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# Animal Abuse Proclivity Among Women: Exploring Callousness, Sadism, and Psychopathy Traits

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## ABSTRACT

Two studies examining adult women are presented. The first ( $n = 162$ ) examined the relationship between proclivity (i.e., interest in, predisposition) to abuse animals and the link to aggression motivation, with psychopathy traits, sadism, and general maladaptive personality explored. The second study ( $n = 159$ ) extended to focus on callous-unemotional traits. We predicted that proclivity to abuse would be associated with increased proactive aggression, with the former also associated with higher levels of psychopathy, sadism, and callousness. These traits were expected to mediate the relationship between proclivity to abuse and aggression. Results confirmed that between one- to two-thirds of women reported at least some proclivity to abuse animals. An association between proclivity and proactive aggression was demonstrated, with callousness-uncaring and sadism representing important traits to account for. Results are discussed with attention to the implications for developing a theoretical understanding of the proclivity to abuse animals.

## KEYWORDS

Animal abuse; callous; human-animal interaction; psychopathy; sadism

There is some variation on what constitutes animal abuse. Within psychology a broad definition is offered by Ascione (2009), who defines animal abuse as, “socially unacceptable behavior that intentionally causes unnecessary pain, suffering or distress to and/or death of a nonhuman animal” (p. 107). This definition was adopted for the current research, owing to the focus on cruelty as well as physical harm. Interestingly, definitions do not explicitly reference aggression and instead use related terminology (i.e., “unacceptable behavior” and “intentional harm”). There have certainly been attempts at linking animal cruelty to aggression, particularly Childhood Cruelty to Animals (CCA). However, the focus has been on considering the association with extreme aggression and forensic populations (e.g., Walters, 2013).

There has been some attempt to explore association between animal abuse and aggression in non-detained samples, although this has focused on the perpetrators of

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Intimate Partner Violence (IPV). Here, an association is reported between IPV perpetration and animal cruelty (e.g., Febres et al., 2012; Flynn, 2011; Gupta, 2008). McPhedran (2009) further noted how animal cruelty occurs disproportionately within the context of IPV and may be associated with a depleted ability to experience feelings of empathy among perpetrators. Research beyond interpersonal violence has, nevertheless, been limited. Parfitt and Alleyne (2016) reported an association between an interest in abusing animals and tendency toward human-directed aggression, in a student sample ( $n = 164$ ). They considered only direct/indirect forms of aggression and did not seek to capture which factors could mediate between animal abuse and human-directed aggression.

In addition, there has been limited interest in animal abuse perpetrated by women, with men considered more likely to engage in such abuse (Flynn, 1999). There has, however, been a stronger association reported between animal cruelty and violent offending among women, in comparison with men (Walters, 2013). Men, nevertheless, score higher on interest-to-abuse-animals measures than women (Alleyne et al., 2015). Despite this, more than 60% of men *and* women report at least some level of endorsement of animal abuse scenarios. However, research to date tends to be descriptive, correlational, with a tendency to include men in samples, even when the comparison ratio is too disparate to allow for statistical comparison (e.g., Kavanagh et al., 2013). There is also increasing criticism not only of the relative paucity of publications but also their quality (Hawkins et al., 2017).

Consideration of what could mediate the relationship between proclivity to abuse animals and human-directed aggression arguably requires attention. One factor of potential interest is personality, particularly that related to challenges in emotional functioning, including over and under regulation, or the absence of emotional engagement. This has been captured within the aggression-motivation literature, where researchers recognize that proactive (i.e., goal-directed) aggression has a different relationship with personality than reactive (i.e., emotional, under-regulated) aggression. Ireland et al. (2020), in a series of studies using non-offending samples, found that higher levels of psychopathy, for example, is associated with higher levels of proactive and reactive aggression. However, emotion-regulation difficulties served as a mediator between psychopathy and *reactive* aggression, with increased emotional detachment a mediator between psychopathy and *proactive* aggression. Indeed, emotional detachment appears to be a core factor in explaining proactive aggression (Ireland et al., 2020; Kimonis et al., 2006), with emotional sensitivity/under-regulation explaining reactive aggression (Long et al., 2014). Ireland et al. (2020) further note how callous-unemotional traits and sadism serve to partially mediate the association between psychopathy and proactive aggression. To date, there has been little examination of how increased tendencies toward proactive-reactive aggression motivation could relate to the *potential* (i.e., propensity) to abuse animals.

Sadism is another factor linked to callousness and unemotional traits, which could be further considered. It is also closely associated with psychopathy. However, it is distinguished from these other concepts by its focus on deriving pleasure from the suffering of others (O'Meara et al., 2011). Although those who are sadistic tend to be high in callous-unemotional traits, it is not true to say that those high in the latter are also high on measures of sadism (Anderson & Marcus, 2019). What is known is that an

increased tendency to be sadistic associates with a range of aggressive and antisocial behaviors (Anderson & Marcus, 2019). Interestingly, sadism has not been assessed in relation to animal abuse, other than animal cruelty having been explored as a factor explaining the relationship between psychopathy and sadistic offending (Stupperich & Strack, 2016). Sadism has not been captured as a feature potentially explaining proclivity to abuse animals or in terms of its link to aggression.

Taken alongside this are findings that animal abuse associates with empathy deficits, callousness, and antisocial traits in perpetrators (Alleyne & Parfitt, 2019). Indeed, Dadds et al. (2006) describe animal cruelty as “callous aggression.” In their study, they report on how, for both boys and girls ( $n = 131$ , aged 6–13), callous-unemotional traits are associated with increased animal cruelty. This was a main effect for girls. For boys, the effect was present but so were externalizing problems, namely a broader array of challenging behaviors. Dadds et al. (2006) suggest that cruelty to animals by children is an early manifestation of callous disregard and low empathy and that this appears in a subgroup of children who later present with externalizing (conduct) problems. For girls, this is dominated by callous-unemotional traits. They further comment on an association between callous traits and raised engagement in proactive aggression. There has been consideration of callousness in adult samples, although focus has been on IPV. Gupta (2008), in a sample of 427 students, highlighted callousness and beliefs supporting instrumental (proactive) aggression as related to animal abuse, with callousness directly predicting both IPV and animal abuse in men. In women, but not men, instrumental beliefs mediate the relationship between callousness and animal abuse. There was no path to animal abuse from expressive (reactive) aggressive beliefs for women; there was for men, but with an unexpected negative path coefficient.

Despite a developing literature base describing animal abuse as linked more to controlled aggression and/or factors more closely associated with an *absence* of emotional reaction (e.g., callousness), there have been theoretical propositions that instead suggest poor emotional *regulation* may be a core factor (Parfitt & Alleyne, 2018a). This includes under-regulation and suppression (Parfitt & Alleyne, 2018a). However, this has yet to be borne out by empirical research. This would certainly not capture the concept of emotional detachment, emotional disconnect, or the drive for pleasure, which would be considered part of callous and/or sadistic traits. The inclusion of more individual traits, such as empathy, also features in theoretical propositions offered to understand why humans engage in animal abuse. Agnew's (1998) *Social Psychological Model of Animal Abuse* (SPMAA), for example, incorporates a role for ignorance of negative consequences of abuse on animals, beliefs (e.g., justification and beliefs that the actions have benefit), but also individual traits. These include experienced strain/stress, social factors, the specific type of animal being targeted, low self-control, and empathy. Empathy is conceptualized by Agnew (1998) as a personality trait, as opposed to a dynamic construct, with the SPMAA proposing a clear role for personality as an additional factor set leading to animal abuse.

An association between animal abuse and personality has certainly been increasingly documented. Kavanagh et al. (2013), for example, applied the Dark Triad personalities (i.e., narcissism, Machiavellianism, and psychopathy; Paulhus & Williams, 2002) to a non-offending sample (22 men and 205 women). They found the Triad positively associates

with negative attitudes toward animals and increases acts of animal cruelty. Psychopathy was the only trait, nonetheless, to significantly associate with acts of cruelty, with higher levels associated with having intentionally killed an animal for no good reason, or having intentionally hurt or tortured an animal to cause pain. Kavanagh et al. (2013) did not, however, extend their consideration to capture the Dark *Tetrad* (Anderson & Marcus, 2019; Paulhus et al., 2018). This extends the Dark Triad to include sadism, which clearly seems valuable to consider.

Research into personality has also extended to capture animal abuse proclivity, with Parfitt and Alleyne (2018b) finding, in a non-offending sample ( $n = 150$ ), that low extraversion, agreeableness, and neuroticism associate with an interest to abuse animals. However, research on personality and proclivity has not expanded beyond these three personality traits. Regardless, there is consensus that personality could contribute to developing an understanding of the proclivity to abuse animals. Exploring maladaptive personality, namely psychopathy, callous-unemotional, and sadism, may be particularly valuable.

There is also value in applying the *Violence Inhibition Mechanism* (VIM: Blair, 1995, 2001) at this point. VIM has been specifically applied to understand the psychopathy-aggression relationship, suggesting that failure to respond to distress cues is a key feature driving aggression in those with psychopathy. Failure can be driven by emotional deficit, a deliberate avoidance of acknowledging distress or, as you would expect with sadism, a focused attempt at not responding in a prosocial manner due to a desire for enjoyment. An application of VIM could argue that callousness and disregard for others leads to a failure to respond prosocially to animal distress. What has not yet been considered is the ability to *recognize* animal distress, which could arguably represent a contributing feature. Regardless, we are suggesting here, through application of the VIM, that failure to respond to animal distress is a key factor to account for and that callousness/disregard thus represents an important component. This also equates with the notion that those who present with challenging personalities, of which callousness and emotional disregard can be key, fail to develop a social or moral conscience (Frick & Morris, 2004). We are arguing here that this failure is extending to nonhuman animals.

Equally valuable is application of the *General Aggression Model* (GAM: Anderson & Bushman, 2002). The GAM views aggression as a product of person and situational inputs, connected to affect, leading to cognitive appraisal and decision-making. Ultimately, this leads to a considered or impulsive behavioral outcome. These processes all occur within the context of a social encounter. If the behavioral outcome is animal abuse, then person inputs likely to raise the likelihood of abuse taking place could represent traits associated with callousness and sadism, which are further driven by cognitive appraisal underpinned by antisocial tendencies. There has been an attempt at applying the GAM to animal abuse, at a theoretical level, but this has provocation from an animal as its core trigger (Parfitt & Alleyne, 2018a). This would not fit with abuse driven by sadistic tendencies, including that where individuals have actively sought to provoke an animal. This also does not assist with understanding *how* person input factors, such as emotional detachment/disconnect, could impact on aggression and/or the proclivity to abuse.

Two studies are next presented, which aim to address gaps in the literature by focusing on adult women and the link between proclivity to abuse animals and reactive/proactive

aggression. Proclivity is defined here as an interest in/predisposition to abuse animals. The studies further consider maladaptive personality, including psychopathy, sadism, and callous-unemotional traits, as potential factors in any emerging relationship. We predicted that (1) increased proclivity to abuse animals will be associated with increased levels of proactive aggression. This is argued on the basis of the association between proactive aggression and emotional detachment (Ireland et al., 2020; Kimonis et al., 2006). This prediction is examined via both studies. (2) Proclivity to abuse will be associated with higher levels of maladaptive personality, including psychopathy traits, sadism (Study 1), and callousness (Study 2) (e.g., Dadds et al., 2006; Kavanagh et al., 2013). (3) Increased sadism, psychopathy (Study 1), and callousness (Study 2) will mediate the relationship between proclivity to abuse and aggression (e.g., Dadds et al., 2006).

## Study 1

### Methods

#### Ethics

Ethical approval was obtained from the University of Central Lancashire ethics committee.

#### Participants

One hundred and sixty-five adult women participated from the general population. Three were removed after data screening as they represented multivariate outliers. Thus the final sample was 162 and the average age was 32.9 years (*SD* 12.7). Of these, 79.6% (*n* = 129) were current pet owners. The non-response rate, calculated as those starting but not proceeding to complete, was 17.8%.

#### Procedure

The study was conducted online and advertised via social media websites (i.e., Facebook, Twitter, LinkedIn). A participant information sheet informing on study nature and right to withdraw preceded all measures. On survey completion, participants were directed to a debriefing sheet. No reward was given.

#### Measures

The following measures were used:

*Animal Abuse Proclivity Scale (AAPS*: Alleyne et al., 2015): This seeks to capture current interest in animal abuse using six hypothetical scenarios. It focuses on thrill, power, propensity to engage in the act themselves, and enjoying being watched. Each vignette asks a question in relation to each of these areas: for example, "In this situation, how powerful would you have felt?" Responses are captured using a 5-point Likert scale, ranging from 0 (Definitely not) to 4 (Definitely would). Proclivity measures, such as this, adopt a motor imagery approach (Jeannerod & Frak, 1999) that arguably activates connection between cognition (beliefs/attitudes) and behavioral intention. This is achieved by asking participants to imagine themselves in the scenario. This method has been used to assess proclivity to engage in a range of offending behaviors (Alleyne et al., 2015).

*Reactive–Proactive Aggression Questionnaire (RPQ:* Raine et al., 2006): This is a 23-item scale measuring reactive and proactive aggression. Example items include, “Yelled at others when they have annoyed you” (reactive) and “Gotten others to gang up on someone else” (proactive). Participants respond to the statements on a scale ranging from 0 (never) to 2 (often).

*Psychopathic Processing and Personality Assessment (PAPA:* Lewis, Ireland, Abbott, et al., 2017): This is a self-report measure of psychopathy traits comprising 29 items. Example items include “I am only interested in myself” and “I am not bothered about others.” The PAPA is measured on a 5-point Likert scale, ranging from 1 (very unlike me) to 5 (very like me).

*Short Sadistic Impulse Scale (SSIS:* O’Meara et al., 2011): This 10-item scale measures the presence of sadistic traits, (e.g., “Hurting people would be exciting”). Participants rated agreement on a scale ranging from 0 (unlike me) to 10 (like me).

*Level of Personality Functioning Scale (LPFS:* Bender et al., 2011): A 12-item scale measuring maladaptive personality functioning. The scale focuses on self-identity, self-direction, interpersonal-empathy, and interpersonal-intimacy. Participants reported the extent to which they agreed with each statement, noting Yes or No. Example items include, “My relationships and friendships never last long” and “I often think very negatively about myself.”

**Results and Discussion**

In relation to proclivity to abuse animals, 36.5% ( $n = 59$ ) reported at least some proclivity (i.e., interest in/predisposition). Table 1 presents scores across all measures, along with scale reliability. Table 2 presents correlations across measures.

Structural Equation Modeling (SEM) was applied. This was conducted on IBM SPSS Amos 26 to explore whether psychopathy, sadism, and general maladaptive personality mediated the relationship between proclivity to abuse animals and aggression motivation, notably proactive and reactive aggression. Several indices indicated that the initial model had a poor fit: GFI = 0.90; CFI = 0.76; RMSEA = 0.33;  $\chi^2_{(3)} = 55.65$ ,  $p < 0.001$ .

**Table 1.** PET, AAPs, PAPA, SSIS, LPFS, and RPQ scores overall and across subscales.

Measure	Overall <i>M</i> ( <i>SD</i> / <i>n</i> )	Scale <i>α</i>
Proclivity for animal abuse total	2.1 (4.2/162)	0.83
Proclivity thrill*	0.25 (0.68/162)	–
Proclivity power*	1.07 (2.6/162)	–
Proclivity to self-complete*	0.49 (1.49/162)	–
Proclivity to enjoy*	0.26 (1.04/162)	–
PAPA Total	55.8 (13.9/162)	0.87
PAPA: Dissocial	11.1 (3.68/162)	0.70
PAPA: Emotional detachment	8.4 (3.7/162)	0.79
PAPA: Disregard for others	11.7 (4.1/162)	0.66
PAPA: Responsivity to aggression	13.3 (4.5/162)	0.75
LPFS Total	4.25 (2.84/162)	0.77
Sadistic Impulsive Scale	8.28 (12.4/162)	0.83
RPQ – Proactive Aggression	1.31 (1.74/162)	0.65
RPQ – Reactive Aggression	8.1 (3.5/162)	0.79

\*Subscales repeat six questions in accordance to different vignette and thus *α* not computed.

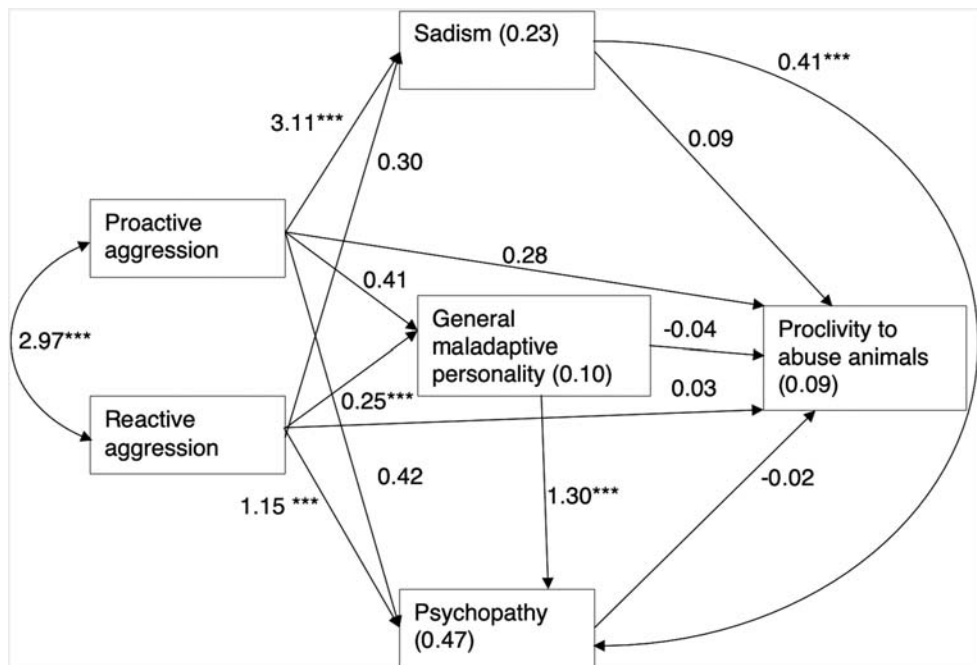
**Table 2.** Correlation coefficients for relationships between proactive aggression, reactive aggression, psychopathy, sadism, general maladaptive personality, and proclivity to abuse animals ( $n = 162$ ).

	1	2	3	4	5	6
1. Reactive aggression	–					
2. Proactive aggression	0.49**	–				
3. Psychopathy	0.51**	0.41**	–			
4. Sadism	0.30**	0.48**	0.54**	–		
5. General maladaptive personality (LPFS)	0.32**	0.18*	0.46**	0.25**	–	
6. Proclivity to abuse animals	0.11	0.21**	0.12	0.27**	0.04	–

\*\* $p < 0.01$ ; \* $p < 0.05$ .

Consistent with the modification indices, specifically regression weights, and the conceptual understanding of psychopathy (e.g., Ireland et al., 2020; Strickland et al., 2013), two direct paths were added from sadism and general maladaptive personality to psychopathy. This improved model indices to an acceptable level: GFI = 0.99; CFI = 0.98, RMSEA = 0.15;  $\chi^2_{(1)} = 4.81$ ,  $p < 0.05$  (Schreiber et al., 2006).

Figure 1 shows the unstandardized path values and associated levels of significance for the amended structural model. The mediating role of sadism, general maladaptive personality, and psychopathy was examined using a bootstrap estimation approach (Hoyle, 2014). Results indicated that proactive aggression was associated with sadism, which in turn was associated with proclivity to abuse animals (unstandardized effect = 0.27, 95%CI [0.00, 0.83]). The indirect effects of proactive aggression on proclivity to



**Figure 1.** Estimated SEM with unstandardized path coefficients. R-Squared values are presented in parentheses (nb. All endogenous variables are associated with errors, which for simplicity are not shown in this figure). \*\*\* $p < 0.001$ .

abuse animals via psychopathy (unstandardized effect =  $-0.01$ , 95%CI  $[-0.12, 0.01]$ ) and general maladaptive personality (unstandardized effect =  $-0.00$ , 95%CI  $[-0.07, 0.04]$ ) were not statistically significant. Reactive aggression presented with no significant indirect effect on proclivity to abuse animals through sadism (unstandardized effect =  $0.03$ , 95%CI  $[-0.02, 0.18]$ ), general maladaptive personality (unstandardized effect =  $-0.01$ , 95%CI  $[-0.08, 0.07]$ ), or psychopathy (unstandardized effect =  $-0.02$ , 95%CI  $[-0.09, 0.04]$ ).

The current study demonstrates how current proclivity to abuse animals is around one-third overall. It thus demonstrates that an interest in animal abuse is reported by a sizeable proportion of adult women in the current sample. The finding that proclivity to engage in animal abuse associated more with proactive than reactive aggression demonstrates proclivity to be a more planned and controlled form of aggression. These findings support proactive aggression as a core feature of proclivity to abuse. It does not support suggestions that emotional under-regulation is a core factor in explaining animal abuse (Parfitt & Alleyne, 2018a), certainly not for adult women. Indeed, this finding, coupled with the notable associations between abuse proclivity and sadism, provides more compelling evidence that animal abuse is “callous aggression” (Dadds et al., 2006) and not reactive aggression characterized by emotional dyscontrol. This is consistent more with the emerging picture in the literature that animal abuse, in this instance proclivity, is linked to more instrumental (proactive) aggression and general callousness (e.g., Gupta, 2008).

It also supports general findings that sadism, as a more discrete and extreme form of callousness and lack of caring (O'Meara et al., 2011), is associated with a range of aggressive and antisocial behaviors (Anderson & Marcus, 2019). This now extends to animal abuse proclivity. The finding that sadism presents as relevant to the proclivity to abuse and proactive aggression relationship highlights the importance of callousness and enjoyment in distress-driven traits. This suggests, overall, that animal abuse proclivity is a more controlled form of aggression among adult women, one driven less by broader antisocial and/or maladaptive personality components (e.g., psychopathy, maladaptive personality functioning; Kavanagh et al., 2013) and more by a unique set of callous personality traits. This will be explored in more detail in the ensuing study. The next study builds on the findings regarding sadism by expanding to a broader focus on callous-unemotional traits. This again captures psychopathy traits, to determine further validation of the current findings and if this concept can be fully excluded.

## Study 2

### Methods

#### Ethics

Ethical approval was obtained from the University of Central Lancashire ethics committee.

#### Participants

One hundred and fifty-nine adult women from the general population took part, with one removed due to them being a multivariate outlier. The average age was 28.9 years ( $SD =$

9.6). Of the participants, 74.7% ( $n = 118$ ) were current pet owners. The non-response rate, calculated as those starting but *not* proceeding to complete, was 29.8%.

### Procedure

The procedure was as per study 1.

### Measures

The PAPA, RPQ, and AAPS were included, as for the prior study. In addition, the Inventory of Callous Unemotional Traits (ICU: Frick, 2004) was used. This comprises 24 items across three domains: Callousness (e.g., “I do not care who I hurt to get what I want”), Unemotional (e.g., “I do not show my emotions to others”), and Uncaring (“I feel bad or guilty when I do something wrong” (reversed). Responding was based on a 4-point scale, ranging from 0 (not at all true) to 3 (definitely true).

### Results and Discussion

Almost two-thirds (62.7%,  $n = 99$ ) reported at least some proclivity (i.e., interest in/predisposition) to abuse animals. Table 3 presents scores across all measures, along with scale reliability. Table 4 presents correlations across measures.

A SEM was conducted using the same software as that outlined in the prior study. This explored whether psychopathy and callous and unemotional traits mediated the relationship between proclivity to abuse animals and proactive and reactive aggression. Model fit indices demonstrated the model had a poor fit, which could not be further improved as this would misalign the model with current theoretical understanding (e.g., Dadds et al., 2006): GFI = 0.82, CFI = 0.52, RMSEA = 0.88, is  $\chi^2_{(1)} = 123.28$ ,  $p < 0.001$ . Unstandardized path values and associated levels of significance for the structural model are presented in Figure 2.

The mediating role of psychopathy and callous and unemotional traits (ICU total score) was investigated using a bootstrap estimation approach. Proactive aggression was found

**Table 3.** AAPS, PAPA, ICU, and RPQ scores overall and across subscales.

Measure	Overall <i>M</i> ( <i>SD</i> / <i>n</i> )	Scale $\alpha$
Proclivity for animal abuse total	5.61 (9.6/158)	0.92
Proclivity thrill*	1.17 (3.4/158)	–
Proclivity power*	3.14 (5.12/158)	–
Proclivity to self-complete*	0.87 (1.80/158)	–
Proclivity to enjoy*	0.41 (1.55/158)	–
PAPA Total	52.4 (13.9/158)	0.86
PAPA: Dissocial	13.4 (4.2/158)	0.74
PAPA: Emotional detachment	11.8 (1.77/158)	0.74
PAPA: Disregard for others	10.1 (4.0/158)	0.78
PAPA: Responsivity to aggression	11.6 (4.1/158)	0.77
ICU Total	16.2 (8.4/158)	0.86
ICU Callous	3.8 (3.3/158)	0.72
ICU Uncaring	6.2 (3.9/158)	0.80
ICU Unemotional	6.2 (3.4/158)	0.83
RPQ – Proactive Aggression	1.21 (2.1/158)	0.83
RPQ – Reactive Aggression	6.51 (3.8/158)	0.83

\*Subscales repeat six questions in accordance to different vignette and thus  $\alpha$  not computed.

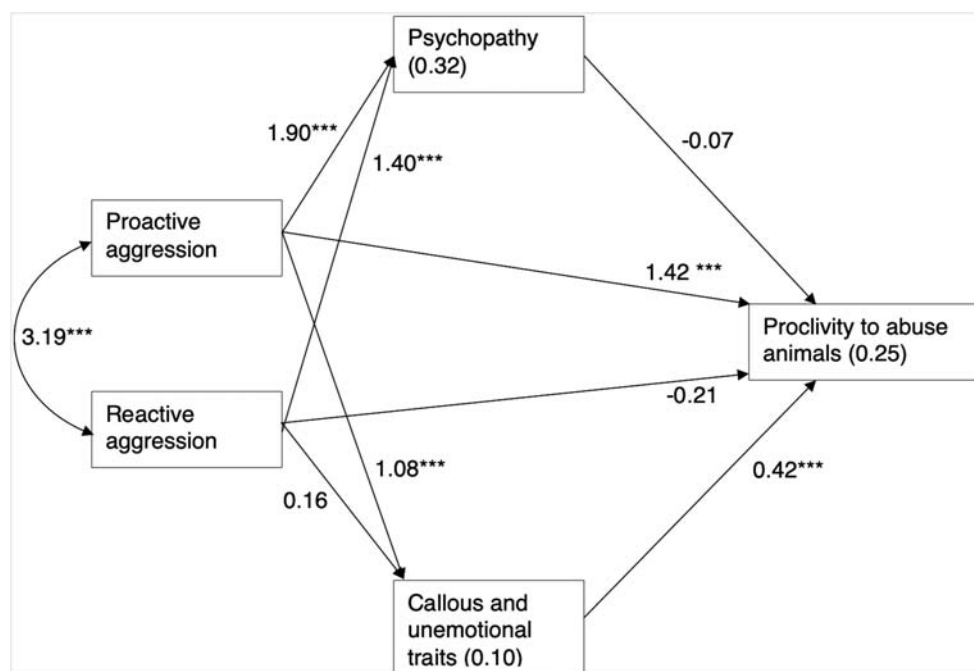
**Table 4.** Correlation coefficients for relationships between proactive aggression, reactive aggression, psychopathy, callous and unemotional traits, and proclivity to abuse animals ( $n = 158$ ).

	1	2	3	4	5	6	7	8
1. Reactive aggression	–							
2. Proactive aggression	0.40**	–						
3. ICU total (callous and unemotional traits)	0.18*	0.31**	–					
4. ICU Callous	0.14	0.37**	0.81**	–				
5. ICU Uncaring	0.21**	0.29**	0.83**	0.56**	–			
6. ICU Unemotional	0.06	0.06	0.71**	0.36**	0.34**	–		
7. Psychopathy	0.50**	0.45**	0.74**	0.66**	0.63**	0.44**	–	
8. Proclivity to abuse animals	0.06	0.35**	0.38**	0.40**	0.32**	0.18*	0.27**	–

\*\* $p < 0.01$ ; \* $p < 0.05$ .

to have a statistically significant indirect effect on proclivity to abuse animals via callous and unemotional traits (unstandardized effect = 0.46, 95%CI [0.06, 1.30]). However, the indirect effects of proactive aggression on proclivity to abuse animals through psychopathy were not significant (unstandardized effect =  $-0.13$ , 95%CI [ $-0.79$ ,  $0.14$ ]). Reactive aggression presented with no significant indirect effect on proclivity to abuse animals via callous and unemotional traits (unstandardized effect =  $0.07$ , 95%CI [ $-0.12$ ,  $0.31$ ]) or psychopathy (unstandardized effect =  $-0.09$ , 95%CI [ $-0.36$ ,  $0.16$ ]).

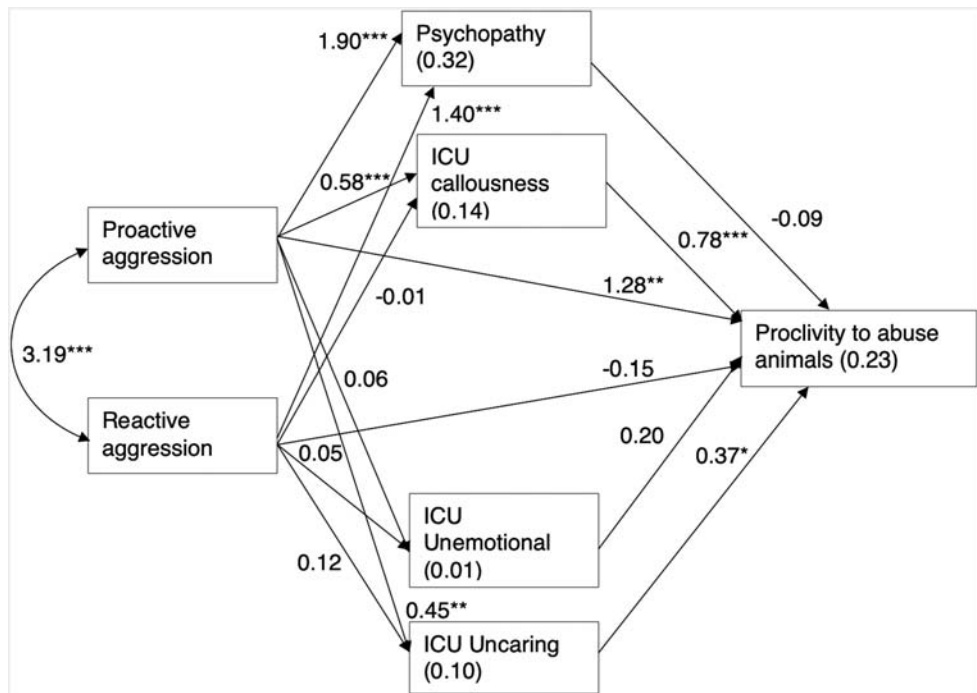
A further SEM was conducted to investigate whether the specific domains underpinning callous and unemotional traits (i.e., ICU callousness, ICU unemotional, and ICU

**Figure 2.** Estimated SEM with unstandardized path coefficients. R-Squared values are presented in parentheses (nb. All endogenous variables are associated with errors, which for simplicity are not shown in this figure). \*\*\* $p < 0.001$ .

uncaring) and psychopathy mediated the relationship between proclivity to abuse animals and proactive and reactive aggression. The model demonstrated an inadequate fit, which could not be structurally improved. As previously noted, modification would deviate the model from theoretical understanding: GFI = 0.70, CFI = 0.44, RMSEA = 0.46,  $\chi^2_{(6)} = 205.36$ ,  $p < 0.001$ <sup>1</sup>. Figure 3 presents the unstandardized path values and associated levels of significance for this structural model.

Applying a bootstrap estimation approach, findings indicated that proactive aggression presented with no statistically significant indirect effect on proclivity to abuse animals via psychopathy (unstandardized effect = -0.18, 95%CI [-0.89, 0.10]), ICU callousness (unstandardized effect = 0.46, 95%CI [0.00, 1.40]), ICU unemotional (unstandardized effect = -0.01, 95%CI [-0.03, .018]), or ICU uncaring (unstandardized effect = 0.17, 95%CI [-0.03, 0.62]). This was also the case for reactive aggression, with no significant indirect effects on proclivity to abuse animals noted (i.e., psychopathy [unstandardized effect = -0.13, 95%CI [-0.41, 0.12]], ICU callousness [unstandardized effect = -0.01, 95%CI [-0.23, 0.11]], ICU unemotional [unstandardized effect = 0.01, 95%CI [-0.02, 0.11]], uncaring [unstandardized effect = 0.05, 95%CI [-0.02, 0.19]]).

A clear theme emerging from the studies was the association between animal abuse proclivity and proactive (not reactive) aggression. This continues to support an argument that animal abuse, in this instance proclivity, is consistent more with controlled aggression (e.g., Gupta, 2008) than that driven by emotional dysregulation. Again, there



**Figure 3.** Estimated SEM with unstandardized path coefficients. R-Squared values are presented in parentheses (nb. All endogenous variables are associated with errors, which for simplicity are not shown in this figure). \*\*\* $p < 0.001$ ; \*\* $p < 0.01$ ; \* $p < 0.05$ .

would not appear to be support for the argument that animal abuse is characterized by poor emotional control (Parfitt & Alleyne, 2018a). It would also appear that personality is becoming recognized as, potentially, a core factor associated with animal abuse. This appears limited to traits associated with callousness and unemotional traits overall (i.e., overall ICU). There appeared to be some parallels between the current results and those of sadism in the prior study, with sadism a narrower application of callous and unemotional traits. It is also worth noting that correlational analysis indicated positive associations between all three scales of the ICU (callousness, uncaring, and unemotional) and increased proclivity, with the largest correlations in relation to callousness and uncaring. Interestingly, psychopathy traits were not mediators of the proactive aggression-animal abuse proclivity relationship, highlighting again how it was a specific element of personality (ICU overall) that appeared to be contributing, with proactive aggressive having an indirect effect on proclivity to abuse, but only via overall ICU traits. Overall, the results are continuing to provide evidence of animal abuse, in this instance proclivity, as associated with callous-unemotional aggression (Dadds et al., 2006; Gupta, 2008) for adult women, and thus associated with empathy deficits (Alleyne & Parfitt, 2019). The association with proactive aggression is perhaps unsurprising as this is characterized by emotional detachment (Ireland et al., 2020; Kimonis et al., 2006). It certainly indicates a role for specific individual traits, such as those aligned to empathy, as clearly important in understanding the proclivity to abuse animals. In this way, it offers support for the individual factors proposed by Agnew (1998), as part of the SPMAA.

## General Discussion

Current proclivity (i.e., interest in/predisposition) to abuse was notable in the current studies. Although there was some variability, it can be concluded that at least some proclivity to abuse existed in between one- to two-thirds of the adult women sampled. Of course, the conversion of proclivity to actual abuse remains undetermined. Rather, it is the propensity to show willingness to consider that there are positive aspects or outcomes linked to animal abuse which is captured here. Indeed, it could be argued that what is ultimately being captured by the measurement of “proclivity to abuse” is more of a personality-related construct focused on animal abuse *potential*, regardless of conversion to actual abuse. This is not dissimilar to personality assessments such as sadism, where endorsement of sadistic traits does not mean engagement in sadism. What becomes of interest are the barriers, or protective factors, preventing conversion from beliefs or interests to behavior and, equally, what promotes conversion to actual abuse. These are, as yet, unexplored.

A consistent finding that has emerged is the association between proclivity to abuse and aggression (e.g., Febres et al., 2012; Flynn, 2011; Gupta, 2008; Parfitt & Alleyne, 2016), notably proactive aggression. Thus there was support for the prediction that an increased proclivity to abuse animals is associated with increased levels of proactive aggression. This was considered a likely outcome owing to the association between proactive aggression and emotional detachment (Ireland et al., 2020; Kimonis et al., 2006). This appeared a key issue, with personality relating to emotional detachment emerging as particularly important and, again, supporting Agnew’s (1998) SPMAA.

The association between personality and animal abuse proclivity appeared localized; it linked to personality capturing the broader array of callousness-unemotional traits and sadistic tendencies. It was not, however, associating with general maladaptive personality functioning challenges, including psychopathy traits, as expected from the literature (Kavanagh et al., 2013). This was also not consistent with the prediction we made. Rather, it associated more with sadism, as we predicted, and ICU traits. The dominating personality structure was certainly that of sadism and the combination of callousness-uncaring-unemotional traits (total ICU) and not psychopathy or general personality functioning challenges. Although the correlations indicated a greater association with sadism, callousness, and uncaring than the unemotional element of ICU, the SEM demonstrated that it was the global collection of ICU traits contributing to the aggression-proclivity relationship, with proactive aggression having an indirect effect on proclivity via ICU. Indeed, the prediction that increased sadism, psychopathy, and callousness would mediate the relationship between aggression and animal abuse proclivity was supported only in relation to sadism and ICU globally *and* associated with proactive aggression. A larger sample could perhaps reveal more in relation to the correlational analyses noted, but the effect individually of each contributing element of the ICU is not currently evidenced.

Consequently, there appears a picture emerging of animal abuse proclivity as representative more of “callous-unemotional aggression” as a global construct (Dadds et al., 2006) among adult women. The suggestion this is driven by emotional dysregulation and/or emotional suppression (Parfitt & Alleyne, 2018a) is simply not borne out by our findings. Rather, there is consistency more with theoretical applications that incorporate both the Violence Inhibition Model (VIM: Blair, 1995, 2001) and the General Aggression Model (GAM: Anderson & Bushman, 2002). Regarding the former, it is perhaps the failure to respond to distress cues that could be considered a potential driving feature in abuse. It could be speculated, based on the current findings, that it is more global callousness-uncaring traits and/or sadistic propensity facilitating failure to respond to distress cues. Of course, this argument is based on an acceptance that humans are able to detect distress cues in nonhuman animals, regardless of whether they act accordingly. The determination of distress cues in nonhuman animals is extremely varied across species. Although there has been research considering human responses to negative animal vocalizations (Parsons et al., 2019), there has, to date, been no empirical consideration of the *knowledge* of animal distress as a factor that could contribute to engagement in animal abuse/propensity to engage in abuse. This is interesting considering that human studies into antisocial responding have shown how human distress (e.g., Facial Affect Recognition; FAR) is a relatively well-captured area of academic interest (Marsh & Blair, 2008). It would also fit as a future research direction that could perhaps address the “ignorance” component thought to potentially contribute to animal abuse, as detailed in the SPMAA (Agnew, 1998).

Indeed, in the animal abuse literature, there appears more of an assumption that humans could reliably determine that an animal is in distress. *Acting* in response to this acknowledgement is a separate consideration, but the assumption that humans can determine animal distress without guidance needs consideration. Capturing knowledge of animal distress cues is thus an invaluable area of future study as we try to advance

the quality of the animal abuse literature (Hawkins et al., 2017) and develop direct interventions that are not based on assumptions. This would also support application of the SPMAA and GAM to animal abuse. Currently, we are able to determine, based on the current findings, that the Person Inputs for the GAM/Individual traits of the SPMAA should comprise callous-uncaring and/or sadistic personality components. In relation to the GAM in particular, if the behavioral outcome applied in the GAM is animal abuse proclivity, then the Person Inputs likely to raise this likelihood are being argued here to represent traits associated with the Dark Tetrad (Anderson & Marcus, 2019; Paulhus et al., 2018), as opposed to the Dark Triad (Paulhus & Williams, 2002). Accounting for the GAM internal routes to aggression (e.g., cognition, affect, arousal), it is being argued here that sadism could proceed through the arousal route via *stimulation* of arousal through animal distress cues, whereas callous-uncaring traits is achieving this through *under-arousal* to distress cues. Clearly there could be a crossover between the two arousal pathways, but both are ultimately promoting proclivity to abuse. What is not captured in the literature, however, and yet is a factor that would fit with the GAM in particular, is the notion of aggression representing a dynamic process. For example, an act of animal abuse would have already occurred for distress cues in the animal to be activated. This then returns discussion to an application of the VIM and response to activated distress cues. In doing so, we are suggesting value in integration of the VIM, SPMAA, and GAM in trying to further our understanding of animal abuse, including proclivity to abuse. It could, for example, be speculated that those with callous-unemotional and sadistic traits may disregard, fail to respond emotionally, and/or become aroused (i.e., sadistic tendencies) by these cues, causing *continuation* of the abuse, whereas those without such tendencies would cease engagement. This would represent a useful future research area to pursue. It also suggests value in considering self-control as an additional variable of interest, since low self-control is identified in the SPMAA as an individual factor promoting animal abuse. Although an association with reactive aggression, a factor more commonly associated with low self-control, appears ruled out by the current findings, an association between (low) self-control and the *continuation* of abuse has not yet been considered.

Directions for future research are offered here in an effort to advance our knowledge of this area and enhance research quality (Hawkins et al., 2017). This is also the first research to specifically focus on an application of aggression motivation to animal abuse *proclivity*. It has obvious limitations, which must be acknowledged. This includes a moderate sample size, likely to have impacted on the quality of the ultimate model indices. In addition, it included a focus on adult women, reliance on self-report, and emphasis on proclivity. Proclivity to abuse, as indicated, is not a guarantee of action, but rather a propensity. It is also an emotive subject. However, the current studies have been able to demonstrate some consistency in findings, noting how proclivity to abuse animals is associated with controlled (proactive) as opposed to uncontrolled (emotional/reactive) aggression, and that personality factors are localized to callousness-uncaring and sadistic components as opposed to broader traits associated with psychopathy and/or personality functioning. The traits of relevance noted here are also not unique to more extreme samples, such as offenders and IPV perpetrators. This suggests several areas of research, including attention more to the role of the Dark Tetrad (Paulhus et al., 2018) and animal distress, as opposed to the Dark Triad. This could help develop empirically driven theory and

inform on intervention that captures the personality components identified here, as opposed to considering animal abuse and its proclivity as a feature of emotional under-regulation or suppression.

## Note

1. Even when attempted, for the sake of completeness, this did not change the significance of indirect effects across any of the analyses.

## Disclosure Statement

No potential conflict of interest was reported by the authors.

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