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Filing false vice reports: Distinguishing true from false allegations of rape

André W.E.A. De Zutter [a,*], Robert Horselenberg [a], Peter J. van Koppen [a,b]

[a] Maastricht University, The Netherlands
[b] VU University Amsterdam, The Netherlands

ABSTRACT

False allegations constitute a problem since they may cause harm. To study the difference between true and false allegations we used a quasi-experimental approach. In the control condition likely true allegations were retrieved from criminal files. The victims, all female, were between the ages of 17 and 53 ($M = 28.0$, $SD = 10.6$). In the experimental condition women were invited to file a false allegation. Participants, all female, in the experimental conditions were between the ages of 18 and 52 ($M = 28.0$, $SD = 10.6$). We constructed a list of 187 variables based on our theory of fabricated rape. All items in the list were coded dichotomously. All variables that were coded as 'present' within cases were summed to obtain a total score; an independent t-test was used. The results of the control condition ($N = 30$) were compared with the experimental condition ($N = 35$) by use of chi-square tests. A Holm-Bonferoni method with Šidák correction was used to correct for the increased family-wise error rate. The independent t-test showed a significant difference between the mean number of present-coding of likely true allegations, ($M = 59.13$, $SD = 11.00$) and of false allegations ($M = 35.74$, $SD = 9.33$), $t(63) = 9.28$, $p < .0001$, $d = 2.34$. Thus, significantly more variables were coded 'present' in likely true allegations. Fabricated stories of rape lack pseudo-intimate behavior and a wide variety of sexual acts. Also, in almost all fabricated stories of rape the attack was completed in less than 15 minutes while in likely true allegations the attack sometimes took over 60 minutes before it was completed. In conclusion, true and false allegations diverge from each other in essentials of the story told by the complainant. The differences could be used to predict the true nature of a rape allegation.

Prestar falsas declaraciones de delitos: la distinción entre alegaciones verdaderas y falsas de violación

RESUMEN

Las falsas alegaciones constituyen un problema dado que pueden causar daño. Para estudiar la diferencia entre alegaciones verdaderas y falsas utilizamos un enfoque cuasi-experimental. En la condición de control las alegaciones verdaderas se obtuvieron de los archivos policiales. Las víctimas, todas mujeres, tenían una edad entre 17 y 53 años ($M = 28.0$ y $DT = 10.6$). En la condición experimental se invitó a mujeres a presentar una falsa alegación. Los participantes de esta condición, todas mujeres, tenían una edad entre 18 y 52 años ($M = 28.0$ y $DT = 10.6$). Elaboramos una lista de 187 variables partiendo de nuestra teoría de la violación inventada. Todos los elementos de la lista se codificaron dicotómicamente. Se sumaron todas las variables codificadas como "presentes" en los casos para obtener una puntuación total; se utilizó una prueba t independiente. Los resultados de la condición control ($N = 30$) se compararon con los de la condición experimental ($N = 35$) mediante la prueba de chi-cuadrado. El método de Holm-Bonferroni con la corrección de Šidák se utilizó para corregir el error relativo a la familia. La prueba independiente t mostró una diferencia entre el número medio de alegaciones probablemente verdaderas codificadas como "presentes" ($M = 59.13$, $DT = 11.00$) y de falsas alegaciones ($M = 35.74$, $SD = 9.33$), $t(63) = 9.28$, $p < .0001$, $d = 2.34$.

* Corresponding author. Department of Criminal Law and Criminology. Faculty of Law. Maastricht University. P.O. Box 616. 6200 MD Maastricht, The Netherlands.
  E-mail address: andre.dezutter@maastrichtuniversity.nl (A.W.E.A. De Zutter).

Así, había más variables significativamente codificadas como "presentes" en las alegaciones probablemente verdaderas. Los relatos inventados de violación carecen de comportamiento seudoíntimo y de una gran variedad de actos sexuales. Además, en casi todas las historias de violación inventadas el ataque se completaba en menos de 15 minutos, mientras que en las verdaderas alegaciones a veces tardaba en completarse más de 60 minutos. Como conclusión, las alegaciones verdaderas y falsas difieren en elementos fundamentales de la historia contada por el demandante. Las diferencias podrían utilizarse para predecir la verdadera índole de la alegación de violación

Introduction

The Problem of False Allegations

'The trust of the innocent is the liar's most useful tool'. The quote from the novel *Needful Things* written by Stephen King in 1991 applies to all false allegations. It is the trust of police officers and the judicial system in alleged victims that protects the false complainant and keeps them undetected. Not all allegations of crimes are truthful. Especially false allegations of rape stir emotions (Dershowitz, 1994). Among scholars, the prevalence of false allegations of rape is at the heart of a heated debate with extreme and probably unjustified claims at both ends (Brownmiller, 1975; Kanin, 1994; Rumney, 2006). Some claim that almost all allegations are true (2% false allegations; Brownmiller, 1975) and others that all allegations are false (100% false allegations; Kanin 1985, in Kanin, 1994). Whereas Greer (1999) claims the 2% false rape figure is untrue since the figure was not based on sound research, the 100% figure has not been replicated either and was probably caused by methodological flaws. Besides that, it seems impossible that all allegations would be false.

Although controversy concerning the prevalence of false allegations persists (Belknap, 2010; Lisak, Gardinier, Nicksa, & Cote, 2010; Saunders, 2012), no one seems to refute the existence of false allegations of rape (see Rumney, 2006, for an overview). Police officers seem to believe that false allegations of rape are ubiquitous (Saunders, 2012). In the Netherlands police officers appear to share that opinion (Schaafsma, 2006). Police officers, however, sometimes hold the wrong end of the stick when judging allegations of rape with obvious negative consequences for the true victim who is treated as a false complainant (Ebisch, 2010).

Identifying false allegations of rape is important, as false allegations of rape exist and are by no means harmless. False positives, allegations perceived as true while the allegations are in fact false (Friedrichsen, 2013) as well as false negatives, allegations perceived as false while the allegations are in fact true lead to undesired, negative consequences (Ebisch, 2010). In the present study we investigate how true allegations of rape can be distinguished from false allegations based on the story told by the complainant.

Definition of True and False Allegations of Rape and Ground Truth

A true allegation of rape is the actual unlawful compelling of a person through physical force or duress to have sexual intercourse. Sexual intercourse is defined as an event that involves penetration. In the current study rape is defined as penetration under coercion of the victim's vagina or anus by penis, tongue, fingers, or object or the penetration of the victim's mouth by penis. French kissing under coercion is not considered rape.

Criminal justice professionals tend to judge an allegation as false when the account of the rape is not entirely true, in the sense that at least some part of the story of the complainant is not true, either because she lied or made a mistake (Saunders, 2012). That is an imperfect definition, because victims who have in fact been raped but, for instance, lied about the manner she met the rapist, are treated as false complainants. Kanin (1994) probably proposed the best workable definition of false allegations of rape: 'The intentional reporting of a forcible rape by an alleged victim when no rape had occurred' (p. 82).

Another concept, which is closely related to the definition of a false rape allegation, is the concept of ground truth. To know the ground truth is to establish what actually happened (Horowitz, 2009). Ground truth is a term commonly used to assess correct categorization. On the one hand, it means that allegations classified as false are in fact false. Accordingly such allegations correspond to the aforementioned definition of false allegations. On the other hand, it means that allegations classified as true may not actually be undetected false allegations. However, the endeavour is not straightforward because, for example, sometimes consensual sex is taken for rape (Veraart, 1997). Some researchers claim that sometimes rape is misclassified as consensual sex by the victim (Fisher, Daigle, Cullen, & Turner, 2003).

An experimental design in which participants are asked to file a false claim of rape might be the least controversial solution to solve the problems associated with ground truth. In an experimental design true allegations cannot pollute the sample of false allegations. The problem of false allegations polluting the sample of true allegations, however, persists. Other measures should be taken to solve the problem as much as possible. The current study used files of convicted rapists who confessed the rape. To exclude false confessors as much as possible in the current study at least one extra piece of evidence linking the rapist to the rape was required to be included in the study. Because a system of plea bargaining is absent in the criminal justice system of the Netherlands, a confession does not automatically lead to a reduction in sentence severity (Brants-Langeraar, 2007). Thus, to a certain extent, it is not a fallacy to assume independence between the different pieces of evidence. The extra pieces of evidence were a DNA match, identification by the victim in a valid line-up, caught in the act, the confession contained strong guilty knowledge, or possessions of the victim were retrieved from the defendant.

The Theory of Fabricated Rape

We propose a new theory based on the literature, the theory of fabricated rape. The theory of fabricated rape predicts that differences between the story of a false complainant and a true victim will arise because a false complainant has to fabricate an event that was not experienced and a true victim can rely on recollections of the event. On the one hand, the false complainant is lying and will behave as liars do. On the other hand, she is constructing a story based on her own experiences and her beliefs concerning rape. If the experiences do not resemble rape and the beliefs concerning rape are not valid, detectable differences between a true story of rape and a false story of rape, a fabricated rape, will arise. The current study will test the validity of a list

of differing characteristics between false and true allegations constructed based on the suggested theory of fabricated rape

A false complainant fabricates an allegation: he or she is lying. The differences between truth tellers and liars will therefore also apply to true victims and false complainants. Therefore, detectable differences between stories of fabricated rape and stories of true rape will arise. The idea that true statements differ from fabricated statements is comparable to the well-known hypothesis by Undeutsch (1982). The Undeutsch (1982) hypothesis states that true statements of children in sexual abuse cases differ in content and quality from statements in which fabricated or invented events are described. In a meta-analysis of 20 studies by Amado, Arce, and Fariña (2015) the validity of the Undeutsch hypothesis was confirmed. The researchers calculated effect sizes that were moderate to large. Thus the researchers concluded that the Undeutsch hypothesis was generalizable to other conditions such as other age groups.

A common strategy of liars is to keep the story simple and without details (Masip & Herrero, 2013; Strömwall, Hartwig, & Granhag, 2006). Since false complainants are liars, false complainants will probably adopt the same strategy and construct a concise general story. To fabricate a mundane everyday event is probably less difficult than to fabricate a false allegation of rape. False complainants do not know how rapes commonly occur, so they cannot include true details in their fabricated story. McDowell and Hibler (1993) argue that a fabricated story of rape is less detailed than an authentic account, which is consistent with the difference in strategy between truth tellers, true victims, and liars, false complainants. For instance, in a false claim the alleged victim does not give an estimate of the duration of the rape nor does she give a description of how the rapist and she became undressed. Woodhams and Grant (2004) studied the speech of offenders as reported in the stories of false complainants and true victims. The researchers studied 22 allegations that were maintained as true and 22 allegations that were withdrawn as false. The researchers found that allegations that were maintained as true contained significantly more utterances by the offender than withdrawn as false allegations did. Thus false complainants seem to have adopted the strategy of liars and reported a simple story with an almost mute fabricated rapist.

A false complainant has not experienced rape; she has to fabricate a story of rape. There might have been sexual intercourse, but the intercourse was consensual. Sexual experiences in a consensual context are not the same as sexual experiences in the context of rape. In a field study by Philips (2000), who interviewed thirty women between 18 and 22 years of age, the participants described a wide array of sexual experiences, desires, and fantasies. A few women stated being raped as a child, teenager, or in early adulthood. The experiences that were described as rape did not resemble the experiences that the same women described as being consensual. A couple of women described sexual experiences where a rape script was played out as a sexual fantasy between consenting partners. The experiences are not congruent with rape, although they are intended to resemble rape, because the rape script is constructed on the same invalid beliefs concerning rape held by false complainants.

Some sexual experiences described by women in the book of Philips (2000) who stated that they were not raped were violent but consented sexual encounters. One or two women described sexual experiences in which it seemed that consent was the only discriminating factor between rape and a consented sexual encounter. Consensual violent sexual experiences are different from sexual experiences in the context of rape because violence is frequently not associated with the offence of rape (Canter, 2000, 2004; Canter, Bennell, Alison, & Reddy, 2003; Knight, 1999; Kocsis, Cooksey, & Harvey, 2002; Prentky & Knight, 1991). McDowell and Hibler (1993) suggest that during a rape, the victim is more concerned

with survival and submits to the attack with little resistance, while in false allegations the levels of violence and resistance described by the complainants are much higher. Studies of true allegations of rape also reveal that the violence that is used is mainly instrumental and that excessive levels of violence are rare (Canter et al., 2003; Knight, 1999; Kocsis et al., 2002; Prentky & Knight, 1991).

A false complainant that has never experienced rape and constructs a story based on her own sexual experiences will construct a story that does not resemble a true rape. A woman who is not raped will presumably associate rape with not wanting. Unwanted but consensual sex is common (Bay-Cheng & Eliseo-Arras, 2008; Erickson & Rapkin, 1991; O'Sullivan & Allgeier, 1998; Philips, 2000). In a study conducted by O'Sullivan and Allgeier (1998) 26% of men and 50% of women reported at least one occasion in which they had engaged in unwanted, but consented, sexual activity in a two week period. Unwanted sexual activities could entail hugging, making out or fondling but also oral sex or sexual intercourse. No men, but two women reported unwanted but consensual anal intercourse (O'Sullivan & Allgeier, 1998). Researchers estimate that approximately ten per cent of women engage in anal intercourse from time to time (Helperin, 2009). Thus, while ten per cent of women engage in wanted consensual anal intercourse, anal intercourse is almost completely absent in the context of unwanted consensual sex.

It seems that unwanted but consensual sexual experiences resemble wanted sexual experiences, but are restricted in the variety of sexual acts that are performed. That is consistent with the view of McDowell and Hibler (1993) who argue that in a false allegation the sexual acts are more basic, usually just vaginal intercourse and the findings of researchers in the field of false allegations of rape. Parker and Brown (2000) found a wider array of sexual acts in the stories of true victims of rape. For instance, 13 of the 16 stories of true victims described anal intercourse and the insertion of foreign objects. Only in 6 of the 17 stories deemed to be false or fabricated stories of rape there was a description of sexual acts other than vaginal intercourse. Marshall and Alison (2006) compared the stories of false complainants with stories of true victims. The researchers asked women to write down a fabricated story of rape. For the stories of true victims of rape, a police database was used. Marshall and Alison (2006) found consistent with the theory of fabricated rape that a significant difference between the stories of false complainants and true victims was the variety of sexual acts and sexual positions that were described in the stories. In a fabricated story of rape usually only one sexual act and position was described, mainly frontal vaginal penetration. True stories of rape included other sexual acts such as fellatio and cunnilingus.

In cases of allegations of rape, differences become salient because only rape victims can rely on recollections of the event. Since false complainants have to fabricate an event, they will resolve the problem by relying on mental representations of how such an event would be enacted. As stated before, false complainants cannot rely on their own sexual experiences even if the sexual experiences are unwanted, violent, or follow a rape script. The mental representations are not necessary invalid but are based on representations of rape in news media that often lack details and are biased. Cases covered most frequently in the media are the more sensational and unusual types of rape cases (Greer, 2003; Soothill & Walby, 1991). Since portrayals of rape in the media are consistently atypical, a prototype of rape arises that does not correspond with the reality of rape in most cases.

News agencies reinforce misconceptions about rape and influence people's beliefs and perceptions of rape (Ardovini-Brooker & Caringella-MacDonald, 2002). It is hypothesised that women who file a false allegation will report a prototype of rape in which the phenomenology and complexity of rape is absent. A woman filing a false allegation will for instance not report kissing, since kissing is not cognitively related to the offence of rape while kissing is a

behaviour that is central to the offence of rape, as is exhibited by almost all rapists. Ellison and Munro (2009), who studied mock jury deliberations after a rape trial, found that the jurors believed that an allegation of rape was false in case the rape was preceded by kissing, especially when the kissing was consensual. The researchers varied several parameters and acted out nine different rape trials by actors and barristers. Jurors believed that rapists would not be asking for a kiss if they intended to rape someone. A false complainant will thus fabricate an offender that resembles a specific, but rare subtype of rapist. It seems relevant to look at offender types in terms of offence behaviour because a fabricated rapist will probably not be consistent with any true rapist typology.

Prentky and Knight (1991) identified five main offender types with distinguishable characteristics. Knight (1999) has elaborated on the model and identified four main offender types with subtypes resulting in nine subtypes. The four main types are: opportunistic, pervasively angry, sexual, and vindictive. The four main types are most relevant in terms of offence behaviour, so we shall discuss them some further. The opportunistic type commits rape due to contextual or situational factors, because a woman is available or stumbled upon. In terms of offence behaviour, violence is limited and only instrumental, and raping is part of other criminal behaviour such as theft. Instrumental violence is goal-oriented violence, meaning that the violence that is needed for a successful rape is terminated if the goal is reached. The story that the victim of an opportunistic rapist presents afterwards will therefore bolster characteristics, such as theft, that will not be included in a fabricated story of rape. The pervasively angry type and the vindictive type use excessive violence beyond the instrumental. A fabricated rapist will according to the theory not use excessive violence, since excessive violence leaves traces. The vindictive type is also degrading, denigrating, and humiliating the victim during the offence of rape. The sexual type is mainly driven by sexual motives and plays out sexual fantasies. The sadistic subtype includes sadistic fantasies in the offence such as whipping, biting, scratching, spanking, blindfolding, gagging, and bondage. The sadistic and violent types are somewhat consistent with the way rapists are presented in the media. Detailed accounts of the behaviour of such rapists, however, are not presented in the media (Greer, 2003; Soothill & Walby, 1991). Thus the fabricated sadistic or violent rapist will still not resemble the true sadistic or violent rapist.

Kocsis et al. (2002) studied the behaviour of serial rapists. An extensive evaluation of offender types is beyond the scope of the current study, but the researchers identified a relevant issue: a cluster of behaviours that they labelled undifferentiated. That particular cluster is of interest, since the cluster contains behaviour that is exhibited by almost all rapists. Behaviour in the cluster includes stealing from the victim, using a weapon, questioning the victim, undressing the victim, damaging the clothes of the victim, and attempts to discover the identity of the victim. Additional offence behaviour identified by Kocsis et al. (2002) includes the offender wearing a disguise, strangling the victim, taking a souvenir, reassuring the victim, and covering the face of the victim.

In a study by Canter et al. (2003), data from 112 victim reports of rapes were collected to identify a typology of rapists. The researchers replicated the findings of other researchers and discovered a new cluster of behavioural characteristics that the authors labelled pseudo-intimacy. According to Canter et al. (2003) rapists exhibit such behaviour to mimic consensual sex and to satisfy their need for intimacy. Pseudo-intimacy comprises of kissing the victim, complementing the victim, using minimal violence, apologizing to the victim, performing cunnilingus, asking or forcing the victim to participate, trying to please the victim and making sexually tinged comments. Some of the pseudo-intimate characteristics pertain to offence behaviours that are exhibited by

almost all rapists such as fellatio. Other behaviours are rarer and pertain to a specific pseudo-intimate offender type.

Pseudo-intimate behaviour is valuable for differentiating false from true allegations, since it is counter-intuitive behaviour in terms of forcible rape. News media never mention pseudo-intimate behaviour in the context of rape (Greer, 2003; Soothill & Walby, 1991). Given that news media influence people's beliefs and perceptions of rape (Ardovini-Brooker & Caringella-MacDonald, 2002) pseudo-intimate behaviour will not be part of the mental representations people have of how rape would take place and will not be mentioned in stories of false complainants. In the study by Marshall and Alison (2006) stories of false complainants did not contain any pseudo-intimate behaviour on the part of the fabricated rapist while true rapists frequently exhibited pseudo-intimate behaviour. Gunby, Carline, and Beynon (2012) used a vignette study to gain insight into the perspectives of people on non-consensual sex and false rape allegations. The researchers found that pseudo-intimate behaviour led participants to conclude that the allegation was false and that the sexual encounter was consensual. Thus pseudo-intimate behaviour is not part of the mental representations people have about rape and will therefore not be part of the stories of false complainants.

McDowell and Hibler (1993) state that in false allegations the assailant is far more often a stranger than in true allegations of rape. A prototypical false allegation of rape would than involve an unknown fabricated rapist. Based on research by Kanin (1994) that conclusion might be premature, Kanin (1994) identified several motives for filing false allegations. One of the motives is revenge. In case of revenge, the allegation is used to retaliate against a rejecting or otherwise perceived malicious male. Such false allegations always involve a lover, an ex-lover, a friend, or an acquaintance. Date rape is a phenomenon of concern among young people (Himelein, 1995). The story of date rape is widely accepted and institutionalized in the community (Weiss & Colyer, 2010). Moreover, date rape is commonly depicted in news media (Greer, 2003). It is therefore hypothesised that the victim-offender relationship will not differ between true and false allegations of rape. The victim-offender relationship will nevertheless be included in the list of characteristics as McDowell and Hibler (1993) argued to the opposite and to the author's knowledge the discriminative ability of the victim-offender relationship in true and false allegations has never been empirically tested.

A false complainant constructs a story that is stereotypical because it is based on false beliefs of how the offence rape would unfold. Based on the theory one would expect more rape stereotypes in false allegations of rape than in true allegations of rape. Rape stereotypes are false beliefs concerning rape (Burt, 1980). Kahlor and Morrison (2007) found a positive correlation between false beliefs and media consumption in college women. Norton and Grant (2008) studied three different types of allegations of rape. The researchers found that rape stereotypes were present in all types of allegations, likely false as well as likely true allegations. The proportion of rape stereotypes, however, was significantly larger in both types of false allegations, fabricated allegations and withdrawn as false, than in the maintained as true allegations. No difference in proportion of rape stereotypes was found between the two types of false allegations.

In sum, we expect false allegations of rape to differ from true allegations based on the theory of fabricated rape. On the one hand, false complainants will resemble liars and will therefore construct a concise story with little details. A detailed story of rape will be reported by true victims. On the other hand, we expect that false complainants will construct a story based on their own sexual experiences and beliefs about rape. Since consensual sexual experiences do not resemble sexual experiences in the context of rape the beliefs of false complainants concerning rape are

invalid, false complainants will therefore construct a story that bolsters detectable differences with a true story of rape. To test the hypotheses, in the present study a list of behavioural variables is constructed based on the theory of fabricated rape.

Method

Participants and Sampling Procedures

In the present study likely true and false allegations of rape were compared. The current study included in total 65 allegations of rape, 30 likely true allegations and 35 false allegations, 18 false allegations with long preparation and 17 false allegations with short preparation, and 187 variables.

The study was limited to male perpetrators and female victims. For the experimental conditions, female participants of the general population were recruited by means of flyers. In the flyers it was only mentioned that the study concerned false allegations. Only female participants above the age of eighteen were eligible to participate. Participants were recruited in shopping malls and at large female oriented local fairs. Participants received compensation in the form of a coupon with a value of 20 euro.

Participants were screened for having experienced unpleasant sexual encounters; if that was the case the participants were excused. The term unpleasant sexual encounter was used because participants might be intimidated by the term rape and to exclude victims of unacknowledged rape as well as victims of acknowledged rape and woman who do not label their sexual assault as rape (Kahn, Jackson, Kully, Badger, & Halvorsen, 2003). Participants were also excluded if they felt uncomfortable or unease to participate in the experiment. One participant was excluded because she said she was raped in the past. One participant withdrew after receiving the instructions three days beforehand, because she felt uncomfortable to participate. No participant withdrew participation in the short-preparation condition or during the course of the experiment.

The cases for the control condition were collected at a forensic psychiatric hospital in the South of the Netherlands, The Rooyse Wissel. Random allocation to the control group was not feasible due to ethical constraints. A predetermined sample was used as the control condition. From a total of 74 criminal files of suspected sex offenders we selected all 42 cases where the suspect was convicted for rape. The other 32 were on sex offenders who were convicted for other sexual offences, such as indecent exposure. Six files could not be studied because they were elsewhere than in the hospital due to judicial procedures. Six criminal files were excluded because they did not contain a confession with at least one of the following pieces of evidence: a DNA match, identification by the victim in a valid line-up, caught in the act, the confession contained strong guilty knowledge, or possessions of the victim were retrieved from the defendant. The victims, all female, were between the ages of 17 and 53 ($M = 28.0$, $SD = 10.6$). Participants in the experimental conditions were between the ages of 18 and 52 (short-preparation: $M = 27.9$ years, $SD = 10.6$; long-preparation: $M = 28.0$ years, $SD = 11.7$). A one-way between subjects ANOVA was conducted to compare age between conditions. There was no significant difference of age between conditions at the $p < .05$ level, $F(2, 62) = 0.33$, $p = .722$.

Procedure and Design

A quasi-experimental design was used with two experimental conditions and one control group. In the two experimental conditions participants were asked to come up with false allegations of rape, while the control condition consisted of real cases with

likely true allegations of rape. The first experimental condition was a short preparation condition where participants had to give their story almost immediately after they received the instructions. In the second experimental condition, the long preparation condition, the participants were given three days to prepare their story. The conditions were to mimic an impulsive allegation on the one hand and a deliberate allegation on the other hand and to test whether preparation would make a difference.

Participants ($N = 35$) were randomly allocated to one of the two experimental conditions, the short preparation ($n = 17$) and the long preparation group ($n = 18$). All participants were instructed that they were involved in a study on false allegations of rape and were instructed to fabricate an allegation of rape. Participants were asked to make the allegation as convincing as possible so that it would be appreciated by everyone as a true allegation of rape. The experimenter tried to motivate participants as much as possible during a motivational interview. The motivational interview was based on the principle of cooperation and stressed in a constructive manner the importance of the study for true victims of rape by evoking the feelings a true victim of rape would experience in case she was not believed. Participants were told that they would be interviewed by a trained female interviewer using the official Dutch police protocol of interviewing rape victims. The official Dutch police protocol was used to maximise consistency between conditions. All victims in the control condition, the likely true allegations group, had been interviewed using that protocol because it is mandatory for the police to use. Thus, although the interviewers were not the same in the three conditions, the procedure of the interview was identical in all three conditions. The protocol entails a free recall phase with as few interruptions as possible, some open-ended questions (e.g., When, where, how and under what circumstances did the disclosure about the rape took place?) and some closed questions (e.g., Did the perpetrator use a condom?). The questions concern topics which police officers deem crucial to conduct a rape investigation. The location of the offence and the description of the offender are examples of such topics and therefore several open-ended and closed questions on location of the offence and description of the offender are included in the protocol. In the long preparation condition the instruction was supplemented with the addition that deliberate preparation was required and that participants could use any source available to them for their preparation in order to make their allegation as convincing as possible.

The interview took place in a building that was owned by the Faculty of Law of the University of Maastricht but was situated across the faculty and not part of the faculty building. The interviewing room was identically furnished as a Dutch police interviewing room. Upon arrival all participants were fully briefed about the purpose of the present study. All procedures that were not part of the experiment, such as the motivational interview, the briefing, and debriefing were conducted in a neutral room, a secluded coffee corner. In the private room the experimenter was able to interact with the participant without any distraction or disturbance. Participants were not deceived or mislead.

After the briefing phase participants signed an informed consent form and were screened for unpleasant sexual encounters. The emotional state of participants in the experimental conditions was assessed by means of 13 questions. In case a major shift in emotional state was observed the experimenter could address the issue in the debriefing phase to avoid that participants would go home feeling distressed.

In the short-preparation condition participants were left alone for 30 minutes to prepare a story. During the time period participants had no access to any sources. Following the 30-minute time period participants were invited by the female interviewer to follow her into the interrogation room. In the long-preparation condition participants were invited by the female interviewer to

follow her into the interrogation room immediately after briefing, screening, signing of the informed consent and assessing the emotional state.

In the interviewing room a camera was installed as is the case in a Dutch police interviewing room and all procedures in the interviewing room were recorded. The interviewer stopped recording when they left the room. The interviewer escorted participants back into the coffee corner. To measure the impact of the experimental manipulation on emotional state the 13 questions were administered again and the participants were fully debriefed in the coffee corner. In the control condition the data were collected using the victim's allegation and no more than that. Information that could be derived from other sources was ignored and not a part of data collection.

Materials

A list of 187 behavioural variables was used. Two approaches were used to obtain the variables, in essence a top-down and a bottom-up approach. The top-down or theory-driven approach yielded a list of 154 variables (e.g., 35, Did the rapist French kiss the victim?) retrieved from research on true allegations of rape (Brownmiller, 1975; Burgess & Hazelwood, 2001; Canter, 2000, 2004; Canter et al., 2003; Kocsis et al., 2002; MacDonald, 1971; McDowell & Hibler, 1993; Norton & Grant, 2008; Prentky & Knight, 1991) and false allegations of rape (Ahlgrim-Delzell & Dudley, 2001; Dershowitz, 1994; Feldman, Ford, & Stone, 1994; Gregory & Lees, 1996; Haket, 2007; Hunt & Bull, 2012; Marshall & Alison, 2006; McDowell & Hibler, 1993; Nadjem & Pollak, 2008; Norton & Grant, 2008; O'Donohue & Bowers, 2006; O'Donohue & O'Hare, 1997; Parker & Brown, 2000; Rassin & Van der Sleen, 2005; Rumney, 2006; Stelma, 2003; Veraart, 1997, 2006). The bottom-up or data-driven method meant that some variables were added during the study, since some variables seemed salient but were not mentioned in the literature. The bottom-up or data-driven method yielded another 33 variables (e.g., 113, Did the rapist attempt to penetrate the anus of the victim with his penis?), resulting in a total of 187 variables.

The emotional state of participants in the experimental conditions before and after the experiment was assessed by means of 13 questions (e.g., How tense do you feel at the moment?) using a Visual Analogue Scale (VAS; Luria, 1975). Four variables concerning the interview were assessed using a VAS. Participants were asked how difficult they had experienced the interview, (0 = *not at all difficult* and 100 = *extremely difficult*), how credible they deemed their own story (0 = *not at all credible* and 100 = *extremely credible*), how uncomfortable they felt during the interview (0 = *not at all uncomfortable* and 100 = *extremely uncomfortable*) and how realistic they deemed the interview to be (0 = *not at all* and 100 = *extremely*). Participants in the experimental conditions were also asked whether they ever had falsely accused someone or filed a false allegation.

Police officers often stress the importance of diaries in the detection of false allegations. It is assumed that when a victim refuses to hand over her diary, it might be an indication of a false allegation (Schaafsma, 2006; Stelma, 2003; Van der Naald, 2011). Therefore, three questions concerning diaries were administered in the experimental conditions (Do you keep a diary at present? Have you ever kept a diary? and When have you kept a diary?).

Coding

All interviews in the short- and long-preparation condition, i.e. all false allegations, were coded by two independent evaluators. The list of 187 variables was used, all coded dichotomously: 0 for absent, 1 for present. All variables held very straightforward descriptions of behaviours, so coding posed little problems (e.g., 78, 'Biting victim', 64, 'Stealing something', 95, 'House offender',

Table 1
Cohen's Kappa's Measure of Agreement.

	100% Absent	100% Present	1.00	.94
n	44	0	102	41

Note. n = frequency; Cohen's Kappa's were only calculated for the coding schemes of both groups of false allegations (N = 35).

97, 'Condom use offender' and 28, 'Fellatio'). Cohen's measure of agreement, kappa, was calculated for all 187 variables on the coding schemes of all 35 false allegations that were coded by both coders and not on the coding schemes of the likely true allegations. Only incidental differences between the evaluators were found. Cohen's kappas ranged from .938 to 1.00. Cohen's kappa could not be calculated for the coding of 44 variables, because the variables were coded by both independent evaluators as absent in all 35 allegations. The coding of 102 variables was in perfect agreement, Cohen's kappa = 1.00. The measure of agreement on the coding of 41 variables was .94 (see Table 1).

For practical and security reasons, only one of the authors (AdZ) had permission and clearance by the scientific board of The Rooyse Wissel to enter the facilities and to work on the criminal files for the control condition. That author was one of the independent evaluators. All allegations, likely true and false, were coded on all 187 variables. If the complainant told the police or the interviewer she knew the rapist other variables about identifying and describing the rapist were skipped, because in case of a rapist known to the complainant the variables about identifying and describing the rapist are irrelevant.

Data Analysis

We performed chi-square tests to test our hypotheses. With 187 dependent variables the probability of a Type I error becomes extremely high. The probability of at least one Type I error is $1 - (.95\,\hat{}\,187) = .9999317$. Thus a mean to control the Type I error rate was required although we did not perform post-hoc tests. There are several methods to control for the family-wise error rate of which the Bonferroni method is probably the most well-known. A full Bonferroni correction, however, greatly inflates the probability of a Type II error (Narum, 2006). The Šidák correction improves power by reducing the probability of a Type II error (Šidák, 1967). The Šidák-Bonferroni correction becomes very conservative in case a lot of comparisons are made, 187 in the current study, and in case the tests are not independent (Abdi, 2007). Holm (1979) proposed a sequential process to overcome the problem and increase power while controlling for the family-wise error rate. The sequential process is preferred to the traditional process (Aickin & Gensler, 1996). Thus a Holm-Bonferroni method with Šidák correction is probably the best solution for the current study. Therefore, the corrected alpha was calculated following the Holm-Bonferroni method with Šidák correction. The Holm-Bonferroni method with Šidák correction starts with all 187 variables in the equation, $\alpha = 1 - (1 - .05)^{1/187}$. After each significant result a new alpha is calculated with a new denominator in the power, $\alpha = 1 - (1 - .05)^{1/(187-1)}$, until the result is not significant.

To test the hypothesis that on average true victims would report more diverse behaviours and victim-offender interaction than false complainants we counted the number of variables that were coded as 'present' and performed an independent t-test. Based on the theory of fabricated rape it was expected that there would be more variables coded as 'present' in likely true than in false allegations of rape.

Results

Main Analyses

First, the two experimental conditions were compared. Chi-square tests on all 187 variables yielded only three significant differences in coding of the variables at the .05 level between the experimental conditions. After a Holm-Bonferoni method with Šidák correction, no significant differences in coding of the variables between the experimental conditions were found. We concluded, based on the current finding, that there was no reason to keep two different experimental conditions. We lumped together the two experimental conditions.

An independent t-test showed a significant difference between the mean number of present-coding of likely true allegations ($M = 59.13, SD = 11.00$) and of false allegations ($M = 35.74, SD = 9.33$); $t(63) = 9.28$, $p < .0001$, $d = 2.34$. Significantly more variables were coded 'present' in likely true allegations than in false allegations. No likely true allegation received a sum score below 37. No false allegation received a sum score above 55. Ten likely true and 16 false allegations received a sum score between 37 and 55.

The results of the control condition ($N = 30$) were compared with the experimental condition ($N = 35$). A Holm-Bonferoni method with Šidák correction was used to correct for the increased family-wise error rate. Significant differences in coding of the variables were found between likely true and false allegations as was expected following the theory of fabricated rape. The coding of 54 variables differed significantly between likely true and false allegations at the .0001 level ($p < .0001$; see Table 2). The first alpha calculated following the Holm-Bonferoni method with Šidák correction, $\alpha = 1 - (1 - .05)^{1/(187-54)}$, was .00038. The coding of no additional variables differed significantly between likely true and false allegations at the .00038 level. In total, the coding of 54 variables differed significantly between likely true and false allegations at the Holm-Bonferoni method with Šidák correction corrected alpha (see Table 2).

The majority of likely true victims included details in their story, 77%, while only one third of the false complainants did (24, 'Victim telling details rape', 31%; see Table 2). Likely true victims reported the details spontaneously, 83%, while only a minority of false complainants reported the details spontaneously, 14% (25, 'Victim telling details spontaneously'; see Table 2). The stories of likely true victims always included the events after the rape, 100%, while a minority of the stories of false complainants included the events after the rape, 17% (26, 'Victim telling events post-rape'; see Table 2). The stories of false complainants were restricted in time–almost all the fabricated rapes were completed in less than 15 minutes (13, 'Longer than 15 minutes' 97%; see Table 2). Less than half of the likely true rapes were completed in 15 minutes, 43% (see Table 2).

Likely true stories of rape included a lot of verbal interaction. Some interactions were sexual (e.g., 41, 'Offender giving sexually tinged comments on himself'; 42, 'Offender giving sexually tinged comments on victim'; see Table 2). Other interactions were as expected some form of pseudo-intimate behaviour (e.g., 43, 'Offender asking if victim enjoys sex'; see Table 2). Some interactions were some form of pseudo-consideration (e.g., 38, 'Apologising afterwards'; 40, 'Offender reassuring victim'; see Table 2). Most interactions were congruent with the offender types that were discussed. The sexual type gave sexual comments. The opportunistic type demanded goods or money. The pervasively angry, vindictive, and sadistic type was insulting and humiliating the victim. Other interactions were neutral and relate to the undifferentiated cluster of Kocsis et al. (2002) (e.g., 10, 'Asking personal questions'; 8, 'Discovering identity'; see Table 2).

Frontal vaginal penetration was coded present in almost all false allegations even though the difference in coding was not significant (79, 'Vaginal penetration front' 86% versus 60%; see Table 2). Fellatio and cunnilingus were almost never a part of the stories of false complainants (28, 'Fellatio' 9% and 6% versus 47, 'Cunnilingus' 53% and 40%; see Table 2). As was expected, anal penetration was not included in the stories of false complainants while 39% of the stories of likely true victims included anal penetration (49, 'Anal penetration'). Stories of likely true victims included a wide variety of sexual acts and positions. Significant differences in coding of the variables pertain to a variety of sexual positions and acts that are common in wanted consensual sex but not in unwanted sex (e.g., 44, 'Vaginal penetration behind'; see Table 2) and seem to involve some degree of participation (e.g., 50, 'Victim masturbating offender'; see Table 2). Participation of the victim was commonly reported by likely true victims, 83%, while it was almost not reported by false complainants, 3% (29, 'Victim participating'; see Table 2). The variable 52, 'Raping multiple times', was coded 'present' in almost half of the likely true allegations and coded 'absent' in almost all false allegations (see Table 2).

The stories of likely true victims contained violence beyond the instrumental (e.g., 1, 'Pulling victim's hair'; 2, 'Unnecessarily hurting the victim during sex'; see Table 2). The coding of variables that were related to instrumental violence did not differ between likely true and false allegations (e.g., 128, 'Gagging victim'; 134, 'Restraining victim with force'; see Table 2). False complainants, however, did not fully grasp the complex phenomenology of the sadistic and vindictive rapist as is exemplified by the significant difference in coding of a variable that pertained to the specific subtype of rapists (2, 'Unnecessarily hurting during sex'; see Table 2).

Likely true rapists kissed the victim (32, 'Kissing afterwards'; 30, 'Kissing body'; 35, 'French kissing'; see Table 2). Foreplay was included in the majority of the stories of likely true victims, 70%, while a minority of false complainants, 14%, included foreplay in their story (33, 'Foreplay'). Likely true rapists asked personal questions, tried to discover the identity and address of the victim and stayed longer with the victim than necessary (10, 'Personnel questions'; 8, 'Discovering identity'; 9, 'Discovering address'; 11, 'Longer than necessary'; see Table 2). In one third, 30%, of the stories of likely true victims the rapist apologised afterwards, while no fabricated rapist, 0%, in the stories of false complainants did. In 40% of the stories of likely true victims the rapist was friendly afterwards and in more than half of the stories, 53%, the rapist reassured the victim (38, 'Apologising afterwards'; 39, 'Friendly afterwards'; 40, 'Offender reassuring victim'; see Table 2).

On the one hand, false complainants exhibit proof destroying behaviour (e.g., 18, 'Victim washing clothes' or 21, 'Showering post-rape'; see Table 2). On the other hand, likely true victims exhibit proof preserving behaviour (e.g., 17, 'Consulting physician' or 19, 'Victim saving evidence'; see Table 2). True victims as well as false complainants exhibit a cooperative stance towards the police investigation (e.g., 117, 'Transferring diary' or 163, 'Transferring data carrier').

Victim-offender relationship did not differ between likely true and false allegations of rape. The coding of the variable 158, 'Acquaintance victim' did not differ significantly between likely true and false allegations (see Table 2). The fabricated rapist in stories of false complainants was as often an acquaintance of the complainants in 37% of the stories, as the likely true rapist was an acquaintance of the victim in 40% of the cases. The location of the fabricated rape in the stories of false complainants was the same location as the location of likely true rapes in the stories of rape victims. The coding of none of the eight variables that pertained to a location differed significantly at the corrected alpha (e.g., 167, 'Bushes', 135, 'Storage room' or 109, 'House victim'; see Table 2). The coding of the variable 147, 'Offender undressing victim' ($p = .365$)

Table 2
Proportions of Coded "Present" by Condition, p-values, Odd's Ratios and Confidence Intervals.

	Condition %				95% CI	
Variable	True allegations[a]	False allegations[b]	p	OR	LL	UL
1. Pulling victim's hair	30	0	<.0001	0.38	0.27	0.53
2. Unnecessarily hurting during sex	37	0	<.0001	0.35	0.25	0.51
3. Offender carrying weapon	40	3	<.0001	0.05	0.01	0.37
4. Holding victim by neck	53	6	<.0001	0.05	0.01	0.26
5. Threatening prior incident	63	3	<.0001	0.01	0.00	0.14
6. Beating victim	50	6	<.0001	0.06	0.01	0.30
7. Demanding goods or money	30	0	<.0001	0.38	0.27	0.53
8. Discovering identity	40	0	<.0001	0.34	0.23	0.49
9. Discovering address	37	3	<.0001	0.05	0.01	0.42
10. Personnel questions	33	0	<.0001	0.36	0.26	0.52
11. Longer than necessary	37	0	<.0001	0.35	0.25	0.51
12. Drug use	40	0	<.0001	0.34	0.23	0.49
13. Longer than 15 minutes	57	3	<.0001	0.02	0.00	0.19
14. Longer than 30 minutes	37	0	<.0001	0.35	0.25	0.51
15. Eyewitnesses	53	6	<.0001	0.05	0.01	0.26
16. Medical injury	73	0	<.0001	0.19	0.10	0.36
17. Consulting physician	90	14	<.0001	0.02	0.00	0.09
18. Victim washing clothes	3	51	<.0001	29.32	4.74	124.56
19. Victim saving evidence	77	26	<.0001	0.11	0.04	0.34
20. Other evidence	80	6	<.0001	0.02	0.00	0.08
21. Victim showering post-rape	7	60	<.0001	21.00	4.30	102.56
22. Permitting medical file	50	94	<.0001	16.50	3.34	81.45
23. Victim kept journal in the past	3	57	<.0001	38.67	4.72	316.67
24. Victim telling details rape	77	31	<.0001	0.15	0.05	0.44
25. Victim telling details spontaneous	83	14	<.0001	0.03	0.01	0.13
26. Victim telling events post-rape	100	17	<.0001	0.02	0.00	0.08
27. Victim undressing	67	0	<.0001	0.22	0.13	0.38
28. Fellatio	53	3	<.0001	0.03	0.00	0.21
29. Victim participating	83	3	<.0001	0.00	0.00	0.05
30. Kissing body	60	14	<.0001	0.11	0.03	0.37
31. Licking breasts	60	0	<.0001	0.20	0.16	0.42
32. Kissing afterwards	43	0	<.0001	0.33	0.22	0.48
33. Foreplay	70	14	<.0001	0.07	0.02	0.24
34. Touching breasts	80	23	<.0001	0.07	0.02	0.24
35. French kissing	53	9	<.0001	0.08	0.02	0.33
36. Attempting to flee	60	9	<.0001	0.06	0.02	0.25
37. Instructing to stop	90	17	<.0001	0.02	0.01	0.10
38. Apologising afterwards	30	0	<.0001	0.38	0.27	0.53
39. Friendly afterwards	40	3	<.0001	0.04	0.01	0.37
40. Offender reassuring victim	53	6	<.0001	0.05	0.01	0.26
41. Offender sexual comments self	53	0	<.0001	0.29	0.18	0.45
42. Offender sexual comments victim	67	0	<.0001	0.22	0.13	0.38
43. Asks if victim enjoys sex	33	0	<.0001	0.36	0.26	0.52
44. Vaginal penetration behind	60	6	<.0001	0.04	0.01	0.20
45. Vaginal penetration with object	67	9	<.0001	0.05	0.01	0.19
46. Digital penetration vagina	63	9	<.0001	0.05	0.01	0.22
47. Cunnilingus	40	3	<.0001	0.04	0.01	0.37
48. Offender masturbating himself	57	6	<.0001	0.05	0.01	0.23
49. Anal penetration	37	0	<.0001	0.35	0.25	0.51
50. Victim masturbating offender	40	6	<.0001	0.09	0.02	0.45
51. Fondling crotch, no penetration	67	17	<.0001	0.10	0.03	0.33
52. Raping multiple times	43	3	<.0001	0.11	0.01	0.32
53. Low tone voice	0	54	<.0001	23.01	4.09	100.51
54. Nose	7	57	<.0001	28.00	4.74	165.43
55. Inconsistencies narrative	0	31	.001	0.45	0.34	0.61
56. Kicking victim	40	3	.003	0.07	0.01	0.58
57. Prior consensual sex	30	3	.003	0.07	0.01	0.58
58. Stalking	23	0	.003	0.40	0.29	0.55
59. Longer than 1 hour	23	0	.003	0.40	0.29	0.55
60. Victim care	23	0	.003	0.40	0.29	0.55
61. Mouth	7	43	.003	10.50	1.95	56.56
62. Threatening not to report	43	11	.004	0.17	0.05	0.60
63. Offender giving personal info	47	14	.004	0.19	0.06	0.63
64. Stealing something	33	6	.005	0.12	0.02	0.61
65. Caressing	67	31	.005	0.23	0.08	0.65
66. Friends persuading victim report	17	49	.006	4.72	1.47	15.17
67. Locking in victim	37	9	.007	0.16	0.04	0.66
68. Biting victim's breasts	20	0	.007	0.41	0.30	0.55
69. Anal penetration other than penis	20	0	.007	0.41	0.30	0.55
70. Insulting victim	20	0	.007	0.41	0.30	0.55
71. Humiliating victim	20	0	.007	0.41	0.30	0.55
72. Threatening violence afterwards	30	6	.011	0.14	0.03	0.72
73. Alcohol use	23	54	.011	3.90	1.33	11.45

Table 2 (*Continued*)

Variable	Condition %		p	OR	95% CI	
	True allegations[a]	False allegations[b]			LL	UL
74. Complimenting afterwards	17	0	.012	0.42	0.32	0.56
75. Ejaculation	80	49	.012	0.43	0.32	0.57
76. Muscular	3	29	.015	10.71	1.21	94.86
77. Throwing away clothes	0	17	.017	5.67	2.04	27.33
78. Feelings of guilt	0	17	.017	5.67	2.04	27.33
79. Biting victim	17	0	.017	0.42	0.31	0.56
80. Vaginal penetration front	60	86	.019	4.00	1.21	13.24
81. Complimenting during sex	27	6	.020	0.17	0.03	0.86
82. Teeth	7	34	.020	6.46	1.21	34.55
83. Chin	7	34	.020	6.46	1.21	34.55
84. Stealing personal item	27	6	.022	0.17	0.03	0.86
85. Self-initiative report	73	46	.022	0.31	0.11	0.87
86. Offender orgasm	80	51	.023	0.33	0.08	0.84
87. More than 3 days report	10	31	.026	4.50	1.12	18.16
88. Saliva as lubricant	13	0	.026	0.43	0.32	0.57
89. Tying up victim	13	0	.026	0.43	0.32	0.57
90. Contacting post-rape	13	0	.026	0.43	0.32	0.57
91. Gathering information rape	0	14	.026	4.48	1.08	19.43
92. Relevant info on multimedia	10	31	.030	4.30	1.07	17.32
93. Stealing identifiable item	20	3	.033	0.12	0.01	1.04
94. Victim told someone other	33	11	.033	0.26	0.07	0.94
95. House offender	23	6	.045	0.20	0.38	1.05
96. Eyes	27	57	.048	4.00	1.00	15.99
97. Facial hair	40	31	.050	0.26	0.07	1.04
98. Jewellery	13	40	.050	3.82	0.96	15.18
99. Ordering to masturbate	10	0	.055	0.44	0.33	0.58
100. Hurting victim	53	31	.062	0.40	0.14	1.10
101. Speech	37	66	.068	5.23	0.87	31.32
102. More than 1 day report	17	34	.069	2.86	0.87	9.43
103. Pushing victim	80	60	.070	0.38	0.12	1.15
104. More than 2 weeks report	10	26	.076	3.38	0.82	13.93
105. Victim told friend	97	83	.080	0.17	0.02	1.47
106. Kidnapping victim	20	6	.085	0.24	0.05	1.31
107. Spitting on victim	10	0	.093	0.44	0.33	0.58
108. House victim	23	9	.097	0.31	0.07	1.32
109. Chasing	40	23	.111	0.44	0.15	1.30
110. Hasty escape post-rape	7	20	.116	3.50	0.67	18.34
111. Offender asking love victim	7	0	.121	0.44	0.34	0.59
112. Attempting anal penetration	7	0	.121	0.44	0.34	0.59
113. Someone present report	7	0	.121	0.44	0.34	0.59
114. Refusing to watch	7	0	.121	0.44	0.34	0.59
115. Non relative persuading report	7	0	.121	0.44	0.34	0.59
116. Impressive posture	7	23	.131	3.50	0.64	19.30
117. Psychological care	13	3	.133	0.19	0.20	1.81
118. Use of drugs	13	3	.133	0.19	0.02	1.81
119. Transferring diary	100	89	.144	0.51	0.39	0.64
120. Skin shape and colour	50	54	.147	1.19	0.45	3.15
121. Talking to victim	70	54	.149	0.51	0.18	1.42
122. Party	0	9	.150	0.52	0.41	0.66
123. Well-known acquaintance	30	17	.156	0.46	0.14	1.50
124. Victim told more than 2	40	9	.168	0.52	0.18	1.49
125. Victim indicating duration	33	20	.175	0.50	0.16	1.54
126. Family persuading victim report	13	26	.176	2.25	0.62	8.23
127. Condom use offender	0	6	.184	1.77	0.38	1.07
128. More than 1 week report	10	20	.193	2.42	0.57	10.39
129. Body hair	10	26	.204	2.44	0.55	10.90
130. Gagging victim	30	43	.208	1.75	0.63	4.90
131. Park	3	11	.229	3.74	0.40	35.47
132. Attempting penetration behind	10	3	.232	0.27	0.03	2.69
133. Older than victim	27	46	.234	2.00	0.55	7.31
134. Restraining victim with force	60	49	.251	0.05	0.01	0.26
135. Massaging	3	0	.276	0.45	0.35	0.59
136. Thanking afterwards	3	0	.276	0.45	0.35	0.59
137. Spanking	3	0	.276	0.45	0.35	0.59
138. Trying to steal something	3	0	.276	0.45	0.35	0.59
139. Storage room	13	6	.290	0.39	0.07	2.32
140. Offender expressing love	13	6	.290	0.39	0.07	2.32
141. Hair colour	47	54	.314	1.36	0.51	3.69
142. Ears	7	17	.314	2.21	0.39	12.63
143. Skin particularities	7	17	.314	2.21	0.39	12.63
144. Pushing offender	23	34	.333	1.71	0.57	5.13
145. Pushing victim against object	57	49	.344	0.72	0.27	1.93
146. Giving pet name	0	3	.351	2.70	0.42	8.43
147. Attempting anal penetration other	0	3	.351	2.70	0.42	8.43
148. Victim burning clothes	0	3	.351	2.70	0.42	8.43

Table 2 (Continued)

Variable	Condition %		p	OR	95% CI	
	True allegations[a]	False allegations[b]			LL	UL
149. Blindfolding victim	0	3	.351	2.70	0.42	8.43
150. Offender undressing	80	86	.365	1.88	0.47	7.41
151. Several months report	3	9	.394	1.55	0.56	3.48
152. Pursuing victim post-rape	7	3	.442	0.41	0.04	4.78
153. Closed eyes	7	3	.422	0.41	0.04	4.78
154. Prior reporting	7	3	.422	0.41	0.04	4.78
155. Disguise offender	10	6	.426	0.55	0.09	3.50
156. Victim told relatives	43	49	.432	1.24	0.46	3.29
157. Alcohol use	33	37	.477	1.18	0.43	3.29
158. Length	50	63	.488	2.05	0.05	5.16
159. Posture	50	63	.488	2.05	0.05	5.16
160. Acquaintance victim	40	37	.507	0.89	0.33	2.41
161. Age	47	66	.512	2.04	0.05	5.16
162. White	37	46	.513	1.81	0.21	3.07
163. Transferring data carrier	100	91	.524	0.52	0.41	0.66
164. Transportation	23	29	.533	1.86	0.24	3.06
165. Tinted	13	14	.537	1.51	0.18	3.60
166. Bushes	33	31	.540	0.92	0.32	2.60
167. Blackout	3	7	.558	1.76	0.15	20.40
168. Victim keeping journal	3	6	.558	1.76	0.15	20.40
169. Clothes	47	60	.566	0.75	0.12	4.66
170. Tearing or cutting clothes	27	26	.576	0.95	0.31	2.89
171. Black	7	6	.633	0.85	0.11	6.42
172. Alley	7	6	.633	0.85	0.11	6.42
173. Car	7	6	.633	0.85	0.11	6.42
174. Prior statement police	7	6	.633	0.85	0.11	6.42
175. Physical handicaps	3	6	.666	1.30	0.11	15.69
176. Tattoos offender	3	6	.666	1.30	0.11	15.69
177. Scratching offender	7	9	.774	1.31	0.20	8.43
178. Screaming/Calling for help	53	54	.839	1.04	0.39	2.76
179. Photo or film of rape	3	3	.912	0.85	0.05	14.25
180. Attempting penetration front	3	3	.912	0.85	0.05	14.25
181. Victim told friends	57	57	.969	1.02	0.38	2.73
182. Speaking friendly	57	57	.969	1.02	0.38	2.73
183. Beating offender	17	17	.973	1.03	0.28	3.80
184. Orgasm victim	0	0	1.000	1.00	1.00	1.00
185. Stalking	0	0	1.000	1.00	1.00	1.00
186. Attempting to undress	0	0	1.000	1.00	1.00	1.00
187. Attempting digital penetration	0	0	1.000	1.00	1.00	1.00

Note. CI = Confidence interval; *OR* = Odds ratio; *LL* = Lower level; *UL* = Upper level; Condition % = Proportion of variable coded present = 1.

[a] *n* = 30,

[b] *n* = 35.

Variables *p* < .0001 have a *p* < .00038.

Discussion

In general, as expected following the theory of fabricated rape, false complainants tend to construct a concise prototypical story of rape. As a result of the concise story, significantly more variables were coded 'absent' in false, fabricated, allegations of rape. Victims do not construct a story but tell a story based on recollections of the event. A true allegation of rape has a complex structure, one that is not conveyed by news media and is therefore not part of the mental representations that lay people have of rape. A true allegation of rape contains a multiplicity of behaviours and a lot of victim-offender interaction. The story of a true rape is therefore a lengthy, detailed, and complex story that entails all the complexities and subtleties of rape. As a result of the complex story, significantly more variables were coded 'present' in likely true allegations of rape. In the current study we found an effect size of 2.34 while an effect size of 0.80 is considered large (Cohen, 1988). The current finding is consistent with studies in the field of lie detection. False complainants adopted the same strategy as liars do to avoid detection and presented a concise less detailed story (Masip

did not differ significantly. The coding of most of the variables that pertained to the description of the offender did not differ significantly. For one variable that pertained to the description of the offender the coding differed significantly (54, 'Nose').

& Herrero, 2013; Strömwall et al., 2006). The current finding is also consistent with the findings of the aforementioned meta-analysis by Amado et al. (2015). The researchers reported large effect sizes for the discriminating effect of quantity of details between truthful and fabricated events.

The finding that in false allegations of rape significantly more variables are coded 'absent' is a robust finding (Hunt & Bull, 2012; Parker & Brown, 2000; Rassin & Van der Sleen, 2005; Rumney, 2006). Thus, simply counting the amount of variables that are coded 'present' in an allegation might be a valid and reliable predictor of the true nature of an allegation. Since in the current study no likely true allegation received a sum score below 37, a sum score below 37 might be indicative of a false allegation. Since in the current study no false allegation received a sum score above 55, a sum score above 55 might be indicative of a true allegation. It must be stated, however, that 40% of the studied allegations, 10 likely true allegations and 16 false allegations, received a sum score between 37 and 55. Thus there might always be a grey area where true and false allegations overlap. Furthermore a classification rate of 60% is quite low.

The Theory of Fabricated Rape

Based on the results of the current study, four main characteristics of false allegations stand out. The four characteristics are

consistent with the theory of fabricated rape. False complainants construct a story based on their own sexual experiences and their mental representations of how such an offence would take place. Since sexual experiences in a consensual context are not comparable to sexual experiences in the context of rape and the mental representations of lay people of how such an offence would take place are invalid, a stereotypical representation of rape can be derived from false allegations of rape. First, the fabricated rape is always brief and swift compared to a likely true rape that takes time. In almost all false allegations the rape was completed in less than 15 minutes. It makes sense from the part of the false complainant. The longer the duration of the attack, the more story elements are needed. A practical complication of an attack that has taken some time is that the victim has to remain unseen for a considerable amount of time. Layman's attitudes towards rape provide another explanation for the difference. People tend to belief that rapists are sexually frustrated and that the main goal of rape is sexual relief on the part of the rapist (Burt, 1980; Feild, 1978). In that sense, an aroused rapist deprived of and craving for sexual relief probably lacks stamina, and finishes quickly. Another explanation might be that participants in our study lacked fantasy proneness, since people that score high on fantasy proneness seem to have better story-telling abilities (Merckelbach, 2004). Another line of reasoning, again leading to the same result, originates from feelings of disgust. Women respond to guided imagery of a realistic rape with disgust, especially during the coital phase (Bond & Mosher, 1986).

The instruction that was given to the female participants in the experimental conditions may have mimicked guided imagery of a realistic rape and elicited disgust. False complainants may reduce feelings of disgust by making the coital phase as short as possible in their story. The difference in duration of the attack between false and likely true allegations of rape seems to be a robust finding; several different pathways lead to the same result and odds ratios were very small indicating almost perfect discriminative power. The duration of the attack in allegations has, to the knowledge of the authors, never been measured (Hunt & Bull, 2012; McDowell & Hibler, 1993; Norton & Grant, 2008; O'Donohue & O'Hare, 1997; Parker & Brown, 2000; Rassin & Van der Sleen, 2005; Rumney, 2006).

Second, the fabricated victim is passive in nature and the complainant's story does not include a wide variety of sexual acts. Anal penetration and the victim undressing herself were not included in any of the false stories. Other sexual acts or participating behaviour were absent in almost all false allegations, while they were present in more than half of the likely true allegations of rape. The findings are consistent with earlier research on true and false allegations of rape. Real rape victims tend to participate to minimise negative consequences, extra injuries or death, while false complainants say they did not participate to make the rape story more believable (Hunt & Bull, 2012; Parker & Brown, 2000; Rassin & Van der Sleen, 2005; Rumney, 2006). Rapists commit a wide array of sexual acts for their gratification (Canter et al., 2003; Knight, 1999; Kocsis et al., 2002). Penile-vaginal contact alone suffices to entail rape. Thus false complainants usually only include penile-vaginal contact in their story (Hunt & Bull, 2012; Norton & Grant, 2008; Parker & Brown, 2000; Rassin & Van der Sleen, 2005; Rumney, 2006).

A seemingly new finding is the variety of sexual positions we found in the behaviour of the real rapists and not in the false claims. Although the behaviour was not reported in earlier research (Hunt & Bull, 2012; Knight, 1999; Kocsis et al., 2002; McDowell & Hibler, 1993; O'Donohue & O'Hare, 1997; Parker & Brown, 2000; Rassin & Van der Sleen, 2005; Rumney, 2006), it is in line with the pseudo-intimate and sexual rapist reported by Canter et al. (2003).

Third, false allegations mostly include instrumental violence and almost no expressive violence. Expressive violence is violence that is not goal-oriented in nature, as for instance unnecessarily hurting the victim during sex seems to be. Such violence is not mentioned by false complainants. Expressive violence might also leave physical traces and might be left out of the story by false complainants for that reason. False complainants seem to be aware that it is the era of forensic evidence. Bruises and scratches without foreign DNA might put their credibility on the line.

The fourth characteristic of false allegations is that false complainants are filling in gaps when asked directly. The list of description variables forms the final part of the police protocol. It means that during the allegation the police officer goes through the list of description variables with the alleged victim (e.g., Can you describe the nose of the offender?). At that point the false complainant can invent an answer, as is reflected by the current results. There was no significant difference in coding of most of the description variables between likely true and false allegations of rape. Only one significant difference was found. False complainants described the nose of the fabricated offender more often than victims described the nose of the rapist. That is in line with the research on offender descriptions, where victims of any type of violent crime hardly ever come up with detailed offender descriptions (Van Koppen, 1997). Thus overall, false complainants describe their fabricated perpetrator more detailed than likely true victims describe their rapist. A true victim does not always know the answer to a question asked by police officers and is not afraid to admit that, while false complainants seem to believe that not knowing an answer might undermine their credibility.

Another unavoidable topic during a police interview is the location of the offence. Locations, such a bushes, alleys, or cars were mentioned just as frequently in both conditions. Closed questions about the location of the offence and the description of the offender are an integral part of the police protocol, the questions are therefore put to all complainants, false complainants, and true victims alike. The current findings seem to warrant prudent use of closed questions when interviewing women filing an allegation of rape since false complainants might fill in the gaps. As a consequence the differences between true and false allegations might vanish as it did in the current study.

In conclusion, the theory of fabricated rape tested in the study seems to be valid based on the current results. False complainants construct a story based on sexual experiences that do not resemble sexual experiences in the context of rape, invalid mental representations, and invalid beliefs of how such an event would take place. False complainants presented a rape story that resembles stories of rape depicted in news media (Ardovini-Brooker & Caringella-MacDonald, 2002; Greer, 2003; Soothill & Walby, 1991). The fabricated story of rape conformed to invalid beliefs about rape and rape stereotypes that are commonly held by lay people (Burt, 1980; Feild, 1978). Finally false complainants behaved the same as liars usually do by adopting the strategy to present a concise and not detailed story of rape (Masip & Herrero, 2013; Strömwall et al., 2006). All of the above leads to a story of rape that can be differentiated from a true story of rape.

Recollections Result in an Entirely Different Story

Based on the current results, a true story of rape is significantly different than a fabricated story of rape. The most salient characteristic of true rapes that is lacking in fabricated stories of rape is a wide array of pseudo-intimate behaviours and interactions. A lot of true rapists try to mimic consensual sex and exhibit behaviours that are not commonly associated by false complainants with the offence of rape. In studies it is consistently found that a large proportion of rapists exhibited pseudo-intimate behaviours and interactions (Kocsis et al., 2002).

In the present study a third of the likely true offenders inquired whether the victim was enjoying the sexual part and the majority

gave sexually tinged comments. Such comments were not mentioned by false complainants. Most pseudo-intimate behaviours were not reported by false complainants. An exception is the variable 'speaking friendly', which was as prevalent in likely true as in false allegations of rape. The result seems to contradict the study of Norton and Grant (2008), who found that offenders in false allegations were more polite than offenders in true allegations of rape. One could argue that being friendly is not the same as being polite and that different constructs were measured. To a large extent, the present study expands on earlier research. Some variables were not coded in earlier studies (e.g., licking breasts, kissing afterwards, complimenting afterwards). Other results found in the present study replicate findings of other research (Hunt & Bull, 2012; King, 1991; Kocsis et al., 2002; Komter, 2001; Parker & Brown, 2000; Prentky & Knight, 1991; Rassin & Van der Sleen, 2005; Rumney, 2006).

The presence of pseudo-intimate behaviour might be a valid indicator of a true allegation of rape. Verbal interaction, whether it was pseudo-intimate or threatening in nature, was not frequently reported by false complainants. The result found is a replication of findings by others (Hunt & Bull, 2012; Norton & Grant, 2008; Parker & Brown, 2000; Rassin & Van der Sleen, 2005). Thus the occurrence of verbal interaction might also be a valid indicator of a true allegation. Especially extensive verbal interaction seems to be indicative of a true rape. In the present study 12 different variables pertaining to verbal interaction were not coded 'present' in false allegations of rape. Hunt and Bull (2012) found that the majority of false allegations included less than ten verbal utterances by the offender while the majority of true allegations contained more than ten verbal utterances by the offender.

True allegations of rape often include other offence behaviour such as extortion or stealing. An opportunistic rapist commits rape because of opportunity and often while committing other offences (Knight, 1999). Canter et al. (2003) found that stealing from the victim was common among rapists. In the current study, almost one third of rapists demanded goods or money while no fabricated offender did so.

True victims display evidence-conserving behaviour. In the current study, one victim preserved sperm in her mouth to make sure that police would have DNA of the offender. In Antwerp, Belgium, similar behaviour of a victim enabled detectives to arrest a serial rapist (Bergmans, 2010). In another Flemish case the victim audiotaped the offence with her cell phone (Belga, 2011). In the current study a large majority (i.e., 77%; see Table 2) of likely true victims preserved evidence, while false complainants exhibited the opposite behaviour. A large proportion of false complainants reported that they had showered and washed or threw away their clothes after the offence.

Fallacies on the Difference between True and False Allegations

Significant differences between true and false allegations are informative, but also non-significant differences may be informative. The belief that not handing over a diary is indicative of a false allegation might not be a valid predictor of a false allegation even though Dutch police officers seem to believe it is (Schaafsma, 2006; Stelma, 2003). Almost all false complainants as well as likely true victims were willing to hand over their diary. Thus, it may be useful if Dutch police officers would revise their belief. Delayed reporting by the victim did not discriminate between true and false allegations of rape, while it is considered to be a discriminating characteristic in the eyes of Dutch police officers (Schaafsma, 2006; Stelma, 2003). Description of a white van by the victim was as prevalent in false as in true allegations in the current study, while police officers believe that a white van is indicative of a false allegation (Stelma, 2003). Contrary to earlier studies (Kanin,

1994; McDowell & Hibler, 1993), but consistent with the theory of fabricated rape victim-offender relationship did not reveal the true nature of an allegation in the current study.

Methodological Issues

Some methodological issues should be raised. In research a validity trade-off is inevitable–by maximizing one validity, another validity is decreased (Brehm, Kassin, & Fein, 2005). In the current study construct validity was deemed important. It means that strict criteria were used to avoid misclassification of allegations. To make certain that a false allegation was indeed a false allegation, participants were asked to invent an allegation and true rape victims were excluded from the study. Such actions might have decreased ecological validity. A false allegation in the present study may not be entirely similar to false allegations of rape made to the police. Participants in the study may not have been as motivated to construct a realistic story or to conceal the true nature of their allegation, since there were absolutely no consequences if they failed. Norton and Grant (2008) compared the stories of fabricated false allegations obtained following the same methodology that was used in the current study, with withdrawn as false allegations, allegations that were withdrawn by the complainant who stated that she withdrew the allegation because the allegation was in fact false, and found no significant differences in the stories. They concluded: 'This in turn may provide some support for the validity of using experimentally constructed false allegations in assessment of rape stereotypes and perhaps more widely in comparisons of true and false statements.' (Norton & Grant, 2008, p. 283). The likely true allegations used in the current study may also not be similar to all true allegations. To ensure that false allegations would not pollute the sample of true allegations, precautions were taken. Because the precautions were strict and rigid, the sample of likely true allegations may be a biased subsample of true allegations.

A supplementary methodological weakness in the present study may be that all true allegations were coded by the same author. A coding bias cannot be excluded but is not very likely either because characteristics that were coded were straightforward and simple. That is demonstrated by the almost perfect agreement of the two coders on the false allegations.

General Conclusions

The present study demonstrates the validity of the theory of fabricated rape. If lay people have to fabricate an event, such as a rape, people construct a story based on their own experiences and mental representations of how such an event would take place. If people fabricate an event that was not experienced at all, people will construct the story based on experiences that are considered to resemble that event. In the case of rape, people will resort to their sexual experiences. The sexual experiences were consensual, since rape was not experienced. Sexual experiences in a consensual context are not the same as sexual experiences in the context of rape. The mental representations of people of how rape would take place are invalid. The mental representations are influenced by news media, that consistently misrepresent rape and thereby induce rape stereotypes and false beliefs of rape. False complainants who construct the story of rape based on the invalid sexual experiences and mental representations construct a different story than true victims who base the story on recollections of the rape. Thus, major differences between the stories of true and false allegations of rape arise. The differences could be used to discriminate between true and false allegations.

Conflict of Interest

The authors of this article declare no conflict of interest.

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