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The Effect of Sex and Perpetrator-Victim Relationship on Perceptions of Domestic Homicide

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Abstract

Previous research on how stereotypes affect perceptions of intimate partner violence and domestic homicide has found that violence committed by men is perceived as more severe and judged more harshly than violence committed by women. The present mock jury study investigated how perpetrator sex (male or female), crime type (familicide or filicide), and relatedness between perpetrator and child victims (biological or step) affect laypeople's perceptions of the appropriate consequence of the crime, the reason for the offence, responsibility of the perpetrator, the likelihood of certain background factors being present, and the risk of future violence. One hundred sixty-seven university students read eight fictive descriptions of cases of multiple-victim domestic homicides, in which the sex of the perpetrator, the crime type, and the relatedness between the perpetrator and the child victims were manipulated. We found that participants recommended equally severe punishments to and placed the same amount of responsibility on male and female offenders. Female offenders were, however, regarded as mentally ill to a larger extent and perceived more likely to have been victims of domestic violence compared to male offenders. Male offenders, on the other hand, were seen as more likely to have committed domestic violence in the past, having been unemployed, have substance abuse, hold aggressive attitudes, and commit violent acts in the future. Participants also perceived offenders killing biological children as more mentally ill than offenders killing stepchildren. The present study extends the literature on the possible effect of stereotypes on decision making in psychiatric and judicial contexts.

Keywords: domestic violence, homicide, stereotypes, sex, family relationships

The Effect of Sex and Perpetrator-Victim Relationship on Perceptions of Domestic Homicide

Stereotypes held by both laypeople and legal professionals have been shown to affect reactions to criminal offences and influence decision-making throughout the judicial process and, thus, threaten the principle of equality before the law (Kang et al., 2012). Previous research on the influence of extra-legal factors on perceptions of intimate partner violence (IPV) has mainly focused on how perpetrator sex, victim sex, and ethnicity affect the perceived culpability of the offender, perceived severity of the event, victim blaming, and views about potential usefulness of interventions (Mitchell, Haw, Pfeifer, & Meissner, 2005; Rhatigan, Stewart, & Moore, 2011; Russell, Ragatz, & Kraus, 2009; S. M. Seelau & Seelau, 2005; Steffensmeier & Demuth, 2006; Sylaska & Walters, 2014). In addition to the effects of sex, the present study examines the influence of different perpetrator-victim relationships on laypeople's perceptions of the appropriate consequence of the crime, the reason for the offence, responsibility of the perpetrator, as well as the likelihood of certain background factors being present and the risk of future violence in domestic homicide cases.

Sex-related Stereotypes of Violence

Although cultural norms and stereotypes concerning violence and sex are complex, women are generally regarded as non-violent and men as violent (Gilbert, 2002; Straus, 2010). Violent behavior in women is often seen as less serious and less dangerous than comparable behavior in men (Ahmed, Aldén, & Hammarstedt, 2013; Feather, 1996; Hamby & Jackson, 2010; Harris & Cook, 1994; Russell, 2017; S. M. Seelau & Seelau, 2005). Women are also held less responsible for violent behavior in comparison to men (Ahola, Christianson, & Hellström, 2009; Feather, 1996; Hamby & Jackson, 2010; Harris & Cook, 1994; Russell et al., 2009). This has been seen in research on mock juror's evaluations of fictive crimes, as well as in studies retrospectively investigating real-life legal cases of IPV, showing that men are judged more

harshly and punished more severely for violent offences than are women (Ahola et al., 2009; Armstrong, 1999; Curry, Lee, & Rodriguez, 2004; Flynn, Abel, While, Mehta, & Shaw, 2011; Jeffries, Fletcher, & Newbold, 2003; Ragatz & Russell, 2010; Saavedra, Cameira, Rebelo, & Sebastião, 2017; Sorenson & Taylor, 2005). Studies have, for example, shown that male perpetrators of domestic homicide are assigned longer prison sentences than female perpetrators in experimental mock-crime settings (Ahola et al., 2009; Ragatz & Russell, 2010; Saavedra et al., 2017). On the other hand, there are also studies that suggest that men and women receive equal sentencing by mock jurors (Jurik & Silverstein, 2001; Russell & Kraus, 2016).

A common notion is the categorization of offenders as either “mad” or “bad” (Burns, 1992). Within this dichotomy, female violent behavior is often viewed as a consequence of mental illness, whereas male violence is viewed as malicious (Burns, 1992; Saavedra et al., 2017). Perceptions of this type have legal relevance, as many countries allow an insanity defense or have separate legal trajectories for offenders found mentally ill and for those considered criminally accountable. Studies investigating real-life legal cases indicate that, compared to men, women more often use psychiatric pleas, are found not responsible for the crime by reasons of insanity, and receive psychiatric treatment or non-custodial sentences for their crimes (Armstrong, 1999; Flynn et al., 2011; Veysey, 2014; Wilczynski, 1997). For example, Armstrong (1999) investigated a matched sample of homicide cases committed by men and women and found that, out of the psychiatric assessments conducted, 42% of the female offenders and none of the male offenders received psychiatric orders. Additionally, 62% of the female offenders received non-custodial sentences compared to only 10% of the male offenders. It is possible that these discrepancies between the sexes are due to actual sex differences in the prevalence of psychiatric conditions. However, vignette studies manipulating only the sex of the offender while keeping all other factors constant have found that both experienced clinicians and university

students rate fictive female perpetrators as more mental ill, and as more frequently meeting criteria for legal insanity, compared to male perpetrators (Saavedra et al., 2017; Yourstone, Lindholm, Grann, & Svenson, 2008).

When considering criminal responsibility more generally, previous findings suggest that female violence is to a larger degree assumed to be the result of factors placing the responsibility outside the offender, whereas in cases where the perpetrator is male, the responsibility is put on the offender himself. In the aforementioned study by Armstrong (1999) focusing on homicide, both judicial and medical professionals tended to emphasize unfortunate home environments of female offenders. Female offenders were described as having more passive roles in the homicides and their actions were typically explained as accidental and unintentional. In contrast, male offenders were described as frustrated, angry, jealous, and the severity of their actions were emphasized. In experimental vignette studies, it has been found that male perpetrators of IPV are more often perceived to also previously have acted violently (Harris & Cook, 1994; Russell, 2017), whereas female perpetrators are perceived more likely to have been exposed to violence by their partner in their past (Russell, 2017). Furthermore, both male and female perpetrators victimizing females are viewed as more likely to abuse a partner in the future (S. M. Seelau & Seelau, 2005).

Perpetrator-Victim Relationship

Although several studies have investigated the effect of perpetrator sex on perceptions of IPV, few have examined the possible effects of the relationship type between perpetrator and victims. In a study by Saavedra and colleagues (2015), Portuguese college students read vignettes describing either intimate partner homicides or infanticides (killing of children younger than 12 months), where the sex of the perpetrator was manipulated. Contrary to local legislation, students recommended longer prison terms for filicide offenders than offenders of intimate partner

homicides. In their typology of family homicide, Wilson, Daly, and Daniele (1995) separate between three types: intimate partner homicide, filicide (killing of one or more children), and familicide (killing of partner and one or more children). The authors suggest that in intimate partner homicide and familicide, the motive is typically associated with the intimate partner. In contrast, the motive for filicides might include pseudo-altruistic beliefs that the child needs to be saved from unfortunate life circumstances. As can be seen from the aforementioned literature on sex-related stereotypes, third-party evaluations of violence can be affected by assumptions regarding the unknown aspects of criminal events (e.g., the prevalence of previous violent incidents between the perpetrator and the victim). Depending on whether the victims are adults or children, different assumptions regarding the context of the offence can be elicited, which, in turn, might lead to different evaluations.

Relational aspects of familial conflict have been studied within the evolutionary framework and support has been found for the theory that genetic relatedness decreases the risk of conflict (Daly & Wilson, 1988). From an evolutionary viewpoint, biological children are more reproductively valuable to the parent than are stepchildren. Only in the former case, the child shares its parents' genetic material, meaning that natural selection has strongly acted to promote positive investment in biological children (Trivers, 1972). The killing of a biological child would from an evolutionary perspective, therefore, be more maladaptive and, hence, to a larger degree associated with mental illness compared to the killing of a stepchild. The theory on preferential investment in biological children has received support by empirical research where adults have been found to be willing to invest more in biological children compared to stepchildren (e.g., Anderson, Kaplan, Lam, & Lancaster, 1999; Antfolk, Karlsson, Söderlund, & Szala, 2017; Henretta, Van Voorhis, & Soldo, 2014; Kalil, Ryan, & Chor, 2014; Zvoch, 1999). In addition, stepparents are overrepresented as perpetrators of physical and sexual abuse towards their

stepchildren, and the rate of child homicide is higher in step relationships compared to biological relationships (Archer, 2013; Hilton, Harris, & Rice, 2015; Sariola & Uutela, 1996).

Whereas a lot of attention has been paid to how relatedness moderates the risk of various types of familial conflict, no study has to our knowledge investigated how this carries over to third-party evaluations. As earlier discussed, these evaluations can be affected by stereotypical perceptions, which, in turn, can be aligned with our own evolutionarily shaped inclinations.

The Current Study

The aim of the present study was to experimentally investigate the effects of offender sex (male or female), crime type (filicide or familicide), and offender-child relatedness (biological or step) on laypeople's perceptions of fictive familial homicide cases, with regard to adequate legal consequences, moral responsibility, causes, and background factors, as well as the effectiveness of preventive efforts and likelihood of future violence.

Previous research has mainly focused on verdicts or harshness of sentencing when investigating individuals' views of adequate consequences for offenders of IPV or domestic homicide. To investigate the hypothesis that men are perceived to behave violently due to maliciousness, whereas women are perceived to behave violently due to mental illness, participants in the present study were further given the opportunity to recommend psychiatric treatment to the offender and to indicate their beliefs about what caused the offender to act violently (maliciousness or mental illness).

To investigate the hypothesis that greater criminal responsibility is put on men that behave violently, whereas for women, more emphasis is put on circumstantial factors, we extended on previous research by also investigating whether offender sex is connected to which background factors are assumed relevant. Furthermore, if crimes committed by female offenders are more often assumed to be the result of contextual factors than crimes committed by male

offenders, then crimes committed by females might also be viewed as more easily prevented by external measures and less likely to occur in the future.

In addition, the outcome measures mentioned above allowed us to investigate whether the relationships between the perpetrators and the victims affect views of the causes of the criminal events and what background factors are assumed relevant to the offences. Based on the presented literature, we made the following predictions:

Offender sex. Male offenders would be recommended harsher punishments than female offenders. Also, female offenders would be regarded as mentally ill to a larger extent than male offenders, whereas male offenders would be regarded as malicious to a larger extent than female offenders.

We expected that more moral responsibility would be put on male offenders compared to female offenders. Similarly, we expected that background factors placing the responsibility on the offender (previous violent offending, personality disorder, unemployment, substance abuse, and aggressive attitudes) would be regarded as more prevalent in cases with male offenders. On the other hand, background factors placing the responsibility outside the offender (previous violence victimization, relationship problems, mental disorder, traumatic experience, and lack of personal and social support) would be regarded as more prevalent in cases with female offenders. We also expected that preventive efforts would be considered more effective for female perpetrators than for male perpetrators and that male offenders would be considered more likely to commit violent acts in the future.

Crime type. Previous domestic violence (perpetration and victimization) would be regarded as more prevalent in cases of familicide compared to cases of filicide, while lack of personal and social support would be considered more prevalent in cases of filicide compared to cases of familicide. We further explored how the crime type affected perceptions of the adequate

consequence and the main cause (mental illness and maliciousness) of the crime, the moral responsibility of the offender, other background factors of the crime, preventive efforts, and the likelihood of future violent offending.

Relatedness. Offenders killing biological children would be regarded as mentally ill to a larger degree than offenders killing stepchildren. Finally, we explored how relatedness affected assumptions regarding severity of punishment, maliciousness, moral responsibility, background factors of the crime, preventive efforts, and the likelihood of future violent offending.

Method

Participants

The sample consisted of 167 university students (26% male) with the mean age of 25.37 ($SD = 6.73$). The students were recruited through e-mail lists at the University of Turku, Finland. Psychology and law students were not included in order to limit familiarity with the investigated phenomenon. Furthermore, only participants who completed the whole survey were included in data analyses.

Participation was voluntary and anonymous and the study was approved by the Institutional Review Board of the Department of Psychology and Logopedics at Åbo Akademi University.

Materials

Vignettes. The vignettes described fictive cases of familial homicide. All vignettes had the same structure and similar length (six to ten sentences) and contained some demographic information about the individuals involved, the relationships between them, and the modus operandi of the crime. No information was given about the offenders' past. Examples of vignettes can be accessed at osf.io/9zahj at the Open Science Framework (OSF).

Dependent variables. In connection to each vignette, the participants were presented with eight questions (the specific questions and response options can be accessed at osf.io/9zahj at the OSF). Question 1 (concerning recommended consequence), Question 2 (malicious or mentally ill), Question 3 (degree of maliciousness), and Question 4 (degree of mental illness) were based on the measures used in the study by Saavedra and colleagues (2017).

The background factors presented in Question 5 were retrieved from the Historical Clinical Risk Management-20, Version 3 (Douglas, Hart, Webster, & Belfrage, 2013), which consists of items that in previous research have been found to increase the risk of violent offending. The items are categorized into a historical scale, a clinical scale, and a risk management scale. For the purpose of the present study, all historical items, except for *other antisocial behavior* and *treatment and supervision response* were used to formulate questions on how likely the participants found a particular background factor to have been present before the crimes presented in the vignettes. In addition, the historical item *history of violence* was split into two questions (one about perpetration and one about victimization) and the item *personal support* from the risk management scale was included.

Question 6, 7, and 8 were formulated to examine how morally responsible for the crime the participants found the perpetrator, whether they thought that preventive efforts would be effective, and how likely they found it that the offender would commit a violent crime in the future.

Design and Independent Variables

The study employed a 2 x 2 x 2 within-subjects design by orthogonally manipulating the independent variables offender sex (male; female), crime type (filicide; familicide), and the perpetrator-child relatedness (biological; step) in the case descriptions of familial homicides. All participants were administered all conditions.

As the manipulation resulted in eight conditions, eight different crime scenarios were created. To control for the influence of the scenario on the results, the vignettes were created so that every condition appeared in every scenario once. This resulted in a total of 64 vignettes (8 [Crime scenario] x 8 [Condition]). The 64 vignettes were divided into eight surveys, each containing eight different crime scenarios and eight different conditions. In this way, each participant could be presented with all of the conditions, but the crime scenario that a particular condition appeared in varied between individuals.

Procedure

The data was collected during a two-week period in the year 2016, from November 8th through November 22nd. A stopping rule of limiting the data collection to two weeks was decided on beforehand and participants that responded after this period were not included. After removing individuals that had not completed the whole survey within the two-week period, 167 participants remained. The survey was administered online and an invitation to participate in the study was sent via e-mail. The invitation included general information about the study and eight links, one to each survey version. A time range (the calendar year divided into eight periods) accompanied each link and the participants were asked to choose the link next to the date range that included their birthday. This was done in order to distribute the participants to the different survey versions.

Participants were first presented with instructions on how to complete the survey and a forewarning concerning the fact that the survey included descriptions of homicide cases that might be upsetting. At this stage, the participants also gave their informed consent to take part in the study. Next, eight different vignettes were presented one at a time to the participant. After each vignette, the participants were asked to answer the eight questions. The order of the vignettes was randomized between participants. Finally, at the end of the survey, the participants

were given contact information in case they had any questions or considerations regarding the study. The students did not receive any compensation for their participation.

Statistical Analyses

In order to account for the dependency between responses within individuals, (generalized) linear mixed-effects modeling (GLMM) with the `glmer` function in the `lme4` package in R (Bates, Maechler, Bolker, & Walker, 2015; R Core Team, 2015) was used for statistical analysis of the data. In all analyses, participant and crime scenario were included as random factors.

As some studies suggest that the sex of the observer affects perceptions of IPV with female participants rating violent incidents as more severe and more often rendering guilty verdicts than male participants (Ahmed et al., 2013; Hamby & Jackson, 2010; Harris & Cook, 1994; E. P. Seelau, Seelau, & Poorman, 2003; S. M. Seelau & Seelau, 2005), preliminary analyses were carried out to investigate main effects of respondent sex as well as interaction effects between respondent sex and perpetrator sex on all dependent measures. In these analyses, respondent sex (male; female) and perpetrator sex (male; female) and their interaction term were included as fixed factors.

In the main analyses, the fixed factors constituted perpetrator sex (male; female), crime type (filicide; familicide), perpetrator-child relatedness (biological; step), and their interaction terms. Separate `glmer` analyses for each dependent measure were conducted.

For the question concerning recommended legal consequence of the crime (Question 1), the alternative “No punishment” was not chosen once and, hence, the alternative was omitted from the statistical analyses. Furthermore, the question was split into two dependent measures as inpatient psychiatric treatment is a qualitatively different consequence of the crime than the other

alternatives presented¹. The first of these two dependent measures was dichotomous and indicated whether the participants had recommended inpatient psychiatric treatment or not. The other dependent measure consisted of the responses that concerned severity of punishment for the cases in which the participants did not recommend inpatient psychiatric treatment (community service; up to five years in prison; 5-15 years in prison; 15-25 years in prison; life in prison; death penalty).

The question regarding preventive efforts was coded as a dichotomous variable indicating whether the participants had chosen the alternative *nothing could have prevented the crime* or any of the preventive efforts suggested.

Results

Descriptive information regarding the participants' responses is presented in Table 1. The preliminary analyses showed no significant main effect of respondent sex or interaction effect between respondent sex and offender sex on any of the dependent measures. In the following sections, test statistics for significant results from the main analyses are presented. The complete results from the statistical models can be accessed at <URL> at the OSF.

¹ In Finland, where the present study was conducted, individuals found not criminally responsible for the crime and evaluated as needing psychiatric treatment are not sentenced by the court (Eronen, Repo, Vartiainen, & Tiihonen, 2000).

Table 1

Descriptive Information Regarding the Participants' Responses

		Female offender (n = 668)				Male offender (n = 668)				Total (N = 1336)			
		n	%	M ^a	SD	n	%	M ^a	SD	n	%	M ^a	SD
Consequence	No punishment	0	0.00			0	0.00			0	0.00		
	Inpatient psychiatric treatment	160	23.95			119	17.81			279	20.88		
	Community service	5	0.75			4	0.60			9	0.67		
	Up to 5 years of imprisonment	8	1.20			6	0.90			14	1.05		
	5-15 years of imprisonment	86	12.87			86	12.87			172	12.87		
	15-25 years of imprisonment	126	18.86			138	20.66			264	19.76		
	Life in prison	265	39.67			294	44.01			559	41.84		
	Death penalty	18	2.69			21	3.14			39	2.92		
Main cause	Maliciousness	249	37.28			303	45.36			552	41.32		
	Mental illness	419	62.72			365	54.64			784	58.68		
Maliciousness				8.45	1.71			8.65	1.58			8.55	1.65
Mental illness				8.43	1.97			8.08	2.20			8.25	2.10
Moral responsibility				8.91	1.53			9.16	1.26			9.03	1.40
Background factors	Domestic violent offending			6.05	2.39			7.23	2.22			6.64	2.38
	Domestic violence victimization			6.12	2.01			5.66	2.19			5.89	2.11

		Female offender (<i>n</i> = 668)				Male offender (<i>n</i> = 668)				Total (<i>N</i> = 1336)			
		<i>n</i>	%	<i>M</i> ^a	<i>SD</i>	<i>n</i>	%	<i>M</i> ^a	<i>SD</i>	<i>n</i>	%	<i>M</i> ^a	<i>SD</i>
	Relationship problems within the family			7.97	1.85			8.01	1.87			7.99	1.86
	Mental disorder			8.03	2.08			7.56	2.23			7.79	2.17
	Personality disorder			7.49	2.23			7.50	2.15			7.50	2.19
	Unemployment			4.61	2.19			5.32	2.21			4.96	2.22
	Substance abuse			5.76	2.32			6.65	2.15			6.21	2.28
	Traumatic experience in the past			6.38	2.23			6.12	2.14			6.25	2.19
	Lack of personal and social support			7.44	2.19			7.15	2.18			7.30	2.19
	Aggressive attitudes			7.03	2.38			7.67	2.13			7.35	2.28
Preventive effort	Social support from friends and family	128	19.16			117	17.51			245	18.34		
	Social support from authorities	128	19.16			143	21.41			271	20.28		
	Psychological intervention	329	49.25			288	43.11			617	46.18		
	Medical intervention	29	4.34			34	5.09			63	4.72		
	Financial support	4	0.60			12	1.80			16	1.20		
	Nothing could have prevented the crime	50	7.49			74	11.08			124	9.28		
Future offending ^b				5.92	2.41			6.67	2.17			6.29	2.32

^aRange 0-10. ^bResponses from one participant missing (total *n* responses missing = 8) due to misunderstanding of the question.

Offender Sex

Crime Consequence. The GLMM analyses showed that female offenders were recommended inpatient psychiatric treatment more often than male offenders, $B = 0.43$, $SE = 0.11$, $z = 3.99$, $p < .001$. However, there was no statistically significant effect of the offender's sex on the severity of punishment recommended.

Main cause. The sex of the offender had an effect on what the participants perceived as the main cause of the crime. In the forced choice between maliciousness and mental illness, participants chose mental illness as the reason for the crime more often for female offenders than for male offenders, $B = 0.26$, $SE = 0.07$, $z = 3.81$, $p < .001$. Participants were further asked separately how malicious and how mentally ill they regarded the offenders. Female offenders were perceived as mentally ill to a larger degree than male offenders, $B = 0.02$, $SE = 0.01$, $z = 2.24$, $p = .025$, but the sex of the offender did not have a statistically significant effect on how malicious the offender was perceived.

Moral responsibility. Offender sex did not have a statistically significant effect on the perceived moral responsibility of the offender.

Background factors. Participants perceived that, compared to male offenders, female offenders were less likely to have a background of domestic violent perpetration, $B = -0.09$, $SE = 0.01$, $z = 8.56$, $p < .001$, but more likely to have a background of domestic violence victimization, $B = 0.04$, $SE = 0.01$, $z = 3.38$, $p < .001$. Furthermore, female offenders were perceived more likely to have a background of mental disorder (e.g., depression or schizophrenia), $B = 0.03$, $SE = 0.01$, $z = 3.12$, $p = .002$, and less likely to have been unemployed, $B = -0.07$, $SE = 0.01$, $z = 5.86$, $p < .001$, have a substance abuse problem, $B = -0.07$, $SE = 0.01$, $z = 6.67$, $p < .001$, and hold aggressive attitudes, $B = -0.04$, $SE = 0.01$, $z = 4.39$, $p < .001$.

Contrary to our predictions, there was no significant effect of offender sex on the perceived likelihood of relationship problems, personality disorder, previous traumatic experiences, and lack of social support.

Prevention. The results from the analysis regarding preventive efforts (any preventive effort chosen as effective; nothing could have prevented the crime) showed that participants less often chose the alternative *nothing could have prevented the crime* for female offenders than for male offenders, $B = -0.36$, $SE = 0.13$, $z = 2.86$, $p = .004$.

Future violent offending. The participants perceived it as less likely that the female offenders would commit violent crimes in the future, $B = -0.06$, $SE = 0.01$, $z = 5.63$, $p < .001$, compared to the male offenders.

Crime Type

Contrary to our hypotheses, there was no effect of crime type (filicide; familicide) on the perceived likelihood of the offender having a history of domestic violence perpetration, domestic violence victimization, or lack of personal and social support. On the other hand, the analyses showed that relationship problems were regarded as more likely in cases of familicide ($M = 8.21$, $SD = 1.68$) compared to filicide ($M = 7.76$, $SD = 2.00$), $B = 0.03$, $SE = 0.01$, $z = 2.92$, $p = .003$. We did not, however, have an a priori hypothesis regarding this effect. We found no statistically significant effect of crime type on the remaining dependent variables.

Relatedness

In accordance with our hypotheses, offenders killing biological children were more frequently recommended inpatient psychiatric treatment (24%) compared to offenders killing stepchildren (18%), $B = 0.40$, $SE = 0.11$, $z = 3.68$, $p < .001$. In the forced choice question, participants more often chose mental illness as the cause of the crime when the offender killed biological children (64%) than when stepchildren were killed (54%), $B = 0.31$, $SE = 0.07$, $z =$

4.51, $p < .001$. They also perceived it more likely that the offender had a history of mental disorders when he or she killed biological children ($M = 7.95$, $SD = 2.10$) compared to step children ($M = 7.64$, $SD = 2.23$), $B = 0.02$, $SE = 0.01$, $z = 2.05$, $p = .040$. However, relatedness between the offender and the child did not significantly affect the degree to which the participant found the offender mentally ill at the time of the crime.

We also observed that relationship problems within the family were regarded as less likely when the victims were biological children ($M = 7.81$, $SD = 1.93$) compared to when they were stepchildren ($M = 8.17$, $SD = 1.77$), $B = -0.02$, $SE = 0.01$, $z = 2.39$, $p = .017$. Further, participants considered it less likely that the offenders who killed biological children ($M = 6.15$, $SD = 2.31$) would commit violent crimes in the future, compared to offenders killing step children ($M = 6.44$, $SD = 2.33$), $B = -0.02$, $SE = 0.01$, $z = 2.22$, $p = .027$. It should be noted that we did not have a priori hypotheses concerning these effects. No other statistically significant effects of perpetrator-child relatedness emerged.

Discussion

In the current study, we experimentally investigated perceptions of familial homicide cases in a sample of university students. More specifically, we examined how the perpetrator's sex (male or female), the crime type (filicide or familicide), and perpetrator-child relatedness (biological or step) affected perceptions of familial homicides.

The Effect of Perpetrator Sex

Contrary to predictions, the sex of the perpetrator did not affect the severity of the punishment recommended by the participants. Previous research in mock crime settings has found that male offenders receive harsher punishments in the form of longer prison sentences than female homicide offenders (Ahola et al., 2009; Ragatz & Russell, 2010; Saavedra et al., 2017). A distinction between previous studies and the present one is that the former ones

included cases where a person killed his or her romantic partner, whereas here, there were two victims of whom at least one was a child. It is possible that the increased gravity of the vignettes decreases the influence of otherwise mitigating factors on judgments of female perpetrated offences, such as beliefs about killing out of self-defense or sympathy towards the offender (Hodell, Wasarhaley, Lynch, & Golding, 2014; Russell, Ragatz, & Kraus, 2010).

Another possible explanation for the difference between the present results and previous results is that participants in the present study could recommend psychiatric treatment instead of punishment. It could be that psychiatric treatment was chosen in the cases where participants otherwise would have indicated a more lenient sentence. On the other hand, also other vignette studies have failed to show a difference between male and female perpetrators in recommended length of prison sentences (Jurik & Silverstein, 2001; Russell & Kraus, 2016). When it comes to verdicts, some studies show that mock jurors are more likely to convict a male offender than a female offender (Harris & Cook, 1994; Hodell et al., 2014), whereas others have found no difference between the sexes (Ragatz & Russell, 2010). The findings on this matter thus appear inconclusive and more research is needed in order to reveal under which circumstances women are treated more leniently than men when it comes to sentencing decisions.

We expected that female offenders would be regarded as mentally ill more often than male offenders, whereas male offenders would be rated as more malicious. In line with this, participants more often chose psychiatric treatment as an appropriate consequence for crimes committed by women compared to those committed by men. Female offenders were also rated higher on mental illness than male offenders. This is consistent with previous research (Saavedra et al., 2017; Yourstone et al., 2008). Our results regarding maliciousness were, however, ambiguous. In a forced choice between maliciousness and mental illness, maliciousness was chosen as the cause of the crime more frequently for male than female offenders, but when rating

the degree of maliciousness, participants did not rate male and female offenders very differently. Hence, the results from the current study do not fully support the notion that female offenders are viewed as mentally ill and male offenders as malicious (Armstrong, 1999; Burns, 1992; Saavedra et al., 2017; Wilczynski, 1997). The equally high ratings of maliciousness might be due to the severe nature of the homicides and the presence of child victims in the cases presented in the present study.

Contrary to our predictions, participants also placed equally high levels of moral responsibility on male and female offenders. These results are inconsistent with the previous literature supporting larger responsibility placed on male offenders (Feather, 1996; Hamby & Jackson, 2010; Harris & Cook, 1994). Some other recent studies have, however, also concluded that offender sex does not affect responsibility ratings (Hodell et al., 2014; Russell, 2017; S. M. Seelau & Seelau, 2005).

We further predicted that participants would view background factors placing the responsibility on the offender (previous violent offending, personality disorder, unemployment, substance abuse, and aggressive attitudes) as more prevalent when the offender was male, whereas background factors that place the responsibility outside the offender (previous violence victimization, relationship problems, mental disorder, traumatic experience, and lack of personal and social support) would be more common for female offenders. In accordance with this prediction, male offenders were more often perceived as having previously committed domestic violence, having been unemployed, having a substance abuse, and holding aggressive attitudes. Female offenders on the other hand were more often assumed to have been victims of violent offending and to have a mental disorder in their background. Relationship problems, personality disorders, traumatic experiences, and lack of support were however viewed as equally likely background factors in both male and female perpetrated homicide cases. Although, in most cases,

participants reported that preventive efforts could be effective in avoiding the homicides to take place, the participants more often reported that nothing could have prevented the crime in cases where the perpetrator was male.

The present study thus finds some differences in the type of background factors that are found relevant to a person committing a homicide depending on the sex of the perpetrator. Furthermore, men were viewed as more likely to commit a violent act in the future. This could be interpreted as indicating that participants viewed violence to be more of a trait in men, while contextual factors play a greater role when women perpetrate violent acts. Previous studies also suggest that violence is perceived as more repetitive in men compared to women (Harris & Cook, 1994; Russell, 2017; S. M. Seelau & Seelau, 2005).

The Effect of Crime Type

In the cases where a spouse was victimized (the familicide condition), we expected that participants would view previous domestic violence (perpetration and victimization) as more prevalent, and lack of support as less prevalent, compared to when only children were victims of the homicidal act (the filicide condition). This was because previous research has argued that homicides where a spouse is killed (regardless of whether there are child victims or not) are distinct from child killing in terms of motives (Wilson et al., 1995). More specifically, in intimate partner homicides and familicides, the motive is more commonly believed to be connected to the spouse, whereas in filicides, the motives stem from other sources such as altruistic beliefs. We did not find any differences in the perceptions regarding previous domestic violence depending on the type of the criminal offence. On the other hand, results showed that relational problems within the family were regarded as a more likely background factor for familicides than filicides.

The Effect of Relatedness

As expected, offenders killing biological children were associated with mental illness to a larger degree than those killing stepchildren. This suggests that the evolutionary prediction that the killing of a biological child is evolutionarily more maladaptive (i.e., biological children are more reproductively valuable than step children) is reflected in perceptions of child killings. Results further showed that relationship problems and future violence were regarded as more likely when the perpetrator killed stepchildren compared to biological children.

Limitations

The present study was conducted as a mock jury design with laypeople as study participants. This means that the participants were not trained in judicial decision-making and that their responses did not lead to any actual consequences for any individuals. In this sense, the present situation is different from that of a judge or jury in a courtroom. Furthermore, the participants were all university students studying in Finland, and hence, generalizations to other populations should be made with caution. However, research comparing student to non-student samples in mock jury settings have revealed few differences between the two (Bornstein, 1999).

Demographic information, such as socioeconomic status or ethnicity was not collected from participants, and thus, no conclusions can be drawn concerning the influence of these variables on the results.

The generalizability of the results is also limited by the fact that only eight vignettes describing severe homicides were presented to the participants. The vignettes that described partner homicide (the familicide condition) included only heterosexual relationships, making it impossible to separate between whether the effects of sex stem from the perpetrator or the victim. Previous research investigating both heterosexual and homosexual relationships has shown that both offender and victim sex have an effect on how an offence is perceived: When the perpetrator is male and the victim is female, the act is perceived as more severe and the perpetrator as more

dangerous than in any other relationship constellation (Hammock, Richardson, Lamm, Taylor, & Verlaque, 2017; Russell, 2017; E. P. Seelau et al., 2003; S. M. Seelau & Seelau, 2005). The sex of the child victims varied along with the scenarios as being either two girls, two boys, or one girl and one boy in the filicide cases, and a girl or a boy in the familicide cases. As crime scenario was both randomized over the different conditions and included as a random factor in all GLMM analyses, the effect of the children's sex on the result should have been minimized.

Because of the relatively small sample, statistical power might be weak especially in higher-order interaction analyses. This increases the risk for Type II errors and, therefore, non-significant findings might indicate both the absence of a true effect, as well as a lack of power to detect small true effects.

Conclusions

The results from the present study employing a mock jury paradigm show that female homicide offenders were associated with mental illness to a larger degree than were male offenders. No difference in the severity of the punishment or the responsibility put on the offender was found between male and female perpetrators. However, some results indicated that the background factors assumed prevalent for female offended cases were such that place the responsibility outside the offender, whereas for men, participants assumed background factors placing the responsibility on the offender more prevalent. Participants also regarded it more likely that offenders who killed their biological children were mentally ill compared to those who killed their stepchildren.

The current study provides experimental evidence of stereotypes in laypeople's perceptions of familial homicide cases. Such perceptions can affect both how offenders and victims of IPV are treated by family, friends, and the general public as well as how authorities and media handle IPV and domestic homicide cases in terms of sentencing and protection. More

research is needed to shed light on the specific circumstances that affect the strength and direction of stereotypes in this context. More research is also needed on how relationship factors between the perpetrator and the victim give rise to stereotyped perceptions in both laypeople and professionals. Previous studies on intervention strategies for increasing the fairness of judgments suggest that some methods can have positive effects, such as acknowledging that individuals, including oneself, are prone to biases or stereotyped thinking, or improving the conditions under which the decisions are made (Kang et al., 2012). Nevertheless, there is still need for research on effective intervention strategies for judges and jurors not to rely on stereotypes in their decision-making.

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