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Abstract

The aim of this study was to examine the prevalence and typologies of controlling behaviours within a general population sample. Participants (N = 427) completed the Revised Controlling Behaviours Scale and the Revised Conflict Tactics Scale. Prevalence of perpetration and victimisation of controlling behaviours was relatively high, although the frequency and severity of the behaviours was mainly low level. Five clusters were established based on the use of five types of controlling behaviours: economic, threatening, intimidating, emotional, and isolating. Significant differences were found between the perpetration clusters and (i) minor physical assault, (ii) severe physical assault (iii) minor psychological aggression, and (iv) severe psychological aggression. Furthermore, significant differences were found between the victimisation clusters and (i) physical assault, (ii) minor and (iii) severe psychological aggression. It is clear that controlling behaviours are a feature within general population relationships and further research is required to understand when such behaviours become problematic, and what needs to be done to prevent this from happening.

Keywords: Intimate partner violence; Domestic abuse; Controlling behaviours; Taxonomy

The prevalence and typologies of controlling behaviours in a general population sample

There are considerable differences in how legal professionals, practitioners, researchers, and victims define intimate partner violence and abuse (IPVA), particularly when considering the range of different behaviours that could be included. Traditionally, many have considered that only physical and sexual violence qualify (Buzawa, 2013). However, currently it is acknowledged that IPVA can include psychological/emotional abuse, coercion, controlling behaviours, as well as physical and sexual abuse (see Carney & Barner, 2012). This change is reflected in the legislation enacted in some countries to deal with IPVA. For example, France has criminalised psychological or mental abuse, where mental violence is defined as "repeated acts which could be constituted by words or other mechanisms, to degrade one's quality of life and cause a change to one's mental or physical state" (Erlanger, 2010). In the U.K., the governmental definition of domestic violence and abuse has been extended to: "any incident or pattern of incidents of controlling, coercive, threatening behaviour, violence or abuse…the abuse can encompass, but is not limited to: psychological, physical, sexual, financial and emotional" (Home Office, 2013).

In light of this, Section 76 of the Serious Crime Act (2015) of England and Wales now stipulates that repeated coercive or controlling behaviours are an offence, between individuals that are personally connected (e.g., current or previous intimate partners, relatives, parents of the same child), where the behavior has a serious effect on the victim. This offence carries a maximum of five years' imprisonment or a considerable fine if found guilty (Home Office, 2015). However, despite acknowledgement of a need to include controlling behaviours when examining IPVA, we currently have no understanding of how such behaviours occur and manifest within general population samples as opposed to clinical, forensic, and/or offending populations. Furthermore, there is a continuing debate regarding whether both men and women use IPVA and if there are differences in the severity and types of violence that they might use. A factor that contributes to this controversy is the type of population studied and therefore the nature of conclusions drawn from studying different populations (Hamberger, 2005). For example, nationally representative samples generally report lower levels and less severe forms of violence than data collected from clinical samples, suggesting that conclusions

drawn from one population may not generalise to a different one (Straus, 1999). This does not mean that IPVA only occurs in clinical, forensic and/or offending populations, as there is evidence of sexual, physical and psychological violence in community samples (e.g., Black et al., 2011; Office for National Statistics, 2016). However, no study to date has specifically examined the prevalence and occurrence of types of controlling behaviours in community samples in the U.K.. It has been suggested that occurrences of aggressive behaviours not necessarily viewed as "criminal" (i.e., controlling behaviours), are likely to have been missed (Leonard, Quigley, & Collins, 2002), even though such behaviours are now being treated as criminal within legal systems. Therefore, the current study will address the gap in our knowledge regarding controlling behaviours by examining their prevalence in a community sample of men and women. Furthermore, this current study will be the first to determine if there are different types or patterns of controlling behaviours that are evident in general population samples and if such behaviours are associated with other types of IPVA (i.e., physical, sexual, and psychological violence) that might or might not be a feature in such samples.

A challenge when examining controlling behaviours is the inconsistencies around the terminologies used for this and related behaviours. Indeed, Follingstad (2007) acknowledges the conceptual overlap between psychological, emotional, and verbal abuse with controlling behaviors, which results in the terms often being used interchangeably. For example, some authors have referred to coercive controlling behaviours as a single form of IPV (e.g., Hardesty et al., 2015; Nielsen, Hardesty, & Raffaelli, 2016; Robertson & Murachver, 2011). However, other authors have drawn important distinctions between coercion and control (e.g., Lehmann, Simmons, & Pillai, 2012). Stark (2007, p. 228) describes coercion as "the use of force or threats to compel or dispel a particular response"; whereas control was defined as "structural forms that compel obedience indirectly by monopolizing vital resources, dictating preferred choices, micro regulating a partner's behaviour, limiting her[1] options and depriving her of supports needed to exercise independent judgment" (Stark, 2007, p. 229). This difference is also acknowledged in the statutory guidance framework in relation

[1] Please note gender was from the original quote we acknowledge that both men and women can be victims of these forms of control

to s.76 of the Serious Crime Act (2015) in England and Wales. This guidance defines controlling behaviours as: "a range of acts designed to make a person subordinate and/or dependent by isolating them from sources of support, exploiting their resources and capacities for personal gain, depriving them of the means needed for independence, resistance and escape and regulating their everyday behaviour" (Home Office, 2015, p. 3). Alternatively, coercive behavior was defined as "a continuing act or pattern of acts of assault, threats, humiliation and intimidation or other abuse that is used to harm, punish, or frighten their victim" (Home Office, 2015, p. 3). However, controlling and coercive violence has also been referred to via a number of other terms including patriarchal terrorism (Johnson, 1995), intimate terrorism (Johnson, 2006) and more recently, abusive controlling violence (Jaffe, Johnston, Crooks, & Bala, 2008). In this current study, Stark's (2007) definition of *controlling* behaviours has been adopted, although it is acknowledged that the literature does not always recognise the distinction between coercion and control in the context of IPVA.

Our understanding of controlling behaviours is limited compared to what we know about other forms of IPVA e.g., physical. What does exist tends to be based upon clinical, forensic, or specialist populations (e.g., Tiwari et al., 2015) providing us with a limited understanding of how these behaviours may occur within the general population. Controlling behaviors include a range of behaviours such as economic deprivation, jealous and possessive behavior, insults and name-calling, and threats and intimidation (Graham-Kevan & Archer, 2005). Both male and females in intimate relationships have evidenced the use of controlling behaviors, but it tends to be examined in conjunction with physical violence (Graham-Kevan & Archer, 2008). Some studies have demonstrated gender differences in relation to controlling behaviours. For example, Ross (2011) found, in a sample of male and female perpetrators of IPV, that females reported significantly higher levels of perpetration and victimisation of controlling behaviours, when compared with male participants. Fawson (2015), in a sample of adolescent children, found that coercive control mediated the predictive relationship between controlling behaviours and physical, sexual, and emotional/psychological IPV. When examining controlling behaviours in a sample of women in either a domestic violence shelter (shelter group) and or a domestic violence offender programme

(programme group), Simmons, Lehmann, and Collier-Tenison (2008) found most of the women in the programme group reported their male partner used physical, emotional, and/or economic abuse. However, over half suggested emotional and/or economic abuse happened rarely. The shelter group experienced considerably more violent and controlling behaviours than the programme group. Both groups suggest that their partners used a multitude of behaviours to control them. The findings from these studies show that controlling behaviours are found in IPVA relationships. However, it is questionable as to whether these findings can be generalised to community samples where physical violence is not necessarily a feature. This novel research will therefore examine controlling behaviours in a community sample of men and women.

In developing our knowledge and understanding of use of control in relationships, it may be helpful to characterise typologies of behaviours based on use or non-use of different types of controlling behaviours (Hardesty et al., 2015). Johnson and colleagues (e.g., Johnson, 2008; Johnson, 1995; Johnson & Ferraro, 2000; Johnson & Leone, 2005; Johnson, 2005; Johnson, 2006) have developed types of IPV based on the extent to which the perpetrator and his/her partner use violence in order to attempt to control the relationship. The types developed constitute typology of individual violence that is rooted in information about the couple and defined by the control context within which the violence is embedded. The four main types that have been identified are: intimate terrorism (IT); violent resistance (VR); situational couple violence (SCV); and mutual violent control (MVC). Kelly and Johnson (2008) then added a fifth, which they called separation-instigated violence (SIV). IT, VR and MCV are physical violence that occurs within the context of control, whereas SCV involves physical violence in the context of a conflict (Johnson, 2008). SIV is violence that occurs within the context of relationship termination (Kelly & Johnson, 2008). Control is therefore a prominent feature in a high proportion of the typologies identified by Johnson. For IT, the perpetrator is motivated by a need to control their partner, so violence is therefore the mechanism by which they can reinforce the control exerted on the relationship (Johnson, 2008). In some instances, (MVC), both parties use violence as a mechanism of control. However, for SCV, control is not a feature of the relationship, with violence being a reaction to anger or frustration. Data from clinical, forensic and/or

offending samples are more likely to report controlling violence, whereas community samples are more likely to report SCV, as the violence is less likely to be based on a relationship dynamic of control, is less severe, and tends to arise form conflicts and arguments within couples (Kelly & Johnson, 2008). Graham-Kevan and Archer (2003) used cluster analysis to validate the IT and SCV typologies and found broad support for differentiating between these two groups. However, it remains unexplored whether there are groups of individuals who can be classified according to patterns of controlling behaviours that are typical or at least present to some extent in community samples, and if they are a common feature of non-clinical populations.

Bogat, Levendosky, and Eye (2005) underlined how most IPV research has adopted a variable-oriented approach, focussing on understanding the relationship among variables, for instance in terms of protective or risk factors, whilst paying limited attention to inter-individual differences. Although a variable-oriented approach can be highly informative, IPV research can also benefit from using a person-oriented approach (Bergman, 2001; Bergman & Magnusson, 1997; Bogat, 2009; Magnusson, 1999; Magnusson & Torestad, 1993). As stated by Bergman a person-oriented approach 'emphasized that the thoughts, feelings, and behaviour of individuals, cross-sectionally as well as developmentally, are best understood in terms of complex dynamic systems' (2001, p.30). Hence what is considered important is the study of patterns of individual characteristics rather than the investigation of single specific variables. The underpinning assumption is that within a population it is possible to identify sub-groups of individuals, each one presenting pattern of characteristics that are similar among members of the same sub-group, while making them distinguishable from members of different sub-groups (Nurius & Maci, 2010). Generally, typology research has been undertaken using clinical, offending and forensic populations, and by examining different characteristics of individuals within the context of using physical violence. This current study will build on this prior typology research by examining whether there is a typology of individual behaviours in intimate relationships based upon use and non-use of controlling behaviours. To develop our understanding of how controlling behaviours may or may not co-occur with other forms of IPVA, we will also examine associations between the developed typologies of controlling behaviours and the use of physical,

sexual, and psychological violence. This study will be the first to explore this within a community-based population sample. Based on classifications according to the use of different types of controlling behaviours it will be hypothesised that:

There will be discrete groups of individuals who can be distinguished according to their use and experience of controlling behaviours.

These discrete groups will also be distinguishable based on their use /non-use and experience of other forms of IPV.

Method

Design

A questionnaire design was used to gather data to determine the prevalence of controlling behaviours, physical, sexual, and psychological violence.

Participants

In total, 427 participants responded to the survey. However, 22 participants were removed because they had only completed the consent form and/or demographic details. The remaining 405 participants comprised 217 females, 186 males and 2 participants who did not indicate their gender. The age range of the sample was from 18.16 to 87.40 years (M = 40.44, $S.D.$ = 15.08). The majority of the participants identified as being white (90.36%), heterosexual (92.6%) and employed (73.8%). Table 1 presents a more detailed overview of the demographic information of the participants, by group and by gender.

[Table 1 here]

Measures

Revised Controlling Behaviours Scale (CBS-R; Graham-Kevan & Archer, 2005).

The CBS-R is a self-report measure, which comprises 24 items that assess controlling behaviours, for both perpetrator and victimisation. This scale measures control across five subscales: (i) economic; (ii) threatening; (iii) intimidating; (iv) emotional; and (v) isolating. Participants respond on a 5-point scale to assess the frequency of the behaviour ranging from "never" (0) to "very often" (4). Example items include: "refuse to share money/pay fair share" (economic control subscale); and

"tried to restrict time one spent with family or friends" (isolating control subscale). The CBS-R is suggested to have good discriminant validity (Graham-Kevan & Archer, 2005), however no previous testing of the factor structure of the scale has been published. Therefore, a validation of the factor structure was initially undertaken using this U.K. sample (see Authors, under review). Findings supported a five-factor model for both victimisation and perpetration.

Revised Conflict Tactics Scale (CTS2; Straus, Hamby, Boney-McCoy, & Sugarman, 1996).

The CTS2 is one of the most widely used self-reported measure to assess prevalence and severity of IPV in relation to both perpetration and victimisation (Jose, Olino, & O'Leary, 2012; Straus & Douglas, 2004; Vega & O'Leary, 2007). The scale comprises 78 items that assesses IPV across five subscales: (i) negotiation; (ii) psychological aggression; (iii) physical assault; (iv) sexual coercion; and (v) injury. For all of the subscales, with the exception of negotiation, the types of violence used can be split in to "minor" and "severe". Participants respond along an 8-point scale that assesses the frequency of the behaviour (0 = never, 1 = once, 2 = twice, 3 = 3-5 times, 4 = 6-10 times, 5 = 11-20 times, 6 = more than 20 times and 7 = not in the past year but it happened before). Previous studies have supported a five factor model structure of the scores on the CTS2, although these are frequently with clinical and/or forensic populations (e.g., Lucente, Fals-Stewart, Richards, & Goscha, 2001; Newton, Connelly, & Landsverk, 2001), and/or with populations outside of the United Kingdom (e.g., Signorelli, Arcidiacono, Musumeci, Di Nuovo, & Aguglia, 2014) . Therefore, a validation of the factor structure was undertaken using this U.K. sample initially (see Authors, under review). Findings support a six-factor model for both perpetration (negotiation, psychological aggression minor, psychological aggression severe, physical assault minor, physical assault severe, sexual coercion minor) and victimisation (negotiation, psychological aggression minor, psychological aggression severe, physical assault, sexual coercion minor, sexual coercion severe). These factors were used within the current study.

Procedure

Ethical approval was provided by the university's research ethics committee. Participants were recruited through an extensive nationally representative range of different social (e.g., Men's Shed Association, Rotary Club, Women's Institute), and sporting (e.g., Rugby, Rowing, Tennis) organisations identified through extensive online searching. These organisations were emailed and the gatekeepers of the organisations were asked to forward the online questionnaire link to members or they could request that the research team sent paper versions for individuals to complete. The research team was not party to which of the organisations forwarded the online details to members or the number of paper versions that were actually distributed (or the response rate of those that were). Questionnaire data were collected via the online questionnaire survey system for $n = 373$; and traditional paper based method for $n = 54$. For both the online and paper data collection, once informed consent had been gained the participants were asked to complete the questionnaire (demographic questions, CBS-R, and CTS2).

Data Analysis

In determining the prevalence of controlling behaviours within the sample, all responses to the five-point Likert scale above 0 (which is "never" on the CBS-R) were summated to indicate perpetration or victimisation of controlling behaviours.

Cluster analysis, as commonly used in typology research on IPVA (Graham-Kevan & Archer, 2003; Holtzworth-Munroe, Meehan, Herron, Rehman, & Stuart, 2000; Johnson, 2006) was used to identify different subgroups of individuals characterised by different patterns in the perpetration and victimisation of controlling behaviours. Cluster analysis was preferred to alternative analytical strategies, such as Latent Profile Analysis or Latent Class Analysis, because it has been largely supported in the literature on personality types (e.g., Asendorpf, 2015; Magnusson, 2003) and because the alternative techniques identified may be affected by methodological factors jeopardising the quality of the solution identified (Wurpts & Geiser, 2014). Furthermore, cluster analysis is generally considered as an exploratory classification analysis (Bergman & Wångby, 2014) and as such was considered as more suitable for investigating potential sub-groups (von Eye & Bogat, 2006; von Eye & Spiel, 2010).

Cluster analyses were conducted in SLEIPNER 2.1 on factor scores for each of the variables being studied. Factor scores were obtained from CFA analyses of the CBS, analysed using MPlus 7.3 (Muthén & Muthén, 1998-2012). This was completed using diagonally weighted least square (WLMSV), which is specifically intended for ordinal data and provides reliable estimations of factor scores even when the assumption of normality is violated (e.g., Li, 2016), and Full Information Maximum Likelihood (FIML) parameter estimate method (Arbuckle, 1996) to handle missing data. This addressed the skewed distribution of the data and maximised the data available for analysis.

In particular, two cluster analyses were implemented using the following modules of the software SLEIPNER 2.1. The IMPUTE module allows imputing missing values by identifying a twin case with similar scores on the available variables. In both cases, it was specified that respondents were not allowed to be missing data on more than two variables, with any cases fulfilling this criterion then removed from the sample. The RESIDUE module allows identifying and excluding outliers, which would otherwise jeopardise a reliable cluster solution. As a result of the implementation of these two modules the sample size is anticipated to slightly vary for victimisation and perpetration versions of the CBS-R. The CLUSTER module was implemented using the Ward's method, a hierarchical procedure that minimise within cluster variance. The optimal solution was identified taking into account the increase in error sum squares and the percentage of explained variance, along with its interpretability. Finally, the module RELOCATE uses the identified cluster solution to re-classified participants through non-hierarchical methods to improve the homogeneity of each cluster and, in turn, increase the explained variance of the solution.

Results

Controlling behaviours

Descriptive statistics and frequency percentages for controlling behaviours (perpetration and victimisation) by sub-scales and as a total control score, (for the whole group and by gender), are presented in Table 2. Prevalence (based on %) of total controlling behaviours for both perpetration and victimisation was high in the whole sample (perpetration 84.94%; victimisation 88.64%), and by gender (males: perpetration 86.02%; victimisation 84.95%; females: perpetration 84.33%;

victimisation 78.80%). Economic control was the most prevalent controlling behaviour reported in the total sample (perpetration 84.94%; victimisation 88.64%), and by gender (males: perpetration 67.74%; victimisation 70.96%; females: perpetration 70.04%; victimisation 81.72%).

[Table 2 here]

An independent t-test revealed no significant difference between the total perpetration control scores of males (M = 8.21, SE = .66) and females (M = 8.97, SE = .62), $t(348)$ = -.88, p = .38, r = .04. Likewise, no significant difference was found between the total victimisation control scores of males (M = 10.82. SE = .85) and females (M = 12.90, SE = .62), t(348) = - 1.15, p = .25, r = .06.

A MANOVA showed that there was a significant multivariate effect of gender on the five perpetration controlling behaviour subscales, V = .07, $F(5, 376) = 5.73$, $p < .001$, $\eta p^2 = .07$. Separate univariate ANOVAs revealed significant differences for two subscales, with females reporting significantly higher scores than males for perpetration of threatening control, $F(1, 380) = 6.86$, $p < .05$, $\eta p^2 = .02$, and for perpetration of isolating control $F(1, 380) = 5.81$, $p < .05$, $\eta p^2 = .01$. The same analysis was completed for victimisation using the subscales of controlling behaviours, however no significant effect was found.

Cluster Analysis.

CBS-R perpetration.

Data for the CBS-R perpetration were available from 403 respondents, none of whom were missing data on the corresponding factor scores. As a result, the IMPUTE procedure did not identify any respondent to be imputed or to be excluded from the analysis due to missing values. The RESIDUE procedure identified and removed 2 respondents. The CLUSTER procedure was hence implemented on 401 respondents. After exploring the increase in error sum of squares the 5-cluster solution was considered to be reasonably good, explaining 82.69% of variability in the data. As a result of the RELOCATE procedure, the final 5-cluster solution (Figure 1) explained 83.86% of variance, with a point biserial coefficient of .39.

[Figure 1 here]

The five clusters identified were:

Cluster 1: Perpetration High (PH). This cluster comprises 17 respondents (4.2%), and is characterised by the highest levels across all of the controlling behaviours.

Cluster 2: Perpetration Intermediate (PI). This cluster comprises 79 respondents (19.6%), and is characterised by intermediate levels across all of the controlling behaviours (lower than cluster 1, but higher than the remaining clusters).

Cluster 3: Perpetration Average (PA). This cluster comprises 103 respondents (25.5%) and is characterised by scores close to the average across all of the controlling behaviours.

Cluster 4: Perpetration Low (PL). This cluster comprises 123 respondents (30.4%), and is characterised by lower than average scores across all of the controlling behaviours.

Cluster 5: Perpetration Extremely Low (PEL). This cluster comprises 79 respondents (19.6%), and is characterised by extremely low levels in all of the controlling behaviours.

CBS-R Victimisation.

Data for the CBS-Victimisation were available for 385 respondents, none of whom were missing data on the corresponding factor scores. As a result, the IMPUTE procedure did not identifiy any respondent to be imputed or to be excluded from the analysis due to missing values. The RESIDUE module identified and removed 1 respondent. The CLUSTER procedure was hence implemented on 384 respondents. After exploring the increase in error sum of squares the 5-cluster solution was considered to be reasonably good, explaining 83.31% of variability in the data. As a result of the RELOCATE procedure, the final 5-cluster solution (Figure 2) explained 64.63% of variance, with a point biserial coefficient of .36.

[Figure 2 here]

The five clusters identified were:

Cluster 1: Victimisation High (VH). This cluster comprises 42 respondents (10.4%), and is characterised by the highest levels across all of the controlling behaviours.

Cluster 2: Victimisation Intermediate (VI). This cluster comprises 78 respondents (19.3%), and is characterised by intermediate levels across all of the controlling behaviours.

Cluster 3: Victimisation Average (VA). This cluster comprises 86 respondents (21.3%), and is characterised by scores close to the average across all of the controlling behaviours.

Cluster 4: Victimisation Low (VL). This cluster comprises 113 respondents (28.0%), and is characterised by lower than average scores across all of the controlling behaviours.

Cluster 5: Victimisation Extremely Low (VEL). This cluster comprises 65 respondents (16.1%), and is characterised by extremely low levels in all of the controlling behaviours.

Membership of clusters for perpetration and victimisation were significantly associated (χ^2 = 476.75, df = 16, p <.001). This result was further explored examining standardised residuals (see Table 3). Findings highlighted that High, Low and Very Low perpetration clusters are more likely associated with corresponding clusters for victimisation. In addition, Cluster 2 Perpetration Intermediate is more likely associated with Cluster 2 Victimisation Intermediate (standardised residual=5.9) but also with Cluster 1 Victimisation High (standardised residual=3.3), and Cluster 3 Perpetration Average is more likely associated with Cluster 3 Victimisation Average (standardised residual=5.1) but also with Cluster 2 Victimisation Intermediate (standardised residual=2.6).

Membership to clusters was not significantly associated with gender neither for perpetration (χ^2 = 2.40, df = 4, p =.664) nor victimisation (χ^2 = 6.63, df = 4, p =.157). Similarly, no significant association with participants' employment/unemployment status was identified neither for perpetration (χ^2 = 8.28, df = 4, p =.082) nor victimisation (χ^2 = 6.53, df = 4, p =.163). Furthermore, univariate ANOVA analyses highlighted age differences for the Perpetration clusters [F(4, 389) = 2.99, p = .019, η^2 = .03]. In particular, members in the Perpetration High cluster (M = 31.44, SD = 12.37) were significantly younger than the members in the Perpetration Average (M = 40.19, SD = 15.73), Perpetration Low (M = 41.34, SD = 13.17), and Perpetration Extremely low (M = 43.32, SD = 13.61) clusters. No other significant differences were found. Finally, no significant differences in relation to age were identified for the Victimisation clusters [F(4, 374) = .91, p = .457, η^2 = .010].

[Table 3 here]

Physical, sexual, psychological, and negotiation IPVA

Based on the 6-factor model for the perpetration scales on the CTS2 developed based on validation of the scale in a U.K. population (see Authors, under review), the prevalence levels for negotiation, physical, psychological and sexual coercion were examined based on use of the behaviours in the past year and lifetime. This is presented in Table 4, for the whole sample and by gender. In terms of violent and aggressive behaviours (past year), psychological aggression (minor) was the most prevalent behaviour, and physical assault (severe) was the least prevalent behaviour reported for the whole sample and by gender.

[Table 4 here]

Based on the 6-factor model for the victimisation scales on the CTS2 developed based on validation of the scale in a UK population (see Authors, under review), the prevalence levels for negotiation, physical, psychological and sexual coercion were examined based on use of the behaviours in the past year and lifetime. This is presented in Table 5 for the whole sample and by gender. In terms of violent and aggressive victimisation (past year), psychological aggression (minor) was the most prevalent behaviour, and sexual coercion (severe) was the least prevalent behaviour reported for the whole sample and by gender.

[Table 5 here]

Differences between controlling behaviour clusters and other forms of IPVA

Differences in the perpetration of physical and psychological violence in the controlling behaviour perpetration clusters were tested using Univariate ANOVAs with post hoc Tukey HSD tests ($p < .05$). Similarly, Univariate ANOVAs were used to analyse differences in victimisation of a range of violent behaviours in the controlling behaviour victimisation clusters. In both cases for the CTS factorial scores derived from CFA implemented in Mplus with MLSMW estimator were used.

Controlling behaviours perpetration.

Controlling behaviour perpetration clusters were significantly different [$F(4, 397) = 49.76$, $p < .001$, $\eta^2 = .34$] in relation to minor physical assault perpetration. The Perpetration Extremely Low ($M = -.31$, $SD = .46$) and Perpetration Low ($M = -.11$, $SD = .48$) clusters had the lowest scores, but did not differ significantly from each other. All of the remaining clusters did significantly differ from

each other, with the Perpetration High cluster having the highest level of minor physical assault perpetration (*M* = 1.03, *SD* = .65), followed by the Perpetration Intermediate cluster (*M* = .59, *SD* = .50), followed in turn by the Perpetration Average (*M* = .21, *SD* = .57).

Also, controlling behaviour perpetration clusters were significantly different [$F(4, 397) = 36.23$, $p < .001$, $\eta^2 = .269$] in relation to severe physical assault perpetration. The Perpetration Extremely Low (*M* = - .20, *SD* = .63) and Perpetration Low (*M* = - .09, *SD* = .50) clusters had the lowest scores, but did not differ significantly from each other. However, the Perpetration Low cluster did not differ significantly from the Perpetration Average cluster (*M* = .20, *SD* = .63), but the latter was significantly different from the Perpetration Extremely Low cluster, as well as from the other clusters. All of the remaining clusters significantly differed from each other, with the Perpetration High cluster having the highest level of severe physical assault perpetration (*M* = .99, *SD* = .61), followed by the Perpetration Intermediate cluster (*M* = .58, *SD* = .53).

Controlling behaviour perpetration clusters were significantly different [$F(4, 397) = 56.57$, $p < .001$, $\eta^2 = .365$)] in relation to minor psychological aggression perpetration. The Perpetration High (*M* = 1.57, *SD* = 1.56) and the Perpetration Intermediate (*M* = 1.11, *SD* = 1.07) clusters had the highest level of minor psychological aggression, but did not differ significantly from each other. All of the remaining clusters significantly differed from each other, with the Perpetration Extremely Low cluster (*M* = - 1.09, *SD* = .93) evidencing the lowest level of minor psychological aggression, followed by the Perpetration Low cluster (*M* = - .38, *SD* = 1.05), followed in turn by the Perpetration Average cluster (*M* = .39, *SD* = 1.11).

Controlling behaviour perpetration clusters were significantly different [$F(4, 397) = 59.00$, $p < .001$, $\eta^2 = .375$] in relation to severe psychological aggression perpetration. In particular, the Perpetration Extremely Low (M = - .35, SD = .44) and Perpetration Low (*M* = - .12, *SD* = .46) cluster had the lowest scores, but did not differ significantly from each other. All of the remaining clusters significantly differed from each other, with the Perpetration High cluster having the highest level of severe psychological aggression perpetration (*M* = .93, *SD* = .60), followed by the Perpetration

Intermediate cluster (*M* = .59, *SD* = .44), followed in turn by the Perpetration Average (*M* = .21, *SD* = .52).

Controlling behaviours victimisation.

Controlling behaviour victimisation clusters were significantly different [$F(4, 380) = 67.44$, $p <. 001$, $\eta^2 = .418$] in relation to physical assault victimisation. The Victimisation Extremely Low (*M* = - .42, *SD* = .20) cluster had the lowest level of physical assault victimisation. Victimisation Low and Victimisation Average clusters did not differ from each other (*M* = - .16, *SD* = .48 and *M* = .05, *SD* = .48 respectively), but were significantly different from the Victimisation Intermediate cluster (*M* = .46, *SD* = .55). Finally, the Victimisation High cluster (*M* = - .86, *SD* = .54) reported the highest level of physical assault victimisation.

Controlling behaviour victimisation clusters were significantly different [$F(4, 380) = 77.65$, $p < .001$, $\eta^2 = .452$] in relation to minor psychological aggression victimisation. Specifically, all of the clusters significantly differed from each other with the Victimisation High cluster (*M* = 1.69, *SD* = 1.12) reporting the highest level of minor psychological aggression victimisation, followed by the Victimisation Intermediate (*M* = .82, *SD* = .90), the Victimisation Average (*M* = .14, *SD* = 1.04), the Victimisation Low (*M* = - .30, *SD* = .98) and, finally by the Victimisation Extremely low (*M* = -1.21, *SD* = .56) clusters.

Furthermore, controlling behaviour victimisation clusters were significantly different [$F(4, 380) = 85.34$, $p < .001$, $\eta^2 = .476$] in relation to severe psychological aggression victimisation. In particular, all of the clusters significantly differed from each other, with the Victimisation High cluster (*M* = .96, *SD* = .50) reporting the highest level of minor psychological aggression victimisation, followed by the Victimisation Intermediate (*M* = .46, *SD* = .48), the Victimisation Average (*M* = .03, *SD* = .48), the Victimisation Low (*M* = - .19, *SD* = .48) and, finally, by the Victimisation Extremely low (*M* = - .45, *SD* = .24) clusters.

Discussion

The current study has been the first to examine how different types of controlling behaviours (both perpetration and victimisation) are used and experienced in a U.K. based general population

sample. These behaviours were prevalent across the whole sample and by gender, although for the majority of participants, experienced or perpetrated at a low level. However, there were number of participants who perpetrated and/or experienced controlling behaviours at intermediate and high levels. In addition, different types of controlling behaviours could be clustered to form profiles of usage. These clusters could be differentiated based on the perpetration and victimisation of physical and psychological aggression.

Economic control was the most *prevalent* type of controlling behaviour reported in terms of both perpetration and victimisation (for the whole group and by gender). Generally, in relation to *frequency* of use, for perpetration and victimisation the highest levels were for isolating control followed by emotional control. Threatening control was the least frequently reported behaviour. During initial development of the scale, Graham-Kevan (2004) compared victimisation and perpetration of controlling behaviours across four different populations: (i) female shelter victims, (ii) male and female students, (iii) male non-violent prisoners, and (iv) male violent prisoners. She found similar patterns of frequency to the current study in that the most frequent type of controlling behaviour (perpetration and victimisation) for all groups, except the shelter group, was isolating control followed by emotional control. For the shelter sample, the most frequently reported controlling behaviour (perpetration and victimisation) was emotional then isolating. Across all four groups, economic was more frequent than intimidation with threatening control being the least frequent. These findings and the ones in the current study all suggest that within different samples, including non-specialised community samples, a broad range of controlling behaviours are used that vary in their frequency of use.

No clear trend in the levels of perpetration and victimisation of controlling behaviours across the different types of control used was found when examined by gender. This was with two exceptions as females reported significantly higher scores than males for both perpetration of threatening and isolating control. For both of these differences, the effects sizes were small. It remains unclear as to if men and women are more likely to use different types of controlling behaviours (Robertson & Murachver, 2011). However, Ross (2011) found that female perpetrators of IPV did

report perpetrating higher levels of controlling behaviours, however this study did not measure different subtypes of controlling behaviours. Felson and Outlaw (2007) found, in a national sample, across five questions (prevents you from knowing about or having access to family income; prevents you from working outside the home; insists on knowing who you are with at all times; insists on changing residences even when you don't want or need to; tries to limit your contact with family and friends), significant difference in scores for women on two aspects, as wives were more likely to 'insist on knowing their spouse's whereabouts' and 'insist on changing residences.' This finding aligns with the current study in that insisting on knowing their spouse's whereabouts is classified as isolating control in the CBS-R. Hines et al. (2007) also found that a common controlling behaviour used by women was isolation, achieved by keeping their partners away from family and friends, using jealousy to justify this. Likewise, Black et al. (2011) reported from a national survey that men most commonly (but only at a marginally higher percentage than females) reported that their female partners kept track of them and demanded to know their whereabouts.

It was observed in the current study that members in the Perpetration High cluster were significantly younger (average age 31 years) than the members in the Perpetration Average (average age 40 years), the Perpetration Low (average age 41 years), and the Perpetration Extremely low (average age 43 years) clusters. It is not obvious as to why this might be the case, and no other research to date has examined the role of age specifically in relation to controlling behaviour perpetration. As a rule the pattern of offending behaviours is one that peaks in adolescence but then declines through adulthood and is referred to by criminologists as the age-crime curve (Sweeten, Piquero, and Steinberg, 2013). The age-crime curve has been found to vary in the parameters of distribution across demographics and offense type, with the violence age-crime curve being flatter, peaking later and declining more slowly than non-violent offences (Steffensmeier, Allan, Harer, & Streifel, 1989; Farrington, Loeber, & Jolliffe, 2008). Although it is generally assumed that IPV peaks in young adulthood this has not been empirically verified and documented (Johnson, Girodano, Manning and Longmore, 2015). No research has specifically examined the age peak or the rate of decline in relation to perpetration of psychological violence or controlling behaviours, but it may be

the case that these types of behaviour follow a trajectory that demonstrates a clear decline by age 40 compared to aged 30. It is difficult however, to ascertain why this might occur. Researchers who have found an inverse relationship between age and use of physical and sexual IPV suggest several explanations for this finding. These include that maturity and stability increase with age (Johnson, 2003), which may also affect the ways in which couples address conflict resolution (Caetano, Field, Ramisetty-Mikler, & McGrath 2005). Also, with age, couples may increasingly conform with society's norms and therefore reduce their use of violence. It may therefore be changes in individual context (stability in relationships, employment, finances) that are more likely to occur as people get older that are associated with reductions in controlling behaviours. It could also be because of individual changes over time. Roberts and Mroczek (2008) have found that personality traits change over time and through adulthood, and suggest that individuals show increased self-confidence, warmth, self-control, and emotional stability with age. It could be the case that such changes are associated with the use of controlling behaviours, thereby meaning that as traits such as self-control and emotional stability increase with age, use of controlling behaviours decreases. Based on the current research and existing research to date such an association is purely speculative, so further research is required to understand the relationship between controlling behaviours and age and the explanations that could account for this.

The cluster analysis identified five groups (for both perpetration and victimisation) based on controlling behaviours. This comes with the caveat that although controlling behaviours were identified as being prevalent across the sample the levels (in relation to ever experienced), frequency and severity of controlling behaviours used were low for the majority with higher levels being evidenced in a small proportion of the sample. For perpetration and victimisation, the group that identified the majority of participants was characterised by low levels of controlling perpetration and victimisation (Perpetration Low and Victimisation Low). The second most common group (for perpetration and victimisation) was the group characterised by average levels of controlling behaviours Perpetration Average and Victimisation Average).

In terms of differentiating the clusters developed according to the use of other types of partner violent behaviours, the perpetration clusters differed significantly according to the use of minor and severe physical assault (both large effect sizes), and minor and severe psychological aggression (both large effect sizes). Generally, the clusters significantly differed from each other with the direction of differences being logical in that the Perpetration High group demonstrated the highest levels of perpetration, whereas the Extremely Low group demonstrated the lowest levels of perpetration. For victimisation, the same trend was found within the clusters where significant differences were found in levels of physical assault, minor and severe psychological aggression (all large effect sizes). The pattern to the differences was the same with the lowest levels of victimisation found within the Victimisation Extremely Low, whereas the highest levels of victimisation were in the Victimisation High group. Relationships between controlling behaviours and physical aggression have been previously identified. For example, (Graham-Kevan & Archer, 2008) found across a series of regression analyses, in different types of samples, that physical aggression could be predicted by four types of controlling behaviours: intimidating, emotional, isolation, and economic. However, these relationships were not consistent across the samples, which may suggest that controlling behaviours may vary in their ability to relate to or predict physical aggression.

Limitations

The findings of this study need to be interpreted within the inherent limitations observed with this type of research. Recruitment of the community sample was achieved through social groups by emailing gate keepers, so it was not known who from the members of the groups were approached to participate and what proportion agreed to participate, which makes it challenging to establish if the sample was truly representative. However, those recruited were from a large range of different groups and this did yield a diverse group in relation to age, qualification, employment and salary. Furthermore, the sample demographic data did broadly align with nationally representative statistics (i.e., ethnicity, sexuality, employment status). Identification of controlling and violent behaviours was reliant on self-report and therefore is open socially desirable responding. The study used self-report for both perpetration and victimisation and it is argued that perpetrator reports are likely to

involve more systematic underrepresentation than victim reports (Archer, 1999). It would be beneficial to ask individuals who are in a relationship to both fill out the questionnaires to assess inter-partner agreement as this might offer a more reliable insight of the behaviours being used. Generally, it is the case that measurement of such behaviours is extremely difficult; the execution of this varies across studies meaning that the ability to obtain accurate prevalence levels is compromised and comparisons across studies are extremely challenging if not impossible. For example, in our study prevalence rates by gender showed lower levels of victimisation (e.g., lifetime physical violence) in comparison with other studies that utilised general community samples (e.g., Black et al., 2011). Furthermore, our prevalence rates across forms of physical violence did not vary substantially by gender, however other studies have shown such distinctions (e.g., Walby, Towers, & Francis, 2016). In addition, the data were cross-sectional taken from one person about behaviours in the previous year or as ever happening. With this type of data it is difficult to examine fully the duration of the abuse, the number of relationships that individual people have experienced this in or specifically ask about onset, persistence of the behaviours and if the behaviours ever stop. It may therefore be beneficial to use longitudinal dyadic study designs, which situate controlling behaviours and acts in context and follow these acts and behaviours over a period of time thereby providing the ability to examine the process of change e.g., escalation to more problematic behaviours.

More research is required to examine controlling behaviours in community samples so we can understand at what point they become problematic and when and if intervention and/or education is required. Research also needs to establish if controlling behaviours are different across diverse samples of individuals e.g., adolescents, older adults, different cultures. In the current study, we found two gender differences, with females reporting higher perpetration of threatening and isolating control, however, research is still limited as to the nature of controlling behaviours in females particularly in community populations. Some authors have argued that controlling behaviors are equally likely to be used by women and men (Black et al., 2011; Felson & Outlaw, 2007; Graham-Kevan, 2007; Robertson & Murachver, 2011). Whether the types of controlling behaviours used by women and men are fundamentally different is difficult to assess, as generally this has not been

examined (Robertson & Murachver, 2011). Given the finding, further research is needed to understand if and why threatening and isolating control is more associated with females. In relation to isolation, this potentially reflects gender roles and the stereotypical concerns of wives that men are more prone to infidelity, so women are more likely to attempt to control who their associates are (Felson & Outlaw, 2007). The use of different types of control therefore needs unpicking further and a better insight is likely to be gained through research that examines these behaviours, longitudinally over time and within the context of the dyad where they exist.

Given that controlling behaviours are now included in a number of governmental definitions of domestic violence and abuse (e.g., France, U.K.) and that these behaviours can constitute a criminal offence, this emphasises the importance of developing our knowledge regarding these types of behaviours across a range of different populations. As noted earlier, economic control was something that was prominent for participants in the current study. This is particularly of note because in the U.K., financial abuse is now specifically incorporated in the governmental definition of domestic violence and as such this type of behaviour is now considered an offence. What is not clear, however, is at what level this type of abuse, and indeed other types of controlling behaviours, would be considered an offence, how this would be measured and quantified, and at what level would these behaviours be deemed to be problematic. This current study contributes to that knowledge by providing the first analysis of the prevalence of controlling behaviours within a sample considered representative of a community sample. This evidences the need to continue to develop the research in relation to controlling behaviours, so that we can better understand these behaviours in the context of general population relationships (i.e., non-specialist/clinical populations) and within the concept of IPVA as a whole, and assess how to best operationalise and measure these behaviours. This will enable us to understand if, when and how these behaviours are problematic and in doing so use this evidence to inform policy on an on-going basis.

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Table 1: *Demographic information of participants*

	Whole group	**Male**	**Female**
Age	***M* (*SD*)**	***M* (*SD*)**	***M* (*SD*)**
	Range	**Range**	**Range**
Years	40.44 (15.08)	42.76 (15.79)	38.30 (13.90)
	18.16 – 87.40	18.16-78.63	18.91-73.25
Ethnicity	***n* (%)**	***n* (%)**	***n* (%)**
White British	366 (90.4)	171 (91.9)	193 (88.9)
White other	18 (4.4)	3 (1.6)	15 (6.9)
Black and Minority Ethnic	20 (4.7)	11 (6.0)	9 (3.6)
Sexuality	***n* (%)**	***n* (%)**	***n* (%)**
Heterosexual	375 (92.6)	178 (95.7)	197 (90.8)
Bisexual	18 (4.4)	4 (2.2)	14 (6.5)
Lesbian	4 (1.0)		4 (1.8)
Homosexual	2 (0.5)	2 (1.1)	
Other	4 (1.0)	1 (0.5)	2 (0.9)
Highest educational qualification	***n* (%)**	***n* (%)**	***n* (%)**
O-Levels/G.C.S.E.s	48 (11.9)	31 (16.7)	18 (8.3)
A-Levels	70 (17.3)	30 (16.1)	42 (19.4)
HND/HNCs	48 (11.9)	39 (21.0)	9 (4.1)
Undergraduate degree	72 (17.8)	51 (27.4)	66 (30.4)
Postgraduate degree	49 (12.1)	17 (9.1)	52 (24.0)
PhD	21 (5.2)	6 (3.2)	15 (6.9)
Other	28 (6.9)	12 (6.5)	15 (6.9)
Employment	***n* (%)**	***n* (%)**	***n* (%)**
Currently employed	299 (73.8)	143 (76.9)	156 (71.9)
Current approximate salary	***M* (*SD*)**	***M* (*SD*)**	***M* (*SD*)**
	Range	**Range**	**Range**
£000's	23,306.09	25,799.72	21,238.76
	(29.290.69)	(26,990.70)	(31,203.71)
	0-300,000	0-180,000	0-300,000
Relationship status	***n* (%)**	***n* (%)**	***n* (%)**
Ever been in relationship	405 (100.0)	183 (98.4)	215 (99.1)
Currently in relationship	347 (85.7)	162 (87.1)	183 (84.3)

Table 2: *Descriptive and prevalence statistics for Revised Controlling Behaviour Scale*

Control Sub-Scale	Perpetration *M (SD)*	Perpetration Prevalence *n* (%)	Victimisation *M (SD)*	Victimisation Prevalence *n* (%)
		Total sample		
Economic	1.89 (1.91)	78 (19.26)	2.71 (2.95)	284 (70.12)
Threatening	.66 (1.23)	131 (32.35)	.92 (1.86)	130 (32.10)
Intimidating	1.43 (1.78)	229 (56.54)	2.05 (2.88)	229 (56.54)
Emotional	2.11 (2.70)	233 (57.54)	2.93 (3.79)	239 (59.01)
Isolating	2.54 (3.30)	256 (63.21)	3.58 (4.59)	262 (64.69)
Total	8.60 (8.34)	344 (84.94)	11.92 (13.09)	359 (88.64)
		Males		
Economic	1.87 (1.95)	126 (67.74)	2.35 (2.36)	132 (70.96)
Threatening	.47 (.97)	49 (26.34)	.75 (1.56)	61 (37.80)
Intimidating	1.48 (1.76)	111 (59.68)	1.68 (2.02)	105 (56.45)
Emotional	2.28 (2.69)	114 (61.29)	2.62 (3.11)	117 (62.90)
Isolating	2.12 (3.04)	111 (59.68)	3.41 (4.32)	120 (64.52)
Total	8.21 (8.37)	160 (86.02)	10.82 (10.93)	158 (84.95)
		Females		
Economic	1.87 (1.82)	152 (70.04)	2.85 (3.17)	152 (81.72)
Threatening	.80 (1.40)	81 (37.32)	1.05 (2.06)	69 (31.80)
Intimidating	1.36 (1.78)	117 (53.92)	2.28 (3.34)	124 (57.14)
Emotional	1.99 (2.73)	119 (54.81)	2.98 (4.08)	122 (56.22)
Isolating	2.94 (3.52)	145 (66.82)	3.75 (4.87)	142 (65.44)
Total	8.97 (8.32)	183 (84.33)	12.90 (14.73)	171 (78.80)

Table 3: *Significant associations between perpetration clusters and victimisation clusters (standardised residuals)*

		CBS_R Victimization Clusters				
		Cluster 1 Victimization High	**Cluster 2 Victimization Intermediate**	**Cluster 3 Victimization Average**	**Cluster 4 Victimization Low**	**Cluster 5 Victimization Extremely Low**
CBS_R Perpetration Clusters	**Cluster 1 Perpetration High**	8.4	-0.2	-2.0	-1.8	-1.7
	Cluster 2 Perpetration Intermediate	3.3	5.9	-0.5	-3.7	-3.6
	Cluster 3 Perpetration Average	-2.0	2.6	5.1	-2.2	-4.2
	Cluster 4 Perpetration Low	-2.3	-4.2	-0.9	7.4	-2.4
	Cluster 5 Perpetration Extremely Low	-2.1	-3.6	-3.4	-2.1	12.2

Note: Standardised residual greater than |1.96| indicate cells having the largest difference between expected and actual count. A positive standardised residual indicate cells where there are more cases than expected, while negative standardised residuals indicate cells were there are less cases than expected in case of no association.

Table 4: *Prevalence of perpetration of partner violence*

Sample		**Negotiation**		**Psychological aggression (minor)**		**Psychological aggression (severe)**		**Physical assault (minor)**		**Physical assault (severe)**		**Sexual coercion (minor)**	
		Current[a]	Lifetime[b]	Current	Lifetime	Current	Lifetime	Current	Lifetime	Current	Lifetime	Current	Lifetime
Total	*N*	375	8	285	24	57	19	68	33	20	12	54	13
N = 405	(%)	(92.59)	(1.98)	(70.37)	(5.93)	(14.07)	(4.69)	(16.79)	(8.15)	(4.94)	(2.96)	(13.33)	(3.21)
Male	*n*	172	4	130	10	24	6	35	11	5	5	34	5
n = 186	(%)	(92.47)	(2.15)	(69.89)	(5.38)	(12.90)	(3.23)	(18.82)	(5.91)	(2.69)	(2.69)	(18.28)	(2.69)
Female	*n*	202	4	155	14	33	13	33	22	15	7	20	8
n = 217	(%)	(93.09)	(1.84)	(71.43)	(6.45)	(15.21)	(5.99)	(15.21)	(10.14)	(6.91)	(3.23)	(9.22)	(3.69)

[a] Any behaviours reported in the last year

[b] Behaviours not reported in the last year, but have happened before

Table 5: *Prevalence of victimisation from partner violence*

Sample		**Negotiation**		**Psychological aggression (minor)**		**Psychological aggression (severe)**		**Physical assault**		**Sexual coercion (minor)**		**Sexual coercion (severe)**	
		Current[a]	Lifetime[b]	Current	Lifetime	Current	Lifetime	Current	Lifetime	Current	Lifetime	Current	Lifetime
Total	*N*	375	10	282	25	77	26	70	33	72	25	18	6
N = 405	(%)	(92.59)	(2.47)	(69.63)	(6.17)	(19.01)	(6.42)	(17.28)	(8.15)	(17.78)	(6.17)	(4.44)	(1.48)
Male	*n*	174	4	134	9	29	10	32	13	31	8	6	1
n = 186	(%)	(93.55)	(2.15)	(72.04)	(4.84)	(15.59)	(5.38)	(17.20)	(6.99)	(16.67)	(4.30)	(3.23)	(0.54)
Female	*n*	200	6	148	16	48	16	38	20	41	17	12	5
n = 217	(%)	(92.17)	(2.76)	(68.20)	(7.37)	(21.12)	(7.37)	(17.51)	(9.22)	(18.89)	(7.83)	(5.53)	(2.30)

[a] Any behaviours reported in the last year

[b] Behaviours not reported in the last year, but have happened before