.017	.319	.118	-.160 1.066
	total_narc	.148	-8.538E-5	.162	.362	-.177 .468
	HH	.312	.001	.231	.184	-.121 .753
	perpetration	1.065	.002	.097	.001	.881 1.279
5	(Constant)	-9.330	.119	18.199	.588	-44.003 31.875
	Age:	.045	-.004	.164	.791	-.281 .394
	Gender:	3.036	.056	2.067	.153	-1.033 7.403
	total_mach	.136	-.010	.250	.611	-.341 .611
	total_psych	.311	-.006	.329	.362	-.351 .918
	total_narc	.201	.003	.166	.238	-.126 .527
	HH	.350	.004	.217	.099	-.059 .742
	perpetration	.980	-.003	.095	.001	.801 1.169
	total_resent_avoid	-.805	-.008	.275	.005	-1.401 -.313
	total_benev	-.384	.013	.280	.182	-.930 .191

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

Excluded Variables ^a					
Model		Beta In	t	Sig.	Partial Correlation
1	total_mach	.275 ^b	5.150	.000	.270
	total_psych	.383 ^b	7.379	.000	.373
	total_narc	.146 ^b	2.683	.008	.145
	HH	-.205 ^b	-3.827	.000	-.204
	perpetration	.652 ^b	15.669	.000	.650
	total_resent_avoid	-.450 ^b	-9.176	.000	-.448
	total_benev	-.235 ^b	-4.427	.000	-.235
2	HH	.026 ^c	.393	.695	.022
	perpetration	.600 ^c	12.853	.000	.576
	total_resent_avoid	-.363 ^c	-7.215	.000	-.368
	total_benev	-.151 ^c	-2.936	.004	-.159
3	perpetration	.607 ^d	12.974	.000	.580
	total_resent_avoid	-.365 ^d	-7.249	.000	-.370
	total_benev	-.151 ^d	-2.941	.003	-.159
4	total_resent_avoid	-.234 ^e	-5.313	.000	-.280
	total_benev	-.171 ^e	-4.133	.000	-.222

a. Dependent Variable: victimisation

b. Predictors in the Model: (Constant), Gender, Age:

c. Predictors in the Model: (Constant), Gender, Age, total_narc, total_psych, total_mach

d. Predictors in the Model: (Constant), Gender, Age, total_narc, total_psych, total_mach, HH

e. Predictors in the Model: (Constant), Gender, Age, total_narc, total_psych, total_mach, HH, perpetration

Appendix N: Hierarchical multiple regression SPSS outputs, with MMEA perpetration as the outcome variable.

Variables Entered/Removed^a

Model	Variables Entered	Variables Removed	Method
1	Gender., Age. ^b	.	Enter
2	total_narc, total_psych, total_mach ^b	.	Enter
3	agree_TOTAL, extra_TOTAL, HH ^b	.	Enter
4	victimisation ^b	.	Enter
5	total_resent_ avoid ^b	.	Enter

a. Dependent Variable: perpetration

b. All requested variables entered.

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	Change Statistics			Sig. F Change
						F Change	df1	df2	
1	.097 ^a	.009	.004	12.41768	.009	1.597	2	337	.204
2	.469 ^b	.220	.208	11.07002	.210	30.016	3	334	.000
3	.503 ^c	.253	.235	10.88056	.033	4.911	3	331	.002
4	.727 ^d	.529	.516	8.65460	.276	193.162	1	330	.000
5	.727 ^e	.529	.515	8.66588	.000	.141	1	329	.707

a. Predictors: (Constant), Gender., Age:

b. Predictors: (Constant), Gender., Age., total_narc, total_psych, total_mach

c. Predictors: (Constant), Gender., Age., total_narc, total_psych, total_mach, agree_TOTAL, extra_TOTAL, HH

d. Predictors: (Constant), Gender., Age., total_narc, total_psych, total_mach, agree_TOTAL, extra_TOTAL, HH, victimisation

e. Predictors: (Constant), Gender., Age., total_narc, total_psych, total_mach, agree_TOTAL, extra_TOTAL, HH, victimisation, total_resent_avoid

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	492.371	2	246.185	1.597	.204 ^b
	Residual	51964.956	337	154.199		
	Total	52457.326	339			
2	Regression	11527.178	5	2305.436	18.813	.000 ^c
	Residual	40930.148	334	122.545		
	Total	52457.326	339			
3	Regression	13271.391	8	1658.924	14.013	.000 ^d
	Residual	39185.935	331	118.387		
	Total	52457.326	339			
4	Regression	27739.640	9	3082.182	41.149	.000 ^e
	Residual	24717.687	330	74.902		
	Total	52457.326	339			
5	Regression	27750.261	10	2775.026	36.952	.000 ^f
	Residual	24707.065	329	75.097		
	Total	52457.326	339			

a. Dependent Variable: perpetration

b. Predictors: (Constant), Gender., Age:

c. Predictors: (Constant), Gender., Age., total_narc, total_psych, total_mach

d. Predictors: (Constant), Gender., Age., total_narc, total_psych, total_mach, agree_TOTAL, extra_TOTAL, HH

e. Predictors: (Constant), Gender., Age., total_narc, total_psych, total_mach, agree_TOTAL, extra_TOTAL, HH, victimisation

f. Predictors: (Constant), Gender., Age., total_narc, total_psych, total_mach, agree_TOTAL, extra_TOTAL, HH, victimisation, total_resent_avoid

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Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	44.163	5.281		8.362	.000
	Age:	.137	.097	.077	1.411	.159
	Gender:	-1.745	1.503	-.063	-1.161	.246
2	(Constant)	23.382	5.741		4.073	.000
	Age:	.231	.087	.129	2.636	.009
	Gender:	-4.570	1.373	-.165	-3.329	.001
	total_mach	.388	.137	.163	2.835	.005
	total_psych	.897	.138	.371	6.504	.000
	total_narc	.000	.137	.000	.002	.999
3	(Constant)	45.818	9.719		4.714	.000
	Age:	.218	.086	.122	2.525	.012
	Gender:	-3.457	1.382	-.125	-2.502	.013
	total_mach	.209	.150	.088	1.393	.165
	total_psych	.718	.144	.297	4.981	.000
	total_narc	.117	.169	.045	.692	.490
	HH	-.118	.130	-.058	-.913	.362
	extra_TOTAL	-.233	.107	-.127	-2.177	.030
	agree_TOTAL	-.274	.104	-.142	-2.640	.009
4	(Constant)	48.002	7.732		6.208	.000
	Age:	.125	.069	.070	1.820	.070
	Gender:	-2.198	1.103	-.079	-1.993	.047
	total_mach	.017	.120	.007	.140	.889
	total_psych	.230	.120	.095	1.919	.056
	total_narc	.059	.134	.023	.437	.662
	HH	-.131	.103	-.064	-1.273	.204
	extra_TOTAL	-.221	.085	-.120	-2.590	.010
	agree_TOTAL	-.392	.083	-.203	-4.717	.000
	victimisation	.327	.024	.574	13.898	.000
5	(Constant)	48.579	7.893		6.155	.000
	Age:	.127	.069	.071	1.835	.067
	Gender:	-2.142	1.114	-.077	-1.922	.055
	total_mach	.013	.121	.006	.110	.913
	total_psych	.228	.120	.094	1.893	.059
	total_narc	.060	.134	.023	.449	.654
	HH	-.129	.103	-.064	-1.253	.211
	extra_TOTAL	-.218	.086	-.119	-2.552	.011
	agree_TOTAL	-.388	.084	-.202	-4.649	.000
	victimisation	.323	.025	.567	12.706	.000
	total_resent_avoid	-.040	.107	-.017	-.376	.707

a. Dependent Variable: perpetration

Bootstrap for Coefficients

		Bootstrap ^a					
Model	B	Bias	Std. Error	Sig. (2-tailed)	95% Confidence Interval		
					Lower	Upper	
1	(Constant)	44.163	.035	5.118	.001	34.092	53.741
	Age:	.137	.001	.156	.346	-.134	.502
	Gender:	-1.745	-.019	1.483	.262	-4.576	1.043
2	(Constant)	23.382	.140	6.185	.001	10.912	35.144
	Age:	.231	-.003	.147	.105	-.036	.553
	Gender:	-4.570	-.025	1.754	.013	-8.176	-1.237
	total_mach	.388	-.001	.147	.007	.095	.663
	total_psych	.897	.004	.180	.001	.549	1.247
	total_narc	.000	-.003	.125	.999	-.236	.248
3	(Constant)	45.818	-.369	8.771	.001	28.361	62.879
	Age:	.218	-.001	.143	.115	-.036	.531
	Gender:	-3.457	-.024	1.689	.046	-6.995	-.186
	total_mach	.209	.001	.153	.183	-.082	.507
	total_psych	.718	.007	.190	.001	.340	1.101
	total_narc	.117	-.005	.156	.452	-.195	.437
	HH	-.118	.002	.129	.360	-.364	.140
	extra_TOTAL	-.233	.006	.098	.016	-.424	-.042
	agree_TOTAL	-.274	.004	.100	.010	-.464	-.060
4	(Constant)	48.002	-.499	7.558	.001	32.510	63.099
	Age:	.125	-.001	.117	.279	-.087	.367
	Gender:	-2.198	.089	1.261	.084	-4.752	.365
	total_mach	.017	.001	.137	.901	-.256	.295
	total_psych	.230	-.012	.142	.108	-.064	.493
	total_narc	.059	-.005	.124	.643	-.180	.308
	HH	-.131	-.003	.115	.262	-.347	.115
	extra_TOTAL	-.221	.010	.085	.011	-.375	-.049
	agree_TOTAL	-.392	.003	.084	.001	-.560	-.228
5	(Constant)	48.579	-.449	7.733	.001	32.423	63.947
	Age:	.127	-.001	.117	.270	-.081	.368
	Gender:	-2.142	.093	1.277	.098	-4.727	.398
	total_mach	.013	.000	.136	.926	-.254	.295
	total_psych	.228	-.012	.145	.123	-.075	.500
	total_narc	.060	-.005	.124	.633	-.174	.311
	HH	-.129	-.002	.116	.266	-.347	.116
	extra_TOTAL	-.218	.011	.087	.015	-.375	-.047
	agree_TOTAL	-.388	.003	.086	.001	-.559	-.220
	victimisation	.323	.004	.049	.001	.238	.425
	total_resent_avoid	-.040	-.003	.111	.703	-.256	.175

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

Excluded Variables^a

Model		Beta In	t	Sig.	Partial Correlation	Collinearity Statistics Tolerance
1	total_mach	.336 ^b	6.444	.000	.332	.966
	total_psych	.448 ^b	8.944	.000	.439	.950
	total_narc	.160 ^b	2.941	.003	.158	.975
	HH	-.320 ^b	-6.195	.000	-.320	.991
	extra_TOTAL	-.145 ^b	-2.681	.008	-.145	.993
	agree_TOTAL	-.321 ^b	-6.230	.000	-.322	.994
	victimisation	.647 ^b	15.669	.000	.650	.998
	total_resent_avoid	-.373 ^b	-7.361	.000	-.373	.988
2	HH	-.101 ^c	-1.589	.113	-.087	.579
	extra_TOTAL	-.143 ^c	-2.460	.014	-.134	.682
	agree_TOTAL	-.155 ^c	-2.893	.004	-.157	.793
	victimisation	.553 ^c	12.853	.000	.576	.847
	total_resent_avoid	-.247 ^c	-4.924	.000	-.260	.870
3	victimisation	.574 ^d	13.898	.000	.608	.838
	total_resent_avoid	-.229 ^d	-4.594	.000	-.245	.859
4	total_resent_avoid	-.017 ^e	-.376	.707	-.021	.736

a. Dependent Variable: perpetration

b. Predictors in the Model: (Constant), Gender:, Age:

c. Predictors in the Model: (Constant), Gender:, Age:, total_narc, total_psych, total_mach

d. Predictors in the Model: (Constant), Gender:, Age:, total_narc, total_psych, total_mach, agree_TOTAL, extra_TOTAL, HH

e. Predictors in the Model: (Constant), Gender:, Age:, total_narc, total_psych, total_mach, agree_TOTAL, extra_TOTAL, HH, victimisation

Appendix O: Mediation analyses between victimisation, perpetration, agreeableness and extraversion

Perpetration (predictor) and victimisation (outcome)

Run MATRIX procedure:

***** PROCESS Procedure for SPSS Version 3.4.1 *****

Written by Andrew F. Hayes, Ph.D. www.afhayes.com
Documentation available in Hayes (2018). www.guilford.com/p/hayes3

Model : 4
Y : victimis
X : perpetra
M : total_re

Sample
Size: 340

OUTCOME VARIABLE:
total_re

Model Summary

	R	R-sq	MSE	F(HC4)	df1	df2
p	.372	.138	22.831	27.910	1.000	338.000
	.000					

Model

	coeff	se(HC4)	t	p	LLCI	ULCI
constant	25.135	1.178	21.340	.000	22.818	27.451
perpetra	-.153	.029	-5.283	.000	-.211	-.096

OUTCOME VARIABLE:
victimis

Model Summary

	R	R-sq	MSE	F(HC4)	df1	df2
p	.682	.465	256.791	68.755	2.000	337.000
	.000					

Model

	coeff	se(HC4)	t	p	LLCI	ULCI
constant	24.358	8.679	2.807	.005	7.286	41.430
perpetra	.986	.111	8.869	.000	.767	1.204
total_re	-.986	.287	-3.431	.001	-1.551	-.420

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

OUTCOME VARIABLE:
victimis

Model Summary

	R	R-sq	MSE	F(HC4)	df1	df2
p	.647	.419	278.209	113.305	1.000	338.000

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.000

Model

	coeff	se(HC4)	t	p	LLCI	ULCI
constant	-.414	4.132	-.100	.920	-8.541	7.713
perpetra	1.137	.107	10.644	.000	.927	1.347

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

Total effect of X on Y

Effect	se(HC4)	t	p	LLCI	ULCI
c_ps	c_cs				
1.137	.107	10.644	.000	.927	1.347
.052	.647				

Direct effect of X on Y

Effect	se(HC4)	t	p	LLCI	ULCI
c'_ps	c'_cs				
.986	.111	8.869	.000	.767	1.204
.045	.561				

Indirect effect(s) of X on Y:

	Effect	BootSE	BootLLCI	BootULCI
total_re	.151	.053	.067	.272

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

	Effect	BootSE	BootLLCI	BootULCI
total_re	.007	.002	.003	.012

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

	Effect	BootSE	BootLLCI	BootULCI
total_re	.086	.025	.042	.139

***** 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

NOTE: A heteroscedasticity consistent standard error and covariance matrix estimator was used.

NOTE: Variables names longer than eight characters can produce incorrect output.

Shorter variable names are recommended.

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

Agreeableness (predictor) and perpetration (outcome)

Run MATRIX procedure:

***** PROCESS Procedure for SPSS Version 3.4.1 *****

Written by Andrew F. Hayes, Ph.D. www.afhayes.com
Documentation available in Hayes (2018). www.guilford.com/p/hayes3

HEXACO, Dark Triad, and psychological IPV

```

*****
Model   : 4
  Y     : perpetra
  X     : agree_TO
  M     : total_re

Sample
Size:   340

*****
OUTCOME VARIABLE:
  total_re

Model Summary
      R      R-sq      MSE      F(HC4)      df1      df2
p
.202      .041      25.408      13.364      1.000      338.000
.000

Model
      coeff      se(HC4)      t      p      LLCI      ULCI
constant      13.859      1.378      10.059      .000      11.149      16.569
agree_TO      .161      .044      3.656      .000      .074      .247

*****
OUTCOME VARIABLE:
  perpetra

Model Summary
      R      R-sq      MSE      F(HC4)      df1      df2
p
.450      .203      124.098      40.567      2.000      337.000
.000

Model
      coeff      se(HC4)      t      p      LLCI      ULCI
constant      71.363      3.713      19.220      .000      64.060      78.666
agree_TO      -.501      .097      -5.184      .000      -.691      -.311
total_re      -.772      .120      -6.420      .000      -1.009      -.536

***** TOTAL EFFECT MODEL *****
OUTCOME VARIABLE:
  perpetra

Model Summary
      R      R-sq      MSE      F(HC4)      df1      df2
p
.324      .105      138.886      41.108      1.000      338.000
.000

Model
      coeff      se(HC4)      t      p      LLCI      ULCI
constant      60.659      3.275      18.519      .000      54.216      67.102
agree_TO      -.625      .097      -6.412      .000      -.817      -.433

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

Total effect of X on Y
      Effect      se(HC4)      t      p      LLCI      ULCI
c_ps      c_cs
-.625      .097      -6.412      .000      -.817      -.433      -

```

```
.050      -.324

Direct effect of X on Y
      Effect      se(HC4)      t      p      LLCI      ULCI
c'_ps      c'_cs
      -.501      .097      -5.184      .000      -.691      -.311      -
.040      -.260

Indirect effect(s) of X on Y:
      Effect      BootSE      BootLLCI      BootULCI
total_re      -.124      .042      -.214      -.053

Partially standardized indirect effect(s) of X on Y:
      Effect      BootSE      BootLLCI      BootULCI
total_re      -.010      .003      -.017      -.004

Completely standardized indirect effect(s) of X on Y:
      Effect      BootSE      BootLLCI      BootULCI
total_re      -.064      .021      -.110      -.028

***** 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

NOTE: A heteroscedasticity consistent standard error and covariance matrix
estimator was used.

NOTE: Variables names longer than eight characters can produce incorrect
output.
      Shorter variable names are recommended.

----- END MATRIX -----
```

Extraversion (predictor) and perpetration (outcome)

Run MATRIX procedure:

```
***** PROCESS Procedure for SPSS Version 3.4.1 *****

      Written by Andrew F. Hayes, Ph.D.      www.afhayes.com
      Documentation available in Hayes (2018). www.guilford.com/p/hayes3

*****
Model   : 4
      Y   : perpetra
      X   : extra_TO
      M   : total_re

Sample
Size: 340

*****
OUTCOME VARIABLE:
total_re
```

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Model Summary

	R	R-sq	MSE	F(HC4)	df1	df2
p	.134	.018	26.009	6.633	1.000	338.000
.010						

Model

	coeff	se(HC4)	t	p	LLCI	ULCI
constant	15.360	1.313	11.699	.000	12.777	17.942
extra_TO	.102	.040	2.575	.010	.024	.180

 OUTCOME VARIABLE:
 perpetra

Model Summary

	R	R-sq	MSE	F(HC4)	df1	df2
p	.385	.148	132.596	26.775	2.000	337.000
.000						

Model

	coeff	se(HC4)	t	p	LLCI	ULCI
constant	64.118	3.883	16.512	.000	56.480	71.756
extra_TO	-.187	.083	-2.264	.024	-.350	-.025
total_re	-.866	.122	-7.081	.000	-1.107	-.626

Test(s) of X by M interaction:

F(HC4)	df1	df2	p
3.002	1.000	336.000	.084

***** TOTAL EFFECT MODEL *****
 OUTCOME VARIABLE:
 perpetra

Model Summary

	R	R-sq	MSE	F(HC4)	df1	df2
p	.150	.022	151.719	8.834	1.000	338.000
.003						

Model

	coeff	se(HC4)	t	p	LLCI	ULCI
constant	50.813	3.302	15.387	.000	44.318	57.309
extra_TO	-.276	.093	-2.972	.003	-.458	-.093

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

Total effect of X on Y

	Effect	se(HC4)	t	p	LLCI	ULCI
c_ps	c_cs					
.022	-.276	.093	-2.972	.003	-.458	-.093
	-.150					-

Direct effect of X on Y

	Effect	se(HC4)	t	p	LLCI	ULCI
c'_ps	c'_cs					
.015	-.187	.083	-2.264	.024	-.350	-.025
	-.102					-

Indirect effect(s) of X on Y:

HEXACO, Dark Triad, and psychological IPV

	Effect	BootSE	BootLLCI	BootULCI
total_re	-.089	.037	-.167	-.023

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

	Effect	BootSE	BootLLCI	BootULCI
total_re	-.007	.003	-.013	-.002

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

	Effect	BootSE	BootLLCI	BootULCI
total_re	-.048	.019	-.089	-.012

***** 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

NOTE: A heteroscedasticity consistent standard error and covariance matrix estimator was used.

NOTE: Variables names longer than eight characters can produce incorrect output.

Shorter variable names are recommended.

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

Victimisation (predictor) and perpetration (outcome)

Run MATRIX procedure:

***** PROCESS Procedure for SPSS Version 3.4.1 *****

Written by Andrew F. Hayes, Ph.D. www.afhayes.com
Documentation available in Hayes (2018). www.guilford.com/p/hayes3

Model : 4
Y : perpetra
X : victimis
M : total_re

Sample
Size: 340

OUTCOME VARIABLE:
total_re

Model Summary

	R	R-sq	MSE	F(HC4)	df1	df2
p	.440	.194	21.353	69.220	1.000	338.000
.000						

Model

	coeff	se (HC4)	t	p	LLCI	ULCI
constant	23.600	.627	37.627	.000	22.367	24.834

HEXACO, Dark Triad, and psychological IPV

```

victimis      -.104      .012      -8.320      .000      -.128      -.079

*****
OUTCOME VARIABLE:
  perpetra

Model Summary
      R      R-sq      MSE      F(HC4)      df1      df2
p
      .654      .428      89.004      24.524      2.000      337.000
.000

Model
      coeff      se(HC4)      t      p      LLCI      ULCI
constant      30.524      4.081      7.479      .000      22.497      38.552
victimis      .342      .064      5.297      .000      .215      .468
total_re      -.260      .116      -2.244      .025      -.488      -.032

Test(s) of X by M interaction:
      F(HC4)      df1      df2      p
      5.624      1.000      336.000      .018

***** TOTAL EFFECT MODEL *****
OUTCOME VARIABLE:
  perpetra

Model Summary
      R      R-sq      MSE      F(HC4)      df1      df2
p
      .647      .419      90.182      37.260      1.000      338.000
.000

Model
      coeff      se(HC4)      t      p      LLCI      ULCI
constant      24.392      2.537      9.616      .000      19.402      29.381
victimis      .369      .060      6.104      .000      .250      .487

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

Total effect of X on Y
      Effect      se(HC4)      t      p      LLCI      ULCI
c_ps      c_cs
      .369      .060      6.104      .000      .250      .487
.030      .647

Direct effect of X on Y
      Effect      se(HC4)      t      p      LLCI      ULCI
c'_ps      c'_cs
      .342      .064      5.297      .000      .215      .468
.027      .600

Indirect effect(s) of X on Y:
      Effect      BootSE      BootLLCI      BootULCI
total_re      .027      .013      .003      .056

Partially standardized indirect effect(s) of X on Y:
      Effect      BootSE      BootLLCI      BootULCI
total_re      .002      .001      .000      .005

Completely standardized indirect effect(s) of X on Y:
      Effect      BootSE      BootLLCI      BootULCI

```

HEXACO, Dark Triad, and psychological IPV

total_re .047 .025 .005 .102

***** 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

NOTE: A heteroscedasticity consistent standard error and covariance matrix estimator was used.

NOTE: Variables names longer than eight characters can produce incorrect output.

Shorter variable names are recommended.

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

Executive summary

This executive summary is aimed at charities working with domestic violence perpetrators and victims, including those delivering programs (e.g. The Freedom Project) and making campaigns.

Background, rationale and aims

Personality factors have well established links with psychological intimate partner violence (IPV); all Dark Triad traits (characterised by manipulation) and low Agreeableness (critical/skeptical), high Extraversion (assertive behaviour) and high Neuroticism (anxious, irritable) from the Five Factor Model (FFM) of personality have been associated with psychological IPV. However, to our knowledge, studies have not utilised the HEXACO model in relation to IPV. The HEXACO model of personality conceptualises personality along six dimensions: Honesty-Humility (fairness vs. greed), Emotionality (oversensitive vs. confident), eXtraversion (outgoing vs. shy), Agreeableness (tolerant vs. ill-tempered), Conscientiousness (organised vs. lazy), and Openness to experience (creative vs. unimaginative). Although IPV is shown to be reciprocal, there is limited research on the mutual relationship between psychological IPV perpetration and victimisation. Forgiveness has been linked to HEXACO personality traits, psychological IPV, and is a causal mechanism in some relationships related to IPV.

Psychological IPV is researched less often than other forms of IPV. Similarly, the HEXACO model of personality has rarely been used to research IPV, to our knowledge. Our study would also be one of the first assessing the causal mechanism of forgiveness underlying the relationships between personality, victimisation, and perpetration. Therefore, the study aimed to examine which personality variables, using HEXACO and the Dark Triad, are associated with

perpetration and victimisation of psychological IPV, and build on previous research regarding the reciprocal relationship of psychological IPV. It also sought to assess the role of forgiveness as a causal mechanism.

Data collection and analysis

Data was collected via online survey, with an inclusion criterion of individuals aged 18-65, who had previously, or were currently, in a relationship of a year or more; 340 participants aged 18-61 were recruited. They completed a total of four questionnaires relating to personality (HEXACO, Dark Triad), forgiveness, which had subscales pertaining to resentment-avoidance (e.g. revengeful motivations/avoiding the situation), and benevolence (e.g. putting aside what happened), and psychological abuse (measuring perpetration and victimisation).

Data analysis was conducted using statistical analysis software known as IBM SPSS. Correlational analyses were conducted to test validity of the measures. An Exploratory Factor Analysis (EFA) was run, which tests for relationships between variables, grouping them into factors. A multiple hierarchical regression was conducted to test which personality, forgiveness, and abuse variables predicted the outcome measures (perpetration/victimisation). These were entered in the following five steps: age/gender, Dark Triad, HEXACO, perpetration/victimisation, forgiveness. Finally, mediation analyses, to test whether forgiveness explained the relationships between significant predictor and outcome variables, were run.

Key findings

There was no evidence of high correlations between variables. All Dark Triad traits correlated with both outcomes, but only particular HEXACO traits were

correlated with the outcomes; Emotionality or Openness to experience did not correlated with either outcome. Only significantly correlated variables were included in regression and mediation analyses. EFA analysis revealed that Openness to experience and Conscientiousness did not group into the factors identified, so were excluded from further analysis. The regression analyses found that significant predictors for victimisation were: perpetration, and resentment-avoidance. Significant predictors of perpetration were: low Agreeableness, low eXtraversion, and victimisation. Although significantly correlated, Dark Triad traits were not predictive of either victimisation or perpetration. Resentment-avoidance was the only forgiveness measure to correlate with both outcomes, thus was used in mediation analyses; this only partially explained all of the relationships.

Implications and recommendations

One implication of these findings is offering forgiveness therapy to perpetrators and victims, as a reduced forgiveness partially explained the relationships between predictors and outcomes. Forgiveness therapy reduces resentment towards a partner, and may help reduce instances of perpetration and victimisation due to disabling the hostile environment. It can also help reduce negative mental health outcomes. A further implication is altering personality traits associated with perpetration of psychological abuse. Although personality traits are thought to be stable, previous research has shown that they can be altered in relation to certain behaviours, so could be used relative to psychological IPV.

Recommendations for charities working with victims would be to provide information on behaviours associated with the predictive personality traits, which could act as precursors to psychologically abusive behaviours. Low Agreeableness,

characterised by being critical and judgemental, stubborn and unwilling to accommodate others, and becoming angry in response to little provocation, may highlight later psychologically abusive behaviours. Similarly, low eXtraversion, characterised by low self-esteem and a sense of pessimism, may lead to relationship self-sabotage and psychologically abusive behaviours.

Also, the mutual relationship between perpetration and victimisation could help to educate individuals on the vicious cycle of abuse; the cycle may start with individuals low in Agreeableness and eXtraversion perpetrating. Individuals who are victimised should be made aware of the possibility of perpetrating, which could be attributable to self-defensive behaviours, an increase in negative emotions and anger due to lack of forgiveness, and retaliation. Therefore, charities, whether working with victims or perpetrators, should highlight this vicious cycle making individuals aware of others' and their own behaviour, and recognise that in some cases, these are acts of impulsive aggression rather than premeditated behaviour.

PowerPoint Presentation

HEXACO and Dark Triad predictors of psychological abuse in romantic relationships: forgiveness as a mediator

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Aims of the research and rationale:

- Psychological IPV well established linked with Dark Triad (DT) and Five Factor Model traits (Carton & Egan, 2017)
- But, psychological abuse is under-researched compared to other forms of IPV (Carton & Egan, 2017)
- Few studies, if any, have utilised HEXACO in IPV research, and there are limited studies regarding forgiveness as a mediator in IPV (e.g. Gordon et al., 2004; Rivera & Fincham, 2015)

H1: DT traits would predict perpetration

H2: Low Agreeableness and low Honesty-Humility would predict perpetration and victimisation

H3: The relationship between psychological abuse perpetration and victimisation would be highly reciprocal

H4: Forgiveness will mediate the relationships between perpetration, victimisation, and personality

Methods

340 participants aged 18-61
All had previously been, or were currently, in a relationship of a year or more

Briefing sheet, outlining the study. Fully informed consent given

Completed questionnaires in the following order:
Demographic, HEXACO-60, Short Dark Triad, Marital Offense-Specific Questionnaire, Multidimensional Measure Emotional Abuse

Debrief sheet, including information for charities if participants felt they were being abused

Planned analysis:
Correlation, Multiple Hierarchical Regression, Hayes PROCESS mediation.

Results of the research:

*Low Honesty-Humility failed to predict either perpetration or victimisation
Low eXtraversion predicted perpetration

Hypotheses	Results
Dark Triad traits predict perpetration of psychological abuse	Not supported
Low A and Low H-H would predict perpetration and victimisation	Partially supported*
The relationship between perpetration and victimisation will be highly reciprocal	Supported
Forgiveness will mediate the relationships between victimisation, perpetration, and personality	Partially supported**
** Resentment-avoidance partially mediated the relationships	Conscientiousness and Openness to experience were excluded from regression analyses

Implications and suggestions for future research:

The findings suggests that psychological abuse is cyclical, triggered by personality traits (low Agreeableness, low eXtraversion) and perpetuated by further victimisation and perpetration
In this cohort, psychological abuse seems impulsive rather than calculated behaviour

Practical Implications:
Interventions should address elements associated with victimisation and perpetration
Modifiability of personality traits (e.g. Glinski & Page, 2010)
Forgiveness therapy (e.g. Reed & Enright, 2006)

Future research:
Trait forgiveness (e.g. Paleari et al., 2009), as this is different to offence-specific forgiveness
Other mediators (e.g. negative affect)

References:

- Carton, H., & Egan, V. (2017). The dark triad and intimate partner violence. *Personality and Individual Differences*, 105, 84-88. DOI: 10.1016/j.paid.2016.09.040
- Glinski, K., & Page, A. C. (2010). Modifiability of neuroticism, extraversion, and agreeableness by group cognitive behaviour therapy for social anxiety disorder. *Behaviour Change*, 27(1), 42-52. DOI: 10.1037/a0017442
- Gordon, K. C., Burton, S., & Porter, L. (2004). Predicting the intentions of women in domestic violence shelters to return to partners: Does forgiveness play a role? *Journal of Family Psychology*, 18(2), 331. DOI: 10.1037/0893-3200.18.2.331
- Paleari, F. G., Regalia, C., & Fincham, F. D. (2009). Measuring offence-specific forgiveness in marriage: the Marital Offense-Specific Forgiveness Scale (MOFS). *Psychological assessment*, 21(2), 194. DOI: 10.1037/a0016068
- Reed, G. L., & Enright, R. D. (2006). The effects of forgiveness therapy on depression, anxiety, and posttraumatic stress for women after spousal emotional abuse. *Journal of consulting and clinical psychology*, 74(5), 920. DOI: 10.1037/0022-006X.74.5.920
- Rivera, P. M., & Fincham, F. (2015). Forgiveness as a mediator of the intergenerational transmission of violence. *Journal of interpersonal violence*, 30(6), 895-910. DOI: 10.1177/0886260514533755

Reflective report

Conceptualisation

The initial research idea was based around the prevalence of gaslighting in romantic relationships, and how this related to HEXACO personality variables. After two supervision sessions with Dr Vincent Egan (08/10/2019; 17/10/2019), we decided it would be better to focus on personality and psychological abuse as a whole, also looking at the effect of forgiveness. Prior to the project change, I felt that this project failed to have a sense of direction, and although disheartened that the hours I put into researching were no longer relevant, I was happy my new project had a clear sense of direction and meaning. The experience was positive as it allowed me to improve my research skills and I put a lot of effort/thought into defining a direction. However, I failed to initially define my project, which resulted in a change of topic. On reflection, I had tunnel-vision with the initial idea; I had personal experience of being gaslit, so was passionate about pursuing this as a project. I believed it was a valuable topic as it was under researched, but Dr Egan expressed its similarities to psychological abuse as a whole, which is also less-researched in the intimate partner violence (IPV) field. Nevertheless, I had prepared well for the original topic through lots of research. From this experience, I learnt that I can sometimes be too set in my ways and fail to consider other possibilities; I need to broaden my ideas, as even when this one was not working, I did not consider other concepts. If this situation arose again, I would stop and think about my ideas and other possibilities to explore, rather than being set on a specific topic.

Design

I gained access to JISC quickly (21/10/2019; from the outset, the project

was an online study) and began slowly assembling my questionnaire. I had issues formatting the last section of the questionnaire (MMEA), as it required participants to answer for themselves and their partner. Before encountering this issue, I thought it would be straightforward to format the questionnaire, and although I struggled, the issues did not worry me as I had plenty of time to rectify the issue. I discussed this issue with Dr Egan during supervision (04/03/2020), in which it was resolved through the use of a table; I was glad it was rectified so I could complete the questionnaire ready for administration once ethics was obtained. I had many failed attempts at trying to correct the issue, but after guidance, the issue was easily resolved and gave me knowledge for the future. On reflection, I believe I had tried all I could think of to rectify the problem and took the right steps to organise supervision when I had exhausted all possibilities; my limited knowledge of the program is what prevented me from succeeding. Overall, it was a positive experience as I expanded my knowledge of the use of JISC and learnt tips (e.g. condensing the questionnaire, using tables) which I can use in the future. The next time I encounter a similar issue, I will use the tips Dr Egan has taught me, and seek advice again if needed.

Data collection

Once ethics was approved (25/03/2020), I began to collect data. Prior to data collection, I was worried that I would not be able to recruit the 166 participants needed, but I was hopeful as online data collection was easier than in-person. During this process, I was elated as I collected the minimum number of participants in a short period of time. I was relieved that I had recruited double the number of participants needed, which was a positive. I had utilised a range of social media sites (e.g. Facebook, Reddit, Twitter) in order to gain a range of

participants, and had specifically targeted males to participate, attempting to employ a snowball sample, with partial success. However, I did have a disproportionate sample which could have affected analysis (step 1 – demographics) with significantly more female participants, and I had to exclude around 40 responses for incomplete data. I should have completed a pilot questionnaire, as the layout was the reason for incomplete responses, and should have utilised more male-dominated domains to gain a greater male representation. Although, I did post persistently on a range of online sites which gave me the required amount. From this experience, I appreciated the importance advertising persistently, on a range of sites and pages, in order to gain participants quickly. However, if faced with the issue of disproportionality again, I will gain permission to post in more male-dominated domains (e.g. football groups) as well as employing the snowball sample, as I did here.

Data analysis

Due to COVID-19, I was faced with the task of analysing the data at home. I scheduled a supervision with Dr Egan to discuss which analyses I should run (17/04/2020). I was ready to analyse data in mid-April, which was ahead of schedule as I estimated data analysis would begin in May. This made me feel apprehensive as I was not confident with my SPSS skills and knowledge. During analysis, I was anxious and panicked quite often as I was not sure if I had conducted the analyses correctly, which resulted in frequent emails between Dr Egan and I. I was relieved once I had completed it, and confident I had done so to the best of my ability. A positive of the experience was expanding my SPSS knowledge, as I had never run an Exploratory Factor Analysis before or used Hayes PROCESS. On the other hand, things did not go to plan several times, with parts

of syntax missing, putting variables into the analysis which didn't need to go in etc. This was due to me not putting much thought into it and inputting all the variables in at once due to feelings of anxiety over having to conduct analyses without much guidance; COVID-19 prevented in-person step-by-step guidance. However, I completed necessary readings (e.g. Andy Field textbook), consulted relevant resource materials (e.g. lecture notes) and emailed my supervisor when I needed assistance. From this experience, I have learnt SPSS skills that I can use in the future (e.g. EFA, PROCESS, multiple regression). In the future, I will keep a level head and try not to panic, and keep playing with the data to try and fix issues, as I have proved I am capable.

Write up

I began the write-up phase of my project before the country was faced with COVID-19 restrictions, however the majority of my write up was written whilst the country was in lockdown. I was excited to begin the write-up of my project, but then felt apprehensive as to how I would focus writing the project during lockdown. Once I had completed it, I was pleased with myself as I had faced some struggles along the way. On a positive note, I had found lots of current research and explored many directions within my introduction; it became more focused due to this research. On the other hand, I struggled with the interpretation of the mediation results for the discussion, which initiated feelings of stress. On reflection, being a keyworker during COVID-19 in an emotionally demanding environment took its toll on my mental health. I worked 13.5-hour days and continuously wrote my dissertation when I wasn't at work which resulted in me burning out after a few weeks. This made me realise the importance of taking time off to keep me focused and reach the goals I had set for the project. This allowed

me to be concise and focused, resulting in changes to the proposal of the project. In the proposal, I referenced moderation whereas after consulting previous research I noted I was more concerned with mediation. Similarly, one of my hypotheses regarded forgiveness as a predictor, whereas after researching and supervision with Dr Egan (15/05/2020), my focus was on reciprocity and forgiveness as a mediator. Due to being organised and focused, I aim to submit my dissertation before the end of June, ahead of the deadline, and will be submitting the manuscript for publication soon. From this experience, I have learnt the importance of taking a break, organising my time effectively, and improved my research skills. If faced with this situation again, I would not overwork myself and take time-out to produce the best work I can.

Supervision

Having supervision was a positive and helpful experience. In the run-up to supervision sessions, I would feel nervous at the prospect of discussing my ideas with someone so highly experienced in the field; however, my nerves eased with Dr Egan's supportive nature, and would always leave supervision with a clear sense of direction. I was able to work under my own initiative, but sought help when needed (e.g. when struggling to define the original idea, which resulted in a change of direction). On reflection, I could have made better use of my supervisor through more supervision sessions, as I only had 2.5 hours of supervision over the course of the project. However, I had clear communication with my supervisor in order to convey my thoughts, feelings, and ideas regarding the project. It also bettered my understanding on how I can use supervision in the future, in professional settings. In the future, I will utilise supervision sessions to the best of my ability, and take advantage of them, as, although I believe I used them

effectively this year, I could have had more sessions. Nevertheless, it was a useful and positive experience.