

## ARTICLE

# Number of participants in multiple perpetrator sexual aggressions

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**Abstract**

The present study aims to explore differences between lone, duo and 3+ group sexual aggressions by adult strangers from a Spanish sample based on victims' and offenders' socio-demographic characteristics and sexual offences. Additionally, the study aims to provide evidence of whether duo offences should be considered a different category that MPR and whether we can differentiate them from lone and 3+ group offenders. A sample of 400 sexual stranger offenders whose victims were women over 13 years of age has been analysed to find differences and predictive variables for lone ( $N = 298$ ), duo ( $N = 43$ ) and 3+ group ( $N = 59$ ) sexual aggressions. Kruskal–Wallis tests and chi-squared analysis were used to compare the three groups and then multinomial logistic regression analysis were conducted to identify the predictive variables of group size. Results support previous studies comparing group sexual offences by its size; and that duos could be a singular category with more similarities with multiple perpetrator rape offences (age and ethnicity of offenders, similar violent control and sexual behaviour during the aggression). Some singularities have also been encountered, such as higher levels of alcohol and drug use of the perpetrators; severe consequences of their actions with more injuries to their victims; use of weapons; and less use of vehicles, which can be related to crime locations that are rarely outdoors.

**KEYWORDS**

adult stranger rapists, group rape, multiple perpetrator rape

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## INTRODUCTION

Group sexual offences are extremely violent and cause the victims significant physical and psychological harm (Gidycz & Koss, 1990; Gracia et al., 2008; Porter & Alison, 2006; Woodhams, 2004). Even though these crimes are extremely serious, they have barely been examined from a scientific point of view. Statistics from official sources are also hard to come by in many countries. We estimate that group rape represents between 11% and 27% of all sexual offences committed in a single country. Group sexual offences against women represented 10% of all sexual offences in the United States (Planty et al., 2013); between 11% and 19% in the United Kingdom (Wright & West, 1981); and 23% in Australia (Australian Bureau of Statistics, 2004). In Spain, the first official report providing this type of data revealed that sexual offences by multiple perpetrators represented 4.5% of all sexual offences committed between 2016 and 2019 and that groups, which had a minimum of three perpetrators committed 1.5% of all sexual offences in that same period (Ministry of Interior [MIR], 2019).

Multiple perpetrator rape (MPR) in this article refers to rape involving a minimum of two perpetrators (Horvath & Kelly, 2009). Researchers have begun to scrutinise MPR in recent years, although progress in relation to subtypes, motives, the roles of co-offenders and group dynamics is still scarce. The limited research into MPR has focused on its nature and the differences between MPR and lone-perpetrator offences. Past research shows that these offences are different in various ways: in the perpetrator's and victim's characteristics, the perpetrator's modus operandi, the consequences of the assault for the victim and where the offence took place (Aebi et al., 2012; Amir, 1971; Bijleveld & Hendriks, 2003; Hauffe & Porter, 2009; Morgan et al., 2012; Wright & West, 1981). However, very few studies have focused on the differences between the various types of MPR (da Silva et al., 2013), why multiple perpetrators participate (da Silva et al., 2018) and the role they each play (Clarkson et al., 2020). Knowing more about MPR subtypes and how they each differ is vital to developing effective prevention and response strategies.

This study mainly explores the differences between sexual offences committed by one, two, or three or more perpetrators in a Spanish sample of sexual offences committed by persons who are strangers to the victim. Others have carried out similar studies, but their outcomes are still inconsistent. Studies do not use the same variables to analyse the differences between lone and MPR, what explains that the differences encountered have not a general consensus (i.e., use of weapons, the violence involved in MPR, etc.) (da Silva et al., 2013; Morgan et al., 2012; Park & Kim, 2016). Further evidence is required to determine whether: (i) all types of MPR should be dealt with in the same way; (ii) the motives and explanations for each subcategory are similar; and (iii) different intervention strategies should be implemented depending on the number of perpetrators. This study also aims to ascertain whether sexual offences committed by two perpetrators (duos) are a different category of MPR and whether they differ from sexual offences committed by a lone perpetrator or groups of three or more perpetrators. Previous studies (Amir, 1971; da Silva et al., 2015; Park & Kim, 2016) suggest that duos are a separate category, but further research is nonetheless needed to substantiate this conclusion and to identify the differences between sexual offences committed by duos and those committed by a lone perpetrator or a group of three or more perpetrators.

### Number of offenders involved in multiple perpetrator rape

Some of the research into MPR aims to identify subtypes and as noted above, one of the variables considered is how many perpetrators are involved in the sexual assault. This approach assumes that sexual offences that one, two, or three or more offenders commit are separate categories and are committed for different reasons. As to how they are different, past studies have suggested that the nature, modus operandi in lone-perpetrator offences are different from MPR (Aebi et al., 2012; Amir, 1971; Bijleveld & Hendriks, 2003; Hauffe & Porter, 2009; Morgan et al., 2012; Wright & West, 1981). How violent the assault is and its effects on the victim are more serious in MPR than in lone-perpetrator offences (Gidycz & Koss, 1990; Wright & West, 1981).

Studies on MPR offences have shown that perpetrators may not have committed the offence if they were alone and that their involvement may have been influenced by group dynamics (i.e., peer pressure, constructs of masculinity, humiliation for acting differently, deindividuation and reduced sense of responsibility) (Gidycz & Koss, 1990; Groth & Birnbaum, 1979; Harkins & Dixon, 2010; Wright & West, 1981). Nevertheless, authors disagree as to whether “dyads” or duos should be considered a group. On the one hand, Moreland (2010) exclude dyads from group process research; they argue that dyads have a special bond and involve intimacy (including love), thus making them different to a group. Moreover, Moreland et al. (1994), Moreland, (2010) consider group dynamics (emotions, relations, socialisation and peer influence) and stability (duos are more ephemeral than groups and they form and disband more quickly) to be different in duos than in groups of more than two perpetrators.

On the other hand, Williams (2010) argues that even if some aspects of the group process cannot be studied with dyads, we should not exclude them from that sub-discipline (groups) because many theories in group research can be applied to dyads: social facilitation (Zajonc, 1965, 1980); social loafing (Latané et al., 1977); or social impact theory (Latané, 1981). As a consequence, dyads can be used to study group phenomena such as conformity, obedience, bystanders, and social behaviours (including leadership and followership behaviours) (Williams, 2010).

According to MPR offences, and because theories of group behaviour can be applied to dyads, many authors include dyads in the group sample (Hauffe & Porter, 2009; Porter & Alison, 2006, Ullman, 2007) to ascertain whether duo offences are a subcategory of MPR offences.

## Previous results on the differences between offences involving one, two and three or more perpetrators

Amir (1971) was the first to compare rape cases by duos with rape cases by three or more perpetrators. He found similarities between duos and lone perpetrators, while other characteristic features of duos were similar to those of groups of three or more perpetrators (e.g., the offenders and victims had consumed alcohol, the rape had been planned and multiple sexual acts had been performed). He also found some factors: where the assault occurred (indoors or outdoors) and use of force (or absence of force), were evenly distributed in duos that were in the middle of a continuum between lone-perpetrator and MPR offences.

Recent studies (da Silva et al., 2013; Park & Kim, 2016) have shown significant differences between rape by a lone perpetrator, duos and groups of three or more perpetrators in terms of the offenders, the victims and the characteristics of the offence. With regard to the offenders, lone perpetrators were older than duos and the offenders in groups of three or more perpetrators. Lone perpetrators were more likely to be white European than duos, while groups of more than three perpetrators were more likely to be Afro-Caribbean (da Silva et al., 2013). Duos and groups of three or more perpetrators were mostly lone and unemployed while lone perpetrators were mostly married and had a regular job (Park & Kim, 2016).

In relation to the offence, duos and groups of three or more perpetrators were more likely to use a vehicle, and there was a direct correlation between the size of the group and the duration of the assault (i.e., the larger the group the longer the assault). Duos and groups of three or more perpetrators were more likely to use the “con” approach (approaching the victim before the assault in an attempt to befriend her) (Dale et al., 1977). Lone perpetrators were more likely to use the element of surprise than multiple perpetrators (da Silva et al., 2013). Conversely, Park and Kim (2016) found that groups of three or more perpetrators were more likely to use threats and violence than lone perpetrators, who were more likely to break into the victim's home. Groups of three or more perpetrators were also more likely to use alcohol to lure the victim than lone perpetrators and duos.

In terms of location, lone perpetrators and duos were more likely to assault their victim's outdoors, while groups of three or more perpetrators were significantly more likely to do so indoors. With regard to the sexual acts during the offence, lone perpetrators were more likely to kiss the victim and masturbate than groups of three or more perpetrators as well as force their victim to perform fellatio. Finally, lone

perpetrators and duos were more likely to warn their victims against reporting them to the police than groups of three or more perpetrators, and lone perpetrators were more likely to take precautions to avoid detection and more likely to use a condom than duos and groups of three or more perpetrators (da Silva et al., 2013).

As to the degree of violence in the attack, larger groups of offenders were more violent than smaller groups (McGloin & Piquero, 2009). Rape committed by one or two perpetrators was generally less violent than that committed by groups of three or more perpetrators (Park & Kim, 2016). MPR involves more hostility, violence and a more intense sexual assault than lone-perpetrator rape (Amir, 1971; Bijleveld & Hendriks, 2003; Hauffe & Porter, 2009; Woodhams et al., 2007; Wright & West, 1981). Finally, duos and groups of three or more perpetrators were more than twice as likely to use a knife during the assault (Park & Kim, 2016).

## Predictive variables for group size

Da Silva et al. (2013) found seven predictors that contributed significantly to the models for contrasting duos with lone perpetrators: duos were more likely to be younger and of other ethnicities, less likely to warn victims against reporting them to the police, more likely to take precautions to avoid detection and more likely to use a condom than lone perpetrators. Duos were more likely than lone perpetrators to assault their victims outdoors and use a vehicle during the assault. They also found nine factors that contributed significantly to predicting the offences of groups of three or more perpetrators in contrast with lone-perpetrator offences. Compared to lone perpetrators, groups of three or more perpetrators were younger, white European, and more likely to use a vehicle during the assault (which was more likely occur indoors). They were also more likely to use a condom and not take precautions to avoid detection than lone perpetrators. In turn, they were less likely to use the element of surprise and more likely to force the victim to perform fellatio than lone perpetrators. Fewer variables differed between duos and groups of three or more perpetrators: duos were older, less likely to force the victim to perform fellatio and, more likely speak to their victims about how they intended to leave the scene of the assault (which was less likely to occur indoors).

On the one hand, Park and Kim (2016) identified the following factors that significantly predict the likelihood of lone perpetrator, duo or group of three or more offenders committing an offence: the age and marital status of the perpetrator(s), the victim's age, the relationship between the victim and the perpetrator(s), the type of offence and its planning. On the other hand, da Silva et al. (2015) found the following variables that predict the likelihood of an offence being committed by a lone offender, duo, or three or more offenders: perpetrators' age, ethnicity (white European), use of a vehicle, using a surprise approach, assault occurring indoors, no precautions being taken to avoid detection, warning the victim against reporting them to the police and about how they intended to leave the scene of the assault, using a condom and forcing the victim to perform fellatio. With the exception of age, both studies selected different variables and found predictive variables, which are barely comparable. More research is needed to conclude whether subcategories based on the number of perpetrators can be identified.

## *Motives and reasons for participating in multiple perpetrator sexual offences*

Very few studies have examined why individuals participate in MPR (da Silva et al., 2018; Etgar & Ganot Prager, 2009a; Hööing et al., 2010; Scully & Marrolla, 1985). Etgar and Ganot Prager (2009a) found that young offenders often reported that they did so to feel accepted and for fear of being rejected, for sociability and social dominance reasons (Hööing et al., 2010), for recreation and sense of adventure, and for the male camaraderie that participating in dangerous and unlawful acts created (Scully & Marrolla, 1985). The dynamics of the group are also an important consideration when deciding whether to include members of the same group sexual offence in the same therapeutic group (Etgar & Ganot Prager, 2009b). Finally,

in a recent study, da Silva et al. (2018) interviewed 25 offenders and identified six recurring themes based on the reasons convicted multiple perpetrator sexual offenders gave for committing the crime: it started as something else and the sexual assault was not planned (92%), direct or indirect influence from others (48%), no recollection of their thoughts and feelings at the time (24%), engaging in different forms of victim-blaming (48%), the effects of alcohol or drugs, or both (57%), and normalised sexual violence due to past experiences (8%). Even if there are few studies, all of them show that group processes play a very important role over individual factors in these types of sexual assaults (da Silva et al., 2018).

## AIMS OF THIS STUDY

Since very few studies compare group sexual assaults according to their size, research in this area should attempt to replicate previous studies by using samples from other countries to determine whether a pattern arises (Wijkman & da Silva, 2020). The existing studies select different variables to compare the size of subgroups, making any comparison weak and inconsistent. Our study tries to have some uniformity with the studies conducted before with the limitations of the information available in our sources of data. On the other hand, having a better understanding of MPR differences depending on group size is important from both a theoretical and a practical point of view. Unearthing these differences may help us understand the impact of group dynamics, the role of leaders and followers, victim reactions, and the influence of situational factors. Another question yet to be answered is whether duos are a separate subtype of MPR or are similar to groups of three or more perpetrators.

This study explores the differences between lone perpetrators, duos and groups of three or more perpetrators of sexual assaults committed by strangers to the victim from a Spanish sample and thereby aims to replicate (or not) the results found in other countries. The study also aims to ascertain whether duo offences should be considered a separate category of MPR, especially, whether they should be separated from the offences committed by lone perpetrators and groups of three or more perpetrators. This would undoubtedly help us design appropriate intervention and prevention programmes for each type of offender.

## METHODS

### Data

We used police files on sexual assaults from across Spain as our source of information for this study. The police files included initial rape reports, victim and witness statements, medical examiner reports, crime scene reports and crime scene photos, forensic laboratory result reports, and suspect(s) interrogation reports. We obtained the files from the Spanish Crime Data System, a national database for all types of offences collected by the Spanish Interior Ministry, who authorised our research. The data were provided to us in an anonymised state.

Of the 1046 sexual assault or sexual abuse reports in 2010, 622 files were retrieved, of which 342 files met the selection criteria. The selection criteria for the sample were a sexual assault or sexual abuse of women or girls aged 13 or over committed by one or more men of legal age (aged 18 or over) who the victim did not know (i.e., the perpetrator(s) was/were a stranger to her). Thirteen years old is the legal age of consent for boys and girls in Spain, as at the time of this study.

To apply the stranger criterion, we used the definition in Whaterhouse et al. (2016), which includes three types of circumstances: (a) when the victim and the perpetrator do not recognise each other and have never seen each other before, (b) when the victim does not know the perpetrator but has heard of him or knows him by sight, and (c) when the victim and the perpetrator have spent less than 24 hours together. All three circumstances were considered to represent a stranger rape.

TABLE 1 Percentage of the number perpetrators involved in sexual assaults

Number of perpetrators	Frequency	Percentage %
1	298	74.5
2	43	10.8
3	24	6.0
4	24	6.0
5	5	1.2
6	6	1.5
Total	400	100

After selecting and identifying the cases, we had a sample of 320 victims and 400 sexual offenders, of whom 25.5% committed the assault with a maximum of six others and 74.5% committed the assault alone. The final sample represents the natural distribution of lone perpetrator and group sexual assaults in a year. Table 1 summarises the groups analysed.

## Procedures

To compare the sexual assaults that two or more perpetrators committed by those by a lone perpetrator, we selected a series of variables while considering the information available in the police files. We developed a protocol of continuous, ordinal and dichotomous variables related to the perpetrators, victims and assaults. The police cases were coded, and a research assistant entered them into the database under the research team's supervision. The police files included the following final variables:

- Characteristic features of the perpetrators*: their age when they assaulted the victim, their nationality (national or non-national), their prior criminal offences (yes/no), their prior sexual (yes/no) and violent offences (yes/no), and whether they had consumed alcohol or drugs (yes/no).
- Characteristic features of the victims*: their age when they were assaulted, their nationality (national or non-national), whether they were alone when the assault took place (yes/no), and whether they had consumed alcohol (yes/no).
- Characteristic features of the assault*: whether the perpetrator attempted or completed the rape of the victim (yes/no). Approach method (whether the perpetrator used physical violence, intimidation and coercion); deception (whether the perpetrator approached the victim using tricks or games); and abuse of power or breach of trust (whether the perpetrator took advantage of a relationship of authority or trust with the victim). Control method (whether or not the assault was violent), end of the assault (whether there was penetration; the victim escaped; the victim screamed, and whether there were any witnesses), sexual behaviour (whether there was touching, penetration, and multiple penetration), the victim's injuries (whether the victim had an injury or not), whether the perpetrator used a vehicle or a weapon (yes/no), where the victim was assaulted (in a house, in communal areas of residential buildings, in open public spaces, or leisure areas), whether drugs were consumed (yes/no), whether the perpetrator used a condom (yes/no), when the assault took place (week day or weekend) and the time of day the victim was assaulted (in the morning: 6 am–2 pm; in the afternoon: 2 pm–10 pm; or at night: 10 pm–6 am).

## Data analysis

To determine any differences between offences by lone perpetrators, duos and groups of three or more perpetrators, we collected information about the perpetrators' characteristic features, the victims' characteristic features, and their behaviour during the offence considering the aforementioned variables. We first used Kruskal–Wallis tests to compare the three groups simultaneously and Mann–Whitney



*U* tests to compare two groups at a time because both Kolmogorov–Smirnov and Shapiro–Wilk tests revealed that the distribution of the continuous variables was significantly different to a normal distribution ( $p < .05$ ). We applied a Bonferroni correction to prevent type I inflation error when we made multiple comparisons (with a corrected  $p$  value of .017). For categorical variables, we then conducted chi-squared analysis, and we again applied the Bonferroni correction to prevent type I inflation error for multiple comparisons. We also used multinomial logistic regression analysis with the variables that were statistically significant to identify the factors that predicted group size. We used IBM's SPSS version 22.0 to conduct data analyses.

## RESULTS

### Differences in offender characteristics

As Table 2 shows, the average age of offenders differed significantly between lone perpetrators and groups of three or more perpetrators ( $p < .000$ ): the age decreased as the group size got larger. The individuals who offended in groups of three or more perpetrators were significantly younger at the time of the offence ( $M = 25.9, SD = 9.6$ ) than lone perpetrators ( $M = 34.3, SD = 14.6$ ) and duos ( $M = 29.5, SD = 11.4$ ).

Regarding offenders' prior offences, we found statistically significant differences in prior records only for sexual offences. According to Table 2, lone perpetrators had more prior records ( $M = 0.2, SD = 0.8$ ) than duos ( $M = 0.1, SD = 0.4$ ) and groups of three or more perpetrators, who had no prior record for sexual offences. However, we only found significant differences between the offences of lone perpetrators and groups of three or more perpetrators ( $p = .015$ ). In this regard, age could have a bearing on the police records given that the average age between the three groups was very different.

As Table 3 shows, regarding offender characteristics other than age, the ratio of lone perpetrators who are non-national individuals (52.2%) was significantly lower than that of duos (73.8%) and groups of three or more perpetrators (70.2%), the latter two's percentage being quite similar. Four geographical areas were more represented in cases involving duos and groups of three or more perpetrators than in lone offender cases: Western Europe (14.3% and 7%), Eastern Europe (23% and 7%), Latin America (11.9% and 24.6%) and Northern Africa (16% and 26%).

Duos consumed alcohol or drugs more often (54.3%) than lone perpetrators (29.7%), while the difference between duos (54.3%) and groups of three or more perpetrators (42.9%) was much smaller.

TABLE 2 Group differences in offender age and prior arrests

Variable	Lone perpetrator ( $n = 293$ ) $M$ ( $SD$ )	Duos ( $n = 43$ ) $M$ ( $SD$ )	Group of three or more perpetrators ( $n = 59$ ) $M$ ( $SD$ )	$p$ (Kruskal– Wallis)	$p$ (Mann– Whitney $U$ )	$R$
Age	34.3 (14.6)	29.5 (11.4)	25.9 (9.6)	.000	.063 <sup>a</sup> .000 <sup>b</sup> .074 <sup>c</sup>	.010 .053 .032
Prior arrests for sexual assault	0.2 (0.8)	0.1 (0.4)	0.0 (0.0)	.047	.547 <sup>a</sup> .015 <sup>b</sup> .046 <sup>c</sup>	.001 .016 .041

<sup>a</sup>Comparison between lone-perpetrator and duo offences.

<sup>b</sup>Comparison between offences by a lone perpetrator and groups of three or more perpetrators.

<sup>c</sup>Comparison between offences by duos and groups of three or more perpetrators.

## Differences in offence characteristics

Concerning crime scene variables and assault characteristics, lone perpetrators were more likely to commit sexual offences on working days (92.4%) than duos (54.3%) and groups of three or more perpetrators (88.1%). Groups of three or more perpetrators were more likely to assault their victims outdoors (67.3%) than lone perpetrators (48.7%) and duos (43.6%), but these differences were not significant when we applied the Bonferroni correction. Finally, the victim was significantly more likely to be alone when they were assaulted by lone perpetrators and groups of three or more perpetrators (67.3%) than when they were assaulted by duos (43.6%).

In relation to the assault characteristics and violence involved, the larger the group the more violently the victim was approached. A violent control approach was significantly more likely in assaults by groups of three or more perpetrators (98.3%) than by duos (83.7%) and lone perpetrators, and assaults by duos were more violent than those that lone perpetrators committed (76.2%). The same applies to sexual behaviour during the assault: complete rape is significantly more likely in offences by duos (39.5%) and groups of three or more perpetrators (44.1%) than in lone-perpetrator offences (25.2%), but again this difference was no longer significant when we applied the Bonferroni correction.

As for the instruments the perpetrators used to assault their victims, more groups of three or more perpetrators used a vehicle more often (37.3%) than lone perpetrators (18%) and much more often than duos (9.3%). However, duos were significantly more likely to use a weapon (14%) than lone perpetrators (8.2%) while groups of three or more perpetrators did not use a weapon to coerce the victim. This difference was still significant when we applied the Bonferroni correction.

## Predictive variables for group size

Using the results of the chi-squared and means difference tests, the significant variables were entered into a multinomial logistic regression analysis to identify the factors that significantly predicted group size (see Table 4). The dependent variable was group size (lone perpetrators, duos and groups of three or more perpetrators). We included the significant variables from the previous analysis as independent variables (mentioned above in Tables 2 and 3).

We identified several variables that significantly predicted group size. Compared to lone perpetrators, duos were more likely to be younger, to have consumed drugs or alcohol and to have injured their victim during the assault.

TABLE 3 Chi-square results comparing lone perpetrators, duos and groups of three or more perpetrators

Variable	Lone perpetrator	Duos	Groups of three or more perpetrators	$\chi^2$	<i>p</i>	$\Phi$
Non-national	154 (52.2%) <sup>a</sup>	31 (73.8%) <sup>b</sup>	40 (70.2%) <sup>b</sup>	11.653	.003	.172
Alcohol or drug consumption	76 (29.7%) <sup>a</sup>	19 (54.3%) <sup>b</sup>	24 (42.9%) <sup>a,b</sup>	10.441	.005	.173
Unaccompanied victim	267 (92.4%) <sup>a</sup>	30 (69.8%) <sup>b</sup>	52 (88.1%) <sup>a</sup>	20.067	.000	.227
Working day	181 (61.7%) <sup>a</sup>	17 (42.5%) <sup>b</sup>	29 (49.2%) <sup>a,b</sup>	7.354	.025	.137
Outdoor assault	131 (48.7%) <sup>a</sup>	17 (43.6%) <sup>a</sup>	35 (67.3%) <sup>b</sup>	6.956	.031	.139
Violence to subdue victim	224 (76.2%) <sup>a</sup>	36 (83.7%) <sup>a</sup>	58 (98.3%) <sup>b</sup>	15.550	.000	.198
Rape	75 (25.2%) <sup>a</sup>	17 (39.5%) <sup>b</sup>	26 (44.1%) <sup>b</sup>	20.098	.028	.224
Victim injuries	61 (21.9%) <sup>a</sup>	17 (39.5%) <sup>b</sup>	14 (23.7%) <sup>a,b</sup>	6.290	.043	.129
Weapon use	24 (8.2%) <sup>a</sup>	6 (14.0%) <sup>a</sup>	0 (0.0%) <sup>b</sup>	7.479	.024	.137
Vehicle use	53 (18.0%) <sup>a</sup>	4 (9.3%) <sup>a</sup>	22 (37.3%) <sup>b</sup>	14.839	.001	.194

Note. Each superscript letter indicates a subset of group size categories which column proportions do not differ from each other. <sup>a</sup>Comparison between lone perpetrator and duo offences. <sup>b</sup>Comparison between offences by a lone perpetrator and groups of three or more perpetrators. <sup>c</sup>Comparison between offences by duos and groups of three or more perpetrators.



TABLE 4 Multinomial logistic regression results

Variables in the equation	<i>B</i>	<i>SE</i>	Wald	<i>df</i>	<i>p</i>	OR
Likelihood of the offence being committed by a duo contrasted with a lone perpetrator						
Age	0.058	0.023	6.580	1	.010	0.943
Evidence of alcohol or drug consumption	1.151	0.439	6.872	1	.009	0.316
Victim injuries	1.089	0.465	5.491	1	.019	0.336
Likelihood of the offence being committed by duos contrasted with groups of three more perpetrators						
Outdoor assault	-1.260	0.550	5.246	1	.022	3.527
Violence to subdue victim	-3.433	1.179	8.476	1	.004	30.971
Victim injuries	1.845	0.615	9.011	1	.003	0.158
Vehicle use	-2.432	0.708	11.789	1	.001	11.380
Likelihood of the assault being committed by a group of three or more perpetrators contrasted with a lone perpetrator						
Age	-0.072	0.022	10.637	1	.001	0.931
Evidence of alcohol or drug consumption	-1.172	0.424	7.658	1	.006	0.310
Outdoor assault	-0.921	0.399	5.312	1	.021	0.398
Violence to subdue victim	-3.241	1.077	9.050	1	.003	0.039
Vehicle use	-2.338	0.462	25.626	1	.000	0.096

Note.  $R^2 = .286$  (Cox & Snell),  $R^2 = .368$  (Nagelkerke), Model  $\chi^2(16) = 100.893$ .

Compared to groups of three or more perpetrators, duos were more likely to assault their victim indoors and injure her. However, groups of three or more perpetrators were more likely than duos to use violence to subdue the victim and use a vehicle to approach the victim or carry out the sexual offence.

Finally, compared to groups of three or more perpetrators, lone perpetrators were more likely to be older, and less likely to have consumed drugs or alcohol, to have assaulted the victim outdoors, and to have used violence or a vehicle to approach or assault the victim.

## DISCUSSION

This study compares the socio-demographic characteristics of lone perpetrators, duos or groups of three or more perpetrators who sexually assault women. Its results support previous studies from other countries that compare group sexual offences by group size.

With regard to perpetrator characteristics, we have found significant differences in terms of their age, ethnicity and prior criminal records. As in other studies (Amir, 1971; Bijleveld & Hendriks, 2003; da Silva et al., 2013; Park & Kim, 2016), lone perpetrators were older than duos, and duos were older than groups of three or more perpetrators. In addition, MPR offenders were more likely to be from ethnic minority groups (while the probability of this being the case in duos and groups of three or more perpetrators was similar) (Bijleveld et al., 2007; da Silva et al., 2013; Horvath & Kelly, 2009; Woodhams, 2008). Further research is needed to explain this finding, which is consistent across countries. We still do not know which factors associated with ethnicity are facilitating MPA, nor do we know whether cultural differences could influence attitudes towards women. Research on sexual aggression is scarce, but some studies exploring attitudes towards partner violence in Spain (Gracia et al., 2008) have highlighted significant differences between Spanish victims and immigrant (Latin Americans) victims. Immigrants tolerate partner violence against women to a greater extent, tend to blame the victim more frequently, and report on fewer occasions than Spanish victims. If this is true for intimate partner violence, we should explore whether this could be applied to sexual offences and MPR.

In terms of prior convictions, our results are in line with Park and Kim (2016) who found that lone perpetrators had more prior convictions than duos and, that duos had more than groups of three or more perpetrators. This conclusion is also consistent with previous studies finding that lone perpetrators are more specialised and plan their sexual assaults more than MPR offenders (da Silva et al., 2018; Gimenez-Salinas et al., 2022; Harkins & Dixon, 2010). da Silva et al. (2018) revealed that 92% of MPR perpetrators stated that they had not planned the sexual assault previously. But what about duos? Do duos plan sexual assaults in similar ways? Do they always commit the assault with the same partner or is it an opportunistic coincidence? Since differences in duos are not significant, we should explore the composition of duos and consider more than just the number of perpetrators. A deeper understanding of the composition of duos (leadership, similarity in motivations and previous sexual experiences) may explain their motivations, planning and specialisation.

As to the offence characteristics, we found significant differences in whether alcohol or drugs had been consumed. In line with Amir (1971), perpetrators and victims were more likely to have consumed alcohol in assaults by duos and groups of three or more perpetrators (this being more likely in assaults by duos). This result should also be considered in a Spanish cultural context in which alcohol and drug consumption is heavily linked to recreation and nightlife areas, where MPR offences typically occur (Perez Ramírez et al., 2018). This finding reinforces the idea that lone perpetrators have a more sexually-oriented profile and that MPR could be more easily facilitated by situational factors, alcohol or drug consumption, and recreational activities. In that sense, high-risk areas (i.e., nightlife settings and festivals) should be urgently reviewed with a view to prevent crime from occurring in those areas.

With regard to the circumstances surrounding the offence, we found that victims are more likely to be alone before the attack in offences involving a lone perpetrator and groups of three or more perpetrators and less likely to be so in duo offences. Other similar studies do not consider this information, but it is surprising how a situation can be an inhibitor for some types of sexual assaults (i.e., not being alone) while not in others (such as duo offences). This finding may be linked to the fact that duo offences in Spain are more likely to occur indoors and involve alcohol and drug consumption. In such circumstances, those victims who are alone have fewer opportunities to leave. Another explanation could be that duos initially intend to perpetrate a double offence (involving multiple victims). Unfortunately, we were unable to answer this question because we did not have sufficient information on multiple victims. Further research is needed to better understand the intentions and planning activities of duos, and whether they are more likely to search for multiple victims when planning their assault than lone perpetrators or groups of three or more perpetrators.

Regarding perpetrator behaviour and sexual intercourse, our results are consistent with previous findings (da Silva et al., 2013; Park & Kim, 2016) and show that violence used to subdue the victim and complete the rape increases with the number of perpetrators involved in the assault. However, the victim is more likely to be injured in duo offences than in assaults by lone perpetrators or groups of three or more perpetrators. This could be explained by the use of weapons (mostly a knife) and the location of the assault (primarily indoors), which are more frequent in offences committed by duos and groups of three or more perpetrators. In these scenarios, the degree of violence and the seriousness of offence could increase. Additionally, regarding group dynamics, consensual behaviour and, consequently, a more serious assault, can be more probable in smaller groups. Levine et al. (2011) found that conciliatory behaviour is promoted in the largest groups and, consequently, violence is usually reduced. As a result, the leader's involvement in duo offences, regardless of whether the crime is sexually motivated, may affect the behaviour of their accomplices because there is no third party to dissuade them from partaking in the offence.

With regard to the multinomial regression results, we can use several variables to predict the likelihood of lone perpetrators, duos or groups of three or more perpetrators committing an offence. Similar to da Silva, we found age, where the assault took place (in or outdoors), whether the perpetrator(s) used a vehicle. Additionally, we found other variables: evidence of alcohol or drug consumption, whether the perpetrator(s) used violence to subdue the victim, and whether the victim was injured.

Finally, our results may support the notion that duo offences are a separate category similar to MPR offences (based on the age and ethnicity of the perpetrators, the use of violence to subdue the victim and the sexual behaviour during the assault). This is further supported by some characteristic features: perpetrators are more likely to have consumed alcohol and drugs; their actions are more likely to have injured their victim; they are most likely to have used a weapon; while they are less likely to have used a vehicle, probably because they rarely assault their victims outdoors. Nevertheless, further research is needed to conclude whether duos should be a subcategory of MPR; it is necessary to have a deeper understanding of the dynamics of duos, their composition, the motivations of the perpetrators and the number of victims. The number of perpetrators and the variables explored cannot be used to define a single category of MPR offences. More information about the composition of duos and profiles of perpetrators should be explored to determine whether duos are a separate category to MPR offences or whether duos are in fact MPR offences but with some subtle differences due to the small number of perpetrators (e.g., more consensual actions, a stronger influence of the leader). This will help to design appropriate intervention and prevention programmes for each type of offender.

## Implications of the research

These findings are important to prevent and tackle sexual crime. We can use the differences between lone perpetrators, duos and groups of three or more perpetrators (especially age, ethnicity, and alcohol and drug consumption) to design local prevention programmes to reduce MPR sexual assaults. We should foster multiple preventive measures in areas with a high concentration of young people and non-nationals and where alcohol and drugs are regularly consumed. Prevention programmes should focus on nightlife settings and touristic areas. In addition, if group dynamics offer a better explanation for MPR offences than sexual deviations, intervention programmes should help young and foreign offenders become independent and be better equipped to resist peer pressure.

Finally, duos should be included in prevention or intervention programmes since it is the most violent MPR sub-typology and the one that causes the victims most physical harm. Early individualised intervention could be used based on the differences detected in duo offences, including age, ethnicity, alcohol and drug consumption, and weapon use. Educational programs promoting empathy for the victim, reducing deindividuation, and equal attitudes towards women should be promoted to prevent MPR offences. It is imperative to consider the harmful impact of MPR offences on the victim(s) and develop differential treatment programs for victims based on the number of perpetrators involved (da Silva et al., 2013; Gidycz & Koss, 1990; Park & Kim, 2016).

## Limitation of the research

This study has been subject to some limitations. Firstly, it is not representative of all the assaults committed by multiple perpetrators but only those committed by strangers to the victim. Nevertheless, many of the studies carried out include a high percentage of strangers (da Silva et al., 2013) because that data is more readily accessible and available, and other studies have found that most MPR offences are committed by strangers to the victim (Horvath & Kelly, 2009; Morgan et al., 2012; Porter & Alison, 2006; Ullman, 2007; Woodhams, 2008). Secondly, the sample size is a reflection of its selection since it was selected from stranger sexual assaults against women aged 13 or over committed in a single year, which means that it represents the prevalence of assaults by lone perpetrators, duos and groups of three or more perpetrators committed in that period. This study's advantage over artificial selection is that the modus operandi remains unaffected by the passage of time. Thirdly, the data source used may include potential biases because it consists of police reports, which main focus is to reconstruct the facts, collect evidence and prove the perpetrator's culpability. Therefore, some information may be limited, such as that relating to the victim, which is often under-reported. This limitation also affects the availability of variables (i.e.,

information about more than one victim is under-reported and information about perpetrators is limited). Despite these limitations, and others intrinsic in these data, the information collected has enabled us to carry out a rigorous investigation.

## CONCLUSIONS

The results of our study are generally in line with those of previous studies carried out to find differences between lone perpetrators, duos or groups of three or more perpetrators. We found differences between lone perpetrators, duos and group of three or more perpetrators, and we were able to predict the likelihood of lone perpetrators, duos and groups of three or more perpetrators committing an offence based on individual and assault characteristics. The differences between assaults committed by lone perpetrators and groups of three or more perpetrators are consistent with other studies that show that the greatest differences between subtypes of offences can be found between lone perpetrators and groups of three or more perpetrators. As to whether duos should be considered a separate category, the variables used in the study show that there were differences in the perpetrators' ethnicity, whether alcohol and drugs were consumed, whether or not the victim was alone when she was assaulted, whether the assault took place indoors or outdoors and the extent of the victim's injuries but not in whether the perpetrator(s) used a vehicle to assault the victim. Further research is needed to determine and explain the motives of duos. Our findings are not conclusive for considering it a separate category and further research is needed to explore other areas that might confirm behavioural differences based on the number of perpetrators.

## AUTHOR CONTRIBUTIONS

**Andrea Gimenez-Salinas Framis:** Conceptualization; funding acquisition; investigation; methodology; supervision; validation; writing – original draft; writing – review and editing. **Meritxell Perez:** Data curation; formal analysis; software. **Jose Luis Gonzalez:** Resources. **Juan Enrique:** Resources.

## CONFLICT OF INTEREST

All authors declare no conflict of interest.

## DATA AVAILABILITY STATEMENT

The database used in the article was conducted thanks to the police files gathered by the two Spanish National polices and the authorisation of the Ministry of Interior. Since the ownership of the data is presently in partnership with the Ministry of Interior, the academic authors are not authorised to publish the data by their own.

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