

State v. Brochu (2005-177)

2008 VT 21

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2008 VT 21

No. 2005-177

State of Vermont

v.

Alfred E. Brochu

Supreme Court

On Appeal from

District Court of Vermont,

Unit No. 2, Addison Circuit

September Term, 2007

M. Patricia Zimmerman, J.

William H. Sorrell, Attorney General, and David Tartter, Assistant Attorney General,
Montpelier, for Plaintiff-Appellee.

Matthew F. Valerio, Defender General, Anna Saxman, Deputy Defender General, Montpelier,
and William A. Nelson, Middlebury, for Defendant-Appellant.

PRESENT: Reiber, C.J., Dooley, Johnson and Burgess, JJ., and Pearson, Supr. J.,
Specially Assigned

¶ 1. **DOOLEY, J.** Defendant Albert Brochu was convicted of aggravated murder following a jury trial in Addison District Court. On appeal, defendant argues that his conviction should be reversed because the evidence is insufficient to reasonably and fairly convince a trier of fact that defendant is guilty beyond a reasonable doubt. Defendant also argues that the trial court: (1) erred in admitting expert microscopic-hair-comparison evidence under Daubert v. Merrell Dow Pharmaceuticals, Inc., 509 U.S. 579 (1993) and Vermont Rule of Evidence 702; (2) violated defendant's right to compulsory process in limiting the questions defendant was able to ask his expert witness; (3) erred in excluding information from a list of past sexual partners kept by the victim; (4) erred in excluding, as hearsay, the statement of one of the victim's alleged

sexual partners; and (5) violated defendant's Confrontation Clause rights by unduly limiting defendant's cross-examination of a witness for the State. We affirm.

¶ 2. The evidence at trial disclosed the following. On January 17, 2003, the victim's aunt and a companion forced their way into victim's apartment in Barre, Vermont, after becoming concerned when the victim, an eighteen-year-old woman, would not return their calls. They discovered the victim on the floor of the living room, lying on her back with her right arm over her head and a blue towel covering her legs. The victim's underwear had been pulled down and a sanitary napkin left on her left thigh. Below the white sweater the victim was wearing, it was apparent that she had been stabbed and that her breasts had been removed.

¶ 3. The medical examiner concluded that the victim died of multiple stab wounds to the chest. The examiner also stated that the victim had also suffered from some form of blunt-force trauma to the head. While examining the victim's body, the examiner took swabs from the victim's vagina and mouth, both of which tested positive for PSA, a chemical substance that can indicate, inter alia, the presence of seminal fluid. No PSA was detected on the sanitary napkin. Based on the concentration of the PSA that was detected, the examiner concluded that the PSA came from seminal fluid rather than from another bodily discharge. There was no evidence of vaginal tearing. The examiner also collected several pubic hairs from the body.

¶ 4. The oral and vaginal swabs were subsequently subjected to DNA testing. The vaginal swab indicated that both male and female DNA were present and that the female DNA matched the victim's profile. There was relatively little volume remaining to test the male DNA. After separating out the male DNA, the laboratory compared it with the DNA profiles of four men known to have been romantically involved with the victim, including defendant's

son. The DNA did not belong to the son but was 99.9% likely to belong to either his son or his father. A blood sample was then obtained from the defendant and a DNA profile created. The profile for both the oral and vaginal samples matched that of defendant.

¶ 5. On February 6, 2003, at the conclusion of DNA testing, the police interviewed defendant about his knowledge of the crime. At a first interview, he claimed that the victim had come to visit him at Progressive Plastics, where he worked. He explained that he had known the victim because she had been dating his son and that she came to his workplace to say she was breaking up with his son. According to defendant, the victim asked him to tell his son that the victim no longer wanted to see him, gave defendant a hug and drove away. Defendant also stated that he had repeatedly interrogated his son and the son's close friend about their whereabouts at the time of the murder.

¶ 6. At a second interview on March 3, defendant added that he had never had sex with the victim and that he had noticed that the victim appeared to be "stoned" when she visited him at work. Nine days later, defendant was asked to come to a municipal building complex in Barre where a model of the crime scene had been created. When confronted with pictures of the victim's body, defendant began dry-heaving. Officers then asked defendant about his relationship with the victim. Defendant denied having anything to do with the victim's murder. Defendant repeated his story about the victim's visit to the plant where he was employed but added that the victim had visited the plant on two separate occasions on the night of the murder. Defendant also stated that a friend of his might have been at his house on the night of the crime. At the end of this interview, defendant was arrested, and warrants were executed to search his house and car. Neither search produced any evidence.

¶ 7. Defendant was charged with aggravated first-degree murder pursuant to 13 V.S.A. §§ 2301, 2311(a)(8). As charged, the murder was first degree and aggravated because defendant allegedly committed murder while perpetrating a sexual assault on the victim. The punishment for aggravated murder is life imprisonment without probation or parole. Id. § 2311(c).

¶ 8. At trial, the State emphasized the forensic evidence that linked defendant to the crime. The State stressed that defendant's DNA had been found in the victim's mouth and vagina. The State also presented the PSA evidence to show that the contact between defendant and the victim had been sexual in nature. In addition, the State put on expert testimony about the hairs discovered on the victim's body. The first witness testified that, based on a microscopic visual comparison, she could not eliminate defendant as the source of the pubic hairs found at the scene of the crime. A second witness testified that the mitochondrial DNA (mtDNA) profile of the hair found at the scene matched the defendant's profile, as well as those of approximately 9 % of the Caucasian male population.

¶ 9. Defense counsel had previously moved to exclude both visual hair comparison and mtDNA testimony on the ground that these forms of analysis did not satisfy the requirements of Daubert and Rule 702. The court denied these motions, concluding that, under Rule 702, there were an adequate number of published studies about each form of analysis and that each had scientific validity.

¶ 10. The central focus of the defense was an alibi. On the night the murder occurred, defendant was working a double shift at Progressive Plastics, running three machines that produced specific plastic parts. Defendant began work at 2:30 p.m. and worked with others until 7:15 p.m. He worked alone until 6:00 a.m. the following morning, when another employee

joined him until he left at 9:00 a.m. The State's theory was that the murder occurred some time before 9 a.m., and so defendant must have left the plant during his shifts to commit the murder. The evidence showed that it would take approximately twenty-four minutes for defendant to drive from the plant to the victim's apartment and return. Defendant's position was that he could not have maintained the machine production numbers established by the evidence if he left the plant for that period.

¶ 11. In his direct case, defendant presented the expert testimony of the plant manager and attempted to elicit testimony that, based on the production numbers, defendant could not have left the plant for the time necessary to commit the murder. The trial court allowed some of this testimony but excluded parts, and the exclusions are challenged here.

¶ 12. To undermine defendant's alibi, the State presented the testimony of a friend and former coworker. She testified that defendant had not seen her that night, but that he had spoken with her on several occasions about the murder and had asked her to lie about having seen him at Progressive Plastics on the night of the killing.

¶ 13. Various other evidentiary issues arose in the course of the trial. The State presented the testimony of several witnesses, including a close friend of defendant's son. When cross-examining the friend, defendant elicited testimony that the friend considered the son to be like a brother and frequently allowed the son to sleep at his house. The friend further testified that he had two prior felony convictions. Defendant sought to ask the friend about instances in which the two men had sexual intercourse with the same woman at the same time. Defendant also hoped to introduce evidence that the two had committed crimes together. The trial court sustained the State's objections to these questions.

¶ 14. Defendant also presented a list of sexual partners allegedly kept by the victim, arguing that men on the list may have been the source of the pubic hairs collected from the crime scene. The State objected and requested that the trial court limit evidence of the victim's sexual past to her encounters with witnesses, including defendant's son, who would be testifying for the State. The court excluded the list, concluding: (1) the list was inadmissible hearsay; (2) defendant had not satisfied the requirements of this Court's decision in State v. Grega, 168 Vt. 363, 721 A.2d 445 (1998), which governs introduction of others as possible alternative perpetrators; and (3) the threat that the evidence would mislead the jury outweighed the probative value of the evidence.

¶ 15. The court also excluded as hearsay the statement of a declarant who told a detective that he had oral sex with the victim the night before the murder. Defendant argued that declarant's statement was not hearsay because it was not offered to prove the truth of the matter asserted. The court rejected this argument.

¶ 16. Defendant was convicted of aggravated murder at the conclusion of his jury trial, and this appeal followed.

¶ 17. Defendant raises two categories of issues on appeal. The first category involves the sufficiency of the evidence and the second the correctness of evidentiary rulings. We begin with the sufficiency of the evidence.

¶ 18. In defendant's view, the evidence did not fairly or sufficiently support a finding of guilt beyond a reasonable doubt. More specifically, defendant argues that the State has proved neither of the main elements of the offense as stated in the information: (1) that defendant

“unlawfully killed . . . [the victim] by stabbing her, while intending to kill her, or intending to cause her great bodily harm, or while acting with a wanton disregard of the likelihood that his behavior would naturally cause death or great bodily harm”; and (2) “did so while engaging in a sexual act with her, specifically contact between his penis and her mouth, or contact between his penis and her vulva, and compelled her to participate in the sexual act without her consent.” See 13 V.S.A. §2311(a)(8) (murder is aggravated if it “was committed in perpetrating or attempting to perpetrate sexual assault or aggravated sexual assault”).

¶ 19. Defendant points to deficiencies in the State’s evidence, reminding us that no fingerprints were recovered at the scene and that no blood or other physical evidence was found in defendant’s home or vehicle. Defendant further asserts that the State did not establish that he had any motive for killing the victim, especially in light of his son’s own motive to commit the crime. These weaknesses, defendant suggests, are representative of the overall inadequacy of the State’s evidence.

¶ 20. Defendant also challenges the adequacy of the State’s forensic evidence. Defendant first argues that the forensic evidence presented at trial was insufficient to establish that he murdered the victim. Defendant points out that the DNA in the victim’s mouth and vagina could not be identified as sperm, and that the PSA, which can be indicative of the presence of sperm, could not be identified as belonging to defendant. Defendant further argues that the relatively small volume of DNA discovered in the victim’s body was insufficient to show when, or even if, vaginal intercourse occurred. Defendant claims that the pubic-hair evidence presented by the State is similarly indeterminate, because another man’s hair was found on the towel, the mtDNA evidence was also consistent with the profiles of 8.5% of the Caucasian

male population, and the hairs could easily have been transferred through casual contact. In sum, defendant argues, the forensic evidence may show that he had some contact with the victim, but not that he is the murderer.

¶ 21. When considering a challenge to the sufficiency of the evidence, this Court “will review the evidence presented by the State viewing it in the light most favorable to the prosecution and excluding any modifying evidence, and determine whether that evidence sufficiently and fairly supports a finding of guilt beyond a reasonable doubt.” State v. Baird, 2006 VT 86, ¶ 13, 180 Vt. 243, 908 A.2d 475 (citation omitted). We have expressly declined to “fashion a hard and fast rule regarding the sufficiency of evidence” but instead have concluded that “each case must be based on its own facts and circumstances.” State v. Couture, 169 Vt. 222, 226, 734 A.2d 524, 527 (1999).

¶ 22. The theory argued by the State in this case proceeded in a series of inferences. First, the State argued, the forensic evidence suggested that the victim had sexual contact with defendant, and the injuries and mutilation she suffered suggested that she had not consented to that contact. The second inference connected the sexual assault to the murder.

¶ 23. Defendant attacks all of these inferences, generally arguing that all the links are inadequate. Although the issue may be reached last in the State’s chain of inferences, we first address the central question, namely, whether defendant was the person who murdered the victim.

¶ 24. We start with the forensic evidence. Although we acknowledge the limitations of the forensic evidence pointed out by defendant, we conclude that the forensic evidence, when

taken as a whole, was sufficient for the jury to find beyond a reasonable doubt that defendant was the perpetrator. Suspicion in this case turned to defendant once the DNA evidence was found. In State v. Streich, 163 Vt. 331, 346, 658 A.2d 38, 49 (1995), we held that DNA evidence is admissible to show the identity of a person who may have committed a crime based on a comparison of characteristics of the DNA of that person and characteristics of DNA found at the scene. If there is a DNA match, the result is a statistical probability that the person whose DNA characteristics match the collected sample is the person from whom the DNA came. Id. at 339, 658 A.2d at 44-45. To ensure the accuracy of the statistics generated, we adopted a relatively conservative method of calculation. Id. at 346, 658 A.2d at 449. In this case, the probability of a random match for defendant's DNA was one in 2 quadrillion. The DNA did not match the profile of any other of the victim's sexual partners, and no one else's DNA was found inside the victim.

¶ 25. Because defendant's DNA was found in the victim's mouth and vagina, the jury could have reasonably concluded that defendant had sexual contact with the victim. The jury need not have agreed with defendant's theory that the DNA was transferred by hugging or casual contact. Indeed, a witness for the State who was present at the plant when the victim visited defendant testified that no hug took place. The location of the DNA reasonably suggested sexual rather than casual contact. Defendant offers no explanation for how DNA from a hug could have been transferred to the victim's mouth and vagina, and the jury would not have been amiss in rejecting defendant's theory for that reason.

¶ 26. The PSA evidence was also a substantial part of the State's case against defendant. The State's expert testified that the PSA likely came from semen, that it was found in

the victim's mouth and vagina where the examiner found DNA matching defendant, and that the DNA did not match any other of the victim's recent sexual partners. In his interviews with the police, defendant consistently denied having sex with the victim at any time, and the defense maintained that position at trial. Thus, the jury could believe that defendant left the DNA in the victim's mouth and vagina immediately before her death and lied about it to conceal his guilt. The combination of the PSA and DNA evidence supported the State's case that defendant was the perpetrator.

¶ 27. The aforementioned forensic evidence was augmented by the two pubic hairs found at the scene. Although the strength of the identification evidence for these hairs was limited, the jury could have believed that their presence was consistent with the story told by the DNA and PSA evidence.

¶ 28. We recognize that defendant had grounds to challenge the weight of the forensic evidence, particularly the pubic hair evidence and the DNA evidence because of the sample size. Defense counsel aired these challenges to the jury in cross-examination of the State's expert witnesses and through the testimony of defense expert witnesses. These challenges, however, go to the weight of the evidence and do not demonstrate that the forensic evidence was too weak to be considered by the jury.

¶ 29. Other evidence supported the State's case that defendant was the perpetrator. The jury had ample reason to conclude that the defendant had lied when telling crucial parts of his story. His explanation of the DNA evidence, a hug given to the victim, was not supported by a witness for the State who observed the encounter at which the hug allegedly occurred. In the second and third interviews with police, defendant stressed that the victim had been high on

marijuana the first time she had come to see him at the plant, and yet the toxicology report showed no marijuana present in the victim's system. Defendant claimed to have spent much of the time after the crime interrogating his son and a friend about what they were doing on the night of the murder. Testifying for the State, both the son and the friend stated that no such interrogation took place. In addition, defendant's story changed each time he spoke to police. Defendant did not mention the victim's alleged drug use until the second interview. In the third interview, defendant embellished on what the victim had supposedly said to him and, for the first time, mentioned the name of a fellow employee who would later testify that defendant asked her to lie about having seen him on the night of the murder. When considered in the light most favorable to the State, this pattern of lies could reasonably have led the jury to believe defendant had tried to cover up his actions, which the jury could accept as an indication of guilt.

¶ 30. The above-mentioned testimony of the friend and coworker was particularly damning. She testified that defendant had called her, sounding panicked, and had later asked her to state falsely that she had been at the plant for a period of three to four hours on the night of the murder and that defendant was with her. She stated that defendant had even provided her with a list of tasks she should claim to have performed that night. At no point in this or any other conversation did defendant mention that he was the target of an investigation of the victim's murder. The jury could have reasonably looked to the coworker's testimony as evidence of an attempt to manufacture a needed alibi.

¶ 31. The coworker's testimony undercut defendant's alibi defense that he was at work during the time of the crime and could not have left to commit it. As discussed infra, ¶¶ 56-60,

defendant presented this alibi defense to the jury, but the jury did not accept it. Thus, the jury necessarily concluded that defendant had the opportunity to commit the crime.

¶ 32. Finally, we disagree with defendant's claim that the State failed to show a motive for defendant's action. We acknowledge that defendant's motive was derivative of that of his son, but the evidence was that defendant was very close to his son and that defendant had become frustrated with the victim as her relationship with the son soured. The jury heard evidence that defendant witnessed the victim cheating on his son nearby and even inside of defendant's home. Defendant told the police more than once that he had paid for the victim to have an abortion of a child not fathered by his son. Thus, the State argued that defendant was angry with the victim for having disrespected the son and defendant himself, and the jury could have accepted this theory of motive. In any event, motive was not an element of the offense to be proven by the State. State v. Doucette, 143 Vt. 573, 582, 470 A.2d 676, 682 (1983) (setting out elements of murder).

¶ 33. In summary, we conclude that the forensic evidence, coupled with defendant's opportunity and motive, and his statements and actions after the crime, were sufficient for the jury to find that he was the perpetrator beyond a reasonable doubt. Further, there is no question that the offense was murder. Testimony and physical evidence indicated that the killing in question was unquestionably intentional: the victim had been stabbed, strangled, and mutilated, consequently losing copious amounts of blood. See State v. Yoh, 2006 VT 49A, ¶ 18, 180 Vt. 317, 910 A.2d 853 (listing intent to kill as element of murder).

¶ 34. The State charged defendant with aggravated murder, which required it to prove that the "murder was committed in perpetrating or attempting to perpetrate sexual assault or

aggravated sexual assault.” 13 V.S.A. § 2311(a)(8). The State’s information on the sexual assault element charged that defendant committed murder “while engaging in a sexual act with [the victim], specifically contact between his penis and her mouth, or contact between his penis and her vulva, and compelled her to participate in the sexual act without her consent.” See 13 V.S.A. § 3252(a). For purposes of our analysis, we can break the charge into two elements: (1) engaging in a sexual act; and (2) compelling the victim to participate. Defendant challenged both elements.

¶ 35. Our discussion above covers the element that defendant engaged in a sexual act with the victim when he murdered her. That conclusion follows from the discovery of defendant’s DNA in her mouth and vagina, the absence of anyone else’s DNA inside the victim, and the lack of any evidence that defendant had sexual relations with the victim at any other time. The location of the DNA suggested sexual, and not casual, contact. The victim’s breasts had been removed, her buttocks exposed, and her underwear pulled down. The jury could thus have reasonably concluded that exclusive sexual contact between the victim and defendant took place contemporaneously with her death. The PSA evidence, although not conclusive, could have bolstered a finding of sexual contact. PSA evidence is routinely and reliably used to corroborate other evidence of sexual assault. See generally L.E. Ferris & J. Sandercock, The Sensitivity of Forensic Tests for Rape, 17 Med. & L. 333, 338-40 (1998). The evidence was sufficient to go to the jury on this element and to convince the jury beyond a reasonable doubt that the contact was sexual.

¶ 36. The closer issue involves the second element: whether the sexual act was compelled without consent. There was considerable circumstantial evidence that the sexual

contact in question was accompanied by violence. The jury heard evidence that the state of the crime scene, and the victim's body suggested that the victim had not been moved after sexual contact occurred. Thus, the jury could reasonably have concluded that the sexual contact and violence took place at the same time. And the evidence of violence was extensive and, often, of a sexual nature. The victim had been stabbed, and marks on her neck indicated that she had been strangled. More importantly, she had been sexually mutilated, had her breasts removed, and was left in a sexually provocative position. The jury could reasonably have concluded that sexual contact accompanied by such violence was not consensual.

¶ 37. A number of courts have confronted a similar issue in similar circumstances. In State v. Williams, 99 Ohio St. 3d 493, 2003-Ohio-4396, 794 N.E.2d 27, the Supreme Court of Ohio affirmed the conviction of the defendant for aggravated murder and rape of his girlfriend. The victim was found slumped over the steering wheel in her vehicle. An examination revealed that she had been strangled and bruises were found on her nose, ear, lip, and labia. Abrasions and a laceration were also found on her chin and neck. A DNA sample taken from the victim's underwear was "consistent with the DNA sample from" the defendant. Defendant claimed he had consensual sex with the victim three days before her death, but the DNA evidence showed that intercourse likely took place no more than twenty-four hours before the victim's death. A jury found the defendant guilty of aggravated murder while committing rape.

¶ 38. The Supreme Court of Ohio affirmed the conviction, indicating that the discrepancy between when the defendant last claimed to have sexual relations with the victim and the DNA evidence showing it must have occurred within twenty-four hours prior to the

victim's death was sufficient to allow the trier of fact to "infer consciousness of guilt" on the part of the defendant. Id. ¶ 54. Furthermore, the court found that the jury had sufficient evidence upon which to find the sex was nonconsensual:

The nonconsensual nature of the intercourse that occurred within 24 hours of her death was indicated, in part, by the fact that [the victim] was murdered soon thereafter. As the United States Supreme Court has observed, being murdered is a fate more frequent among rape victims than friendly sex partners.

Id. ¶ 55 (citation and internal quotation omitted). The court also pointed to the evidence that the victim had been strangled as support for the jury's conclusion that the intercourse was nonconsensual: a pathologist testified that "[w]hen you see a strangulation death in a female, it is our experience that it is more than likely associated with a sexual assault." . . . Thus, the jury could have drawn a reasonable inference from the facts that the intercourse was nonconsensual." Id. ¶ 56.

¶ 39. In State v. Adams, 2004 WL 1486834 (Ohio Ct. App. June 30, 2004), the facts were similar to those here because the victim's body was bruised and the defendant denied sexual activity with the victim, but the defendant's DNA was found in sperm on the victim. The defendant suggested that the sperm match was the result of a hug he may have given the victim the day of her death. Affirming the conviction and finding sufficient evidence of rape, the court cited defendant's denial of sexual contact, and the condition of the body. Id. ¶¶ 61-62. The court observed that the "absence of trauma to the genitalia does not preclude that force was involved in the sexual act." Id. ¶ 62.

¶ 40. We also note similar decisions from the highest courts of Florida and Massachusetts. Fitzpatrick v. State, 900 So.2d 495 (Fla. 2005) (per curium); Commonwealth v. Miller, 755 N.E.2d 1266 (Mass. 2001). In both cases, the court found that the state of the body and the presence of DNA indicating recent sexual activity was sufficient to show a lack of consent. According to the Florida court, the defendant’s contention that the sexual intercourse was consensual was contravened by the circumstances under which the victim’s body was found. Fitzpatrick, 900 So.2d at 509. The court pointed to the fact that the victim was found naked, with a bloody undergarment wrapped around her waist, and that she had significant physical injuries as evidence supporting the jury’s conclusion that “the killing occurred during a sexual battery.” Id.

¶ 41. In Miller, the victim’s nude body was found beneath a comforter on the floor of her apartment; she died of multiple stab wounds to the chest and back and had “significant injuries to her head, neck, anal, vaginal, and groin areas.” 755 N.E.2d at 1269. The defendant claimed to have had consensual sexual relations with the victim before her death. Id. at 1270. The Supreme Judicial Court of Massachusetts found that the Commonwealth’s evidence, “while largely circumstantial, was . . . sufficient to warrant a finding by the jury beyond a reasonable doubt that the defendant was guilty of aggravated rape.” Id.

¶ 42. We agree with the reasoning of these cases, at least on the facts before us. The trial court in this case had no direct evidence of nonconsensual sex, but strong circumstantial evidence. The stabbing and removal of the victim’s breasts and the positioning of the body were inconsistent with consensual activity between the perpetrator and the victim. Defendant’s denial of any consensual activity at any time with the victim, despite the presence of his DNA inside of

her, undercut any finding that the sex acts were consensual on this occasion. Thus, overall, we conclude that the evidence was sufficient to convict defendant of aggravated murder.

¶ 43. We emphasize that our conclusion today relates only to the facts and evidence in this case. We have steadfastly declined to “fashion a hard and fast rule regarding the sufficiency of evidence,” Couture, 169 Vt. at 226, 734 A.2d at 527, and decline to do so today. In sum, after reviewing the totality of the evidence discussed above, both direct and circumstantial, we conclude that it sufficiently and fairly supports the jury’s verdict. The court correctly denied defendant’s motion for a judgment of acquittal. It follows that defendant was not entitled to a new trial under Rule 33, because the evidence here does not weigh heavily against, and no miscarriage of justice flows from, the verdict. State v. Ladabouche, 146 Vt. 279, 283, 502 A.2d 852, 855-56 (1985). “Accordingly, the court did not abuse its discretion by denying defendant’s motion for a new trial.” Baird, 2006 VT 86, ¶ 22.

¶ 44. This brings us to defendant’s arguments about evidentiary rulings made by the trial judge. Defendant’s challenges to the evidentiary rulings fall into the following three subcategories: (1) arguments that the trial court improperly allowed into evidence expert testimony that identified defendant as present at the scene of the victim’s death; (2) arguments that the trial court improperly excluded certain alibi and alternative-perpetrator evidence; and (3) arguments that the trial court improperly restricted defendant from cross-examining an alibi witness for defendant’s son. We discuss these contentions in the above order.

¶ 45. Defendant’s challenge to the State’s expert testimony relates to two pubic hairs that were found at the scene of the murder. One of the hairs was found in the victim’s apartment; the other in the body bag in which the victim was placed. The State found various hairs in these

locations and analyzed them in two ways: (1) by comparing the mtDNA profiles of the hairs to those of defendant and various other persons; (2) by using microscopic-hair-comparison analysis to compare the found hairs to those belonging to defendant and other individuals. The State called an expert witness to testify about how each of these methods related to the two pubic hairs discovered at the crime scene. The first expert testified that the mtDNA profile of the two pubic hairs matched defendant's profile. The second opined that microscopic hair comparison showed that the two pubic hairs and those taken from defendant could have come from the same person.

¶ 46. Defendant challenged the admissibility of the testimony of both expert witnesses by pretrial motions in limine. He challenged the testimony about the mtDNA analysis on relevancy grounds, noting that the probability of a match of mtDNA profiles is much larger than would be the probability of a nuclear DNA match. Indeed, defendant asserted, 8.5% of the male Caucasian population shares his mtDNA profile. He also noted that the State had not created mtDNA profiles for numerous other persons who had been sexual partners of the victim and/or whose nuclear DNA was found on the body of the victim. For these reasons, he argued that the evidence was irrelevant and that the danger that the evidence would mislead, confuse, or prejudice the jury outweighed the probative value of the evidence. With respect to the microscopic hair analysis, he also argued that the expert testimony did not meet the standards of Daubert.

¶ 47. The trial court denied both motions in limine. With respect to the mtDNA testimony, the court held that it met the liberal standard of relevancy in Vermont Rule of Evidence 401 and that defendant's arguments went to weight, not admissibility. The court further held that the evidence was admissible under V.R.E. 403, reasoning that any danger of

unfair prejudice could be eliminated by cross-examination of the State's witness and by presentation of the testimony of the expert witness for the defense. With respect to the microscopic-hair-comparison analysis, the court ruled that it met the standards of Daubert.

¶ 48. We begin with the mtDNA evidence and note that defendant has not challenged the science and technology behind this evidence. In any case, although mtDNA evidence is relatively new, all jurisdictions to have considered the issue have uniformly found mtDNA to be reliable. See E. Cheng, Mitochondrial DNA: Emerging Legal Issues, 13 J.L. & Pol'y 99, 101 (2005). The weakness in this evidence, by contrast to nuclear DNA evidence, is that "mtDNA sequences are commonly shared by multiple persons in the population." Id. at 104. That weakness was particularly apparent here, because defendant's mtDNA profile is commonly found, shared by more than 8 % of Caucasian males.

¶ 49. The rule of relevancy is "broadly stated," Reporter's Notes, V.R.E. 401; evidence is relevant if it has "any tendency to make the existence of any fact that is of consequence to the determination of the action, more probable or less probable." V.R.E. 401. The trial court has discretion in determining the relevancy of evidence, and we will reverse a determination of relevancy only for abuse of discretion. State v. White, 172 Vt. 493, 500, 782 A.2d 1187, 1192 (2001). We note that other courts have found mtDNA evidence relevant, although in those cases, the disputed mtDNA sequence was less common. See United States v. Beverly, 369 F.3d 516, 530-31 (6th Cir. 2004); State v. Pappas, 776 A.2d 1091, 1110-11 (Conn. 2001); State v. Council, 515 S.E.2d 508, 518 (S.C. 1999).

¶ 50. Here, defendant has argued both before this Court and the court below that it is incredible that he could have committed this violent crime and left behind such a small quantity

of forensic evidence. The State presented mtDNA evidence as part of its response to this argument, showing that defendant may well have left forensic evidence at the scene of the crime, namely, the contested pubic hairs. In responding in this way, the State did not have to show that the hairs necessarily came from defendant or that they could not have come from others. As we said above, the threshold for relevancy is quite low, and the trial court has discretion in determining when evidence is within its bounds.

¶ 51. Defendant also challenges the evidentiary ruling as violative of V.R.E. 403, because the danger of unfair prejudice substantially outweighed the very limited probative value of the evidence. When applying this rule, the trial court's decision is highly discretionary and may be overturned only if the trial court withholds discretion or exercises it on grounds clearly unreasonable or untenable. See State v. Lee, 2005 VT 99, ¶ 11, 178 Vt. 420, 886 A.2d 378. Here, the trial judge exercised discretion and explained the rationale for her decision. She particularly noted that defendant could address the weight of the evidence by presenting his own expert witness and by cross-examining the State's expert. Because of the limited probative value of the evidence, we acknowledge that the Rule 403 determination is a somewhat close question. However, we cannot intervene simply because a different judge might have reached a different result. See White, 172 Vt. at 500, 782 A.2d at 1192. We conclude that the decision to admit the evidence was not an abuse of discretion.

¶ 52. Defendant also specifically challenges the expert testimony concerning the visual comparison of the two pubic hairs with those from defendant. Defendant argues that such evidence is unreliable and cannot be admitted under the standards of Daubert. Relying upon the

foundation testimony of the State's expert witnesses, the trial court did a Daubert analysis and found the evidence admissible.

¶ 53. Although we have not revisited the issue since we adopted the Daubert standards, see State v. Brooks, 162 Vt. 26, 30, 643 A.2d 226, 229 (1993), we have held hair-comparison evidence to be admissible. State v. Towne, 158 Vt. 607, 620, 615 A.2d 484, 491 (1992) (“When the crime is a violent one involving a strong possibility that hairs will be exchanged between perpetrator and victim, the hair comparison will be of material aid.”). We also note the overall acceptance of this evidence in other courts, even after Daubert. See State v. West, 877 A.2d 787, 808 (Conn. 2005) (noting the “overwhelming” acceptance of microscopic-hair-comparison evidence, collecting cases).

¶ 54. In State v. Kinney, 171 Vt. 239, 249, 762 A.2d 832, 841 (2000), we noted that in many cases “the issue is whether a certain category of evidence is admissible,” and we “can fully evaluate the reliability and relevance of the evidence generally based on decisions of other appellate courts.” Thus, to the extent evaluation of the evidence by other courts “is complete and persuasive,” we can affirmatively rely upon those evaluations in reaching our own decision. Id. at 249, 762 A.2d at 842. Given the widespread acceptance of microscopic-hair-comparison evidence, Kinney suggests that we should allow its admission even without a Daubert analysis. However, as we explain below, there is no need for such a broad ruling in this case.

¶ 55. This is the case partly because the microscopic hair comparison in this case was secondary and supplementary to the mtDNA analysis of the same hairs.¹ The mtDNA analysis is clearly the more accurate, reliable, and informative of the two methods. See Cheng, supra, 110-11; M. Berger, Expert Testimony in Criminal Proceedings: Questions Daubert Does Not Answer,

33 Seton Hall L. Rev. 1125, 1135 (2003). For example, the mtDNA analysis could produce a sequence frequency, whereas the microscopic hair comparison can show only that the hairs could have come from the same person. When used as it was here, microscopic hair analysis can serve as a cross-check, inuring to the benefit of the person whose hairs are examined by ensuring results consistent with the mtDNA analysis. Cf. Cheng, supra, at 111 (FBI claims that microscopy is now used only “as an initial filter” in connection with mtDNA). In these circumstances, we are unwilling to second-guess the determinations of the majority of other courts. Indeed, we believe that any error in the admission of the evidence would be harmless. See State v. Burgess, 2007 VT 18, ¶ 9, ___Vt. ___, 917 A.2d 528 (where wrongly admitted evidence is cumulative, error is harmless beyond a reasonable doubt); State v. Wigg, 2005 VT 91, ¶¶ 25, 33, 179 Vt. 65, 889 A.2d 233 (an error is harmless if it is clear beyond a reasonable doubt that the jury would have returned a guilty verdict were the evidence in question not admitted; admission can be harmless if the State has presented other evidence that addresses the same facts and issues as the contested evidence). We stress that we are not ruling that microscopic hair comparison would be admissible in cases where mtDNA analysis would be feasible, but is not employed. Commentators have persuasively criticized such usage. See Cheng, supra, 112-14; Berger, supra, 1136-37. We leave that question to another day.

¶ 56. The next category of challenged evidentiary ruling involves alibi evidence proffered by defendant. First, defendant challenges rulings limiting the questions defendant was able to ask his expert witness, the plant manager, about whether defendant could have left his place of work for long enough to commit the murder and maintain the production output observed at the plant. Defendant asserts in his brief that the plant manager “would have given an opinion that Al Brochu could not have left the plant for the 24 minutes it would take him to make

a round trip to [the victim's] . . . apartment.” Defendant acknowledges that the witness was allowed to answer another question about whether it was “unlikely” that defendant could have left the plant for the necessary period. He argues that there is a critical difference between testimony that leaving was “unlikely” instead of impossible.

¶ 57. As defendant acknowledges, the exact ruling of the trial judge, and the rationale for it, are unknown because the ruling occurred during an unrecorded bench conference. In ruling on the motion for a new trial, the court explained:

Specifically addressing the gravamen of defendant’s motion regarding Mr. Johnson’s testimony, the court sustained the State’s objection to Mr. Johnson being asked on direct examination whether it was possible for the defendant to leave machines #17 and #3 for periods between 24 and 30 minutes. On redirect examination the court sustained the State’s objection to Mr. Johnson being asked if it was possible for “Al Brochu to have left the plant” Mr. Johnson had no basis of knowledge, whether as an expert in plastics production, or as an expert in any other field, whether he was qualified as an expert or not qualified as an expert, or if it was his lay opinion to know whether or not the defendant left the plant on the night of [the victim’s] murder. . . . Rather, Mr. Johnson could, and did, render his opinion concerning the production of the machines in question on the night of [the] murder. He was asked on direct examination regarding machine #17 if it were possible to leave this machine for 30 minutes and attain the production evidenced by the Progressive Plastics records. Mr. Johnson answered that it was unlikely. Regarding machine #3, Mr. Johnson was asked on direct examination if the machine could have run unattended for a half hour or more without the production records reflecting decreased production. Mr. Johnson answered that it was unlikely.

It was within the province of the jury to draw any conclusions or inferences from Mr. Johnson’s testimony based on his knowledge of all the records of Progressive Plastics for the

three machines that the defendant operated on the night in question.

¶ 58. The two questions and answers that were admitted were as follows:

Q. Could Al have left these machines for thirty minutes and gotten [sic] those production numbers that you're looking at?

A. It's unlikely.

...

Q. Can machine number 3 be left unattended; can it run unattended, for a half hour or more without the production record reflecting that . . . decreased production?

A. It's unlikely.

¶ 59. While we cannot fully reconstruct the question, offer of proof, and ruling, we nonetheless conclude that the court did not make the ruling that defendant attributes to it. The court did not rule that the witness could testify that defendant's leaving the plant was unlikely but could not testify that it was impossible. The court was concerned with the phrasing of the questions, apparently ruling that the plant manager's expertise did not extend to giving an opinion on defendant's conduct or his personal capabilities. See V.R.E. 702 (witness qualified to do so may testify in the form of an opinion). Thus, defendant's real objection is to the content of the testimony of his own witness. The witness could have answered either of the two questions set out above with the opinion that defendant was seeking but failed to do so.

¶ 60. The record reflects that defense counsel repeatedly asked substantially the same question in the hope that the witness would eventually testify in line with counsel's expectations. The trial court has broad power over the "mode and order of interrogating witnesses and presenting evidence" to make the presentation "orderly and effective for the ascertainment of the truth" and to "avoid needless consumption of time." V.R.E. 611; State v. Beattie, 157 Vt. 162, 168, 596 A.2d 919, 923 (1991) (Rule 611 gives court discretion over mode and timing of presentation of evidence). The court may exclude repetitious questioning. Thus, "[w]here a previous question covered substantially the ground covered by a subsequent question, there is no error in excluding the latter." State v. Smith, 145 Vt. 121, 135, 485 A.2d 124, 133 (1984). That is essentially what occurred here, and thus, we find no error.

¶ 61. Defendant's next argument relates to a document prepared by the victim called "sex list." The list contained the names of the twenty men with whom she had had sexual relations and also included the number of times, the age of the man, the age of the victim at the time of the sexual relations, a rating, and a statement of reasons for the rating.² The State made a motion in limine to exclude the list, arguing that it was irrelevant, potentially embarrassing to the men on the list, and likely to distract the jury. Defendant responded that he had no objection to excising the ratings, but wanted to use the other information, without specifying the manner in which the evidence would be used. In the hearing on the motion, the State indicated that it intended to describe the police investigation, including the discovery of the list and that the police interviewed each man on the list. Defendant indicated that he wanted to introduce the number of sexual partners, without most of their names, and the number of the victim's sexual encounters during the six months before the murder. He sought to introduce this evidence in order to show the number of people who could have been the source of the hairs found on the

victim and in her apartment and who could have shared the mtDNA profile created from the hairs.

¶ 62. The trial court excluded the proffered evidence on multiple grounds. It analyzed the issue as part of a claim that there were alternative perpetrators and held that the evidence did not meet the threshold requirements set out in State v. Grega, 168 Vt. 363, 375, 721 A.2d 445, 454 (1998) and State v. Gilman, 158 Vt. 210, 214, 608 A.2d 660, 663 (1992). The court held that the list was hearsay, without an exception allowing admission. Moreover, under Rule 403, the court ruled that the evidence should be excluded because it was likely to mislead the jury and confuse the issues at trial. In a motion to reconsider, defendant asserted that he did not claim that the men on the list were alternative perpetrators. The court responded that the people on the list were no more relevant as donors of hair than the many other people with whom the victim came into casual, even random, contact.

¶ 63. Defendant argues now that the significance of the evidence to his case arises from the admission of the mtDNA evidence and from defendant's related need to show alternative sources, matching the mtDNA profile created from the hairs.

¶ 64. Just as the trial court had multiple grounds to exclude the evidence, we have multiple grounds to affirm its ruling. The State's motion in limine was about the list document, and the trial court ruling responded to the motion. The court ruled the document to be hearsay that fit within no exception. See V.R.E. 802. Although defendant responded to other parts of the ruling by a motion to reconsider, defendant has never responded to the court's holding in this respect. Thus, defendant's challenge to the list is not preserved. See State v. Rideout, 2007 VT 59A, ¶ 19, ___ Vt. ___, 933 A.2d 706.

¶ 65. Defendant has suggested that his challenge concerned not the list but instead the information in the list. But to the extent that the information was relevant, defendant was able to present any pertinent facts by cross-examining one of the police officers who conducted the investigation. The officer testified that he had to interview so many of the victim's former sexual partners that it "almost boggle[d the] mind" and that the victim was promiscuous.

¶ 66. The court also excluded this evidence on Rule 403 grounds. The evidence had very limited probative value on the issue for which defendant sought to introduce it. As discussed above, defendant's mtDNA characteristics were shared with 8.5% of the adult Caucasian male population. As we have already stated, the mtDNA evidence was itself of arguably limited probative value, at best responding somewhat to the argument that defendant could not have committed the crime without leaving some trace beyond the DNA. Moreover, defendant's expert effectively showed that pubic hairs are transported by many means, not just by sexual activity. Thus, defendant was already able to show that there were many possible sources of the two hairs found at the scene of the crime. Even if we view defendant's argument in the most favorable light possible, we can say at most that the high number and frequency of sexual partners suggested a slight increase in the number of hairs that would be at the scene, and thus a small increase in the number that might match defendant's mtDNA characteristics.

¶ 67. On the other hand, the trial judge was necessarily concerned about too great a focus on the victim's sexual history. The court was understandably worried that the jury would try the victim for her behavior rather than considering the question of defendant's culpability. Moreover, the evidence was cumulative. See Burgess, 2007 VT 18, ¶ 9. Given the

marginal relevance of the information, the court was well within its discretion in excluding the specific evidence defendant sought to introduce.

¶ 68. Defendant's final evidentiary claim in this category is that the court erred in excluding, as hearsay, statements made to a police officer during the investigation. During his trial testimony, a man admitted having had sexual intercourse with the victim the night before the murder but denied having oral sex with her at that time. During the investigation, however, the declarant told the investigating officer that he had also had oral sex with the victim at the same time. Defendant sought to admit the testimony of the officer on the man's statement by arguing that it was not hearsay. Defendant argued that the statement would provide an alternative explanation for the presence of PSA found in the mouth of the victim.

¶ 69. Defendant argues that the statements in question were not hearsay, because they were not offered to establish the truth of the matter asserted. In the alternative, and for the first time on appeal, defendant argues that, if the statements are found to be hearsay, they fit an exception to the hearsay prohibition under V.R.E. 803(5) as past recorded recollections. We will address these claims in turn.

¶ 70. Defendant argues that the statements at issue were not hearsay, because they were introduced through the police officer who intended to show only that the statements were made and was not interested in or knowledgeable about the truth of the assertions. Defendant misunderstands the definition of hearsay set forth in Rule 801, which provides that "[h]earsay" is a statement, other than one made by the declarant while testifying at a trial or hearing, offered in evidence to prove the truth of the matter asserted." V.R.E. 801(c). Under Rule 801(c), it is the proponent of the evidence, not the witness, who may not offer a statement for the truth of the

matter asserted. The approach of Rule 802, which provides that hearsay is not admissible unless it fits within an exception, “emphasizes the role of the adversary trial in testing credibility, both as a matter of policy and for consistency with Sixth Amendment guarantees.” Reporter’s Notes, V.R.E. 801. The Rule thus recognizes that a statement is considered to be sufficiently credible either when its declarant is subject to cross-examination or when the statement falls within a category of statements generally thought to be trustworthy. Reporter’s Notes, V.R.E. 802. Rules 801 and 802 unmistakably focus on the use of a statement by the party offering it into evidence and not on the intention of the witness who repeats the hearsay statement. In this case, defendant offered the officer’s statement to prove the truth of the matter asserted, namely, that the declarant had oral sex with the victim the night before the murder. Accordingly, the statement was hearsay within the meaning of Rule 801.

¶ 71. Defendant responds that, if the statements in question are found to be hearsay, they qualify as past recorded recollections, an exception to the hearsay prohibition in Rule 803(5). Because defendant did not raise this claim before the trial court, we review it only for plain error. State v. Wiley, 2007 VT 13, ¶ 7, ___Vt.___, 917 A.2d 501. Plain error exists only in exceptional circumstances where a failure to recognize an error would result in a miscarriage of justice, or where there is a glaring error so grave and serious that it strikes at the very heart of the defendant’s constitutional rights. State v. Carpenter, 170 Vt. 371, 374-75, 749 A.2d 1137, 1139-40 (2000). We have made clear that we will find plain error “only in rare and extraordinary cases where the error is obvious.” Streich, 163 Vt. at 353, 658 A.2d at 53.

¶ 72. We cannot find the error, if any, to be plain. The parties and the judge discussed their impression that the witness had testified that he had oral sex with the victim. Defense

counsel stressed this fact in his closing argument to the jury, without objection from the prosecution. Thus, we can find no likelihood that the error, if any, affected the jury's verdict.

¶ 73. Next, defendant makes two arguments with respect to the cross-examination of a friend of defendant's son who testified to provide an alibi for defendant's son. Whether the son had a sufficient alibi was an issue in the case because defendant presented evidence that the son could have been the perpetrator of the crime. Defendant sought to undermine the witness's credibility by showing that the witness would lie to protect the son. In order to do so, defense counsel wanted to pursue two lines of questioning.

¶ 74. First, defendant wanted to show that the friend and the son had, on a number of occasions, had sex with the same woman at the same time. Both the son and the friend testified to these practices in depositions, and the State filed a motion in limine to exclude this testimony at trial. Defendant responded that the evidence showed that the son and the friend were so close "that they have no compunction about being naked with each other and sharing the most intimate of activities." The trial court held that the evidence was of very limited probative value and was, therefore, not relevant to whether the friend and son were so close that the friend would lie for the son. In addition, the court concluded that the effect of the evidence was to show that the son and friend engage in "uncommon sexual practices." The court concluded that there were other ways to show the closeness of their friendship.

¶ 75. We agree with the court's conclusion for the reasons stated. Although the court did not cite this rule, its ruling was an application of V.R.E. 403. The court had broad discretion in making this ruling. See State v. Ovitt, 2005 VT 74, ¶¶ 9, 11, 178 Vt. 605, 878 A.2d 314; State v. Rinaldi, 142 S.E.2d 604, 606-07 (N.C. 1965) (evidence of "abnormal" sexual practices is

prejudicial). There is no reason to contradict the trial court's conclusion that the undue prejudicial effect of the proffered evidence outweighed its questionable probative value.

¶ 76. Second, defendant sought to show that the son and his friend had committed crimes together and were not charged for them. The friend testified in his deposition that he and the son broke into a house, blew up a car engine, stole twenty-five cars, and broke into twenty other cars and stole the stereos. The State sought to exclude the evidence because it was improper character evidence and because its prejudicial effect substantially outweighed its probative value.

¶ 77. The court essentially accepted the State's position, ruling that the evidence was "inadmissible propensity character evidence." The court further ruled that even if the evidence was relevant, its probative value was "substantially outweighed by confusion of the issues, misleading the jury, waste of time, and inadmissible propensity evidence."

¶ 78. Because of the probative value of the evidence, and the error in the way that the trial court analyzed defendant's argument for admission, we find this issue much closer than that involving the sexual practices of the son and friend and discuss it in more detail.

¶ 79. Defendant argues first that the proffered evidence was impeachment rather than character evidence and, for that reason, the main ground for the court's ruling was erroneous. We agree. Defendant did not claim that the evidence showed the friend's character for untruthfulness. See V.R.E. 404(a)(3), 608(b). Instead, defendant argued that the friend's alibi testimony was not credible because the son knew of the friend's criminal conduct and could

report it if angered. Defendant compared the situation to those of members of a gang who would not provide evidence against each other.

¶ 80. Our basic rule on impeaching the credibility of a witness is outlined in the pre-rule case of State v. Berard, 132 Vt. 138, 147, 315 A.2d 501, 508 (1974):

Cross-examination normally only goes to that which limits, explains, or refutes direct examination or modifies the inferences to be drawn therefrom. The exception is the issue of credibility. The credibility of a witness is always open to attack, and wide latitude should be allowed on cross-examination for the purpose of showing who or what the witness is, and that he is unreliable, prejudiced, and biased. It is the scope of this latitude on cross-examination which is here at issue.

The scope of this latitude is not unlimited. There are limitations on the questions which may be asked to impeach. Particularly in the area of collateral issues, the trial court may restrict the scope of cross-examination. A collateral issue is one not relevant to any material proposition in the case itself. In the instance of impeachment, the collateral issue would be one bearing only on credibility of the particular witness and upon which evidence would not be admissible into the case except for question of the credibility of the particular witness.

The discretion of the trial court in allowing examination on collateral issues apparently depends on the remoteness of that collateral issue.

(citations omitted).

¶ 81. The right of a party to attack the credibility of a witness is provided for in V.R.E. 607, but the permissible scope of impeachment by cross-examination is not prescribed in the Rules. See C. Wright & V. Gold, *Federal Practice & Procedure* § 6092, at 594 (2007). Thus, such cross-examination is limited only by the considerations enumerated in Rule 403. Evidence used to impeach on grounds of bias is relevant. See *id.*; State v. Fuller, 168 Vt. 396, 405-06, 721 A.2d 475, 482 (1998). In addition, when defendant sought to impeach this witness, any limitation on impeachment must also conform to the requirements of the Confrontation Clause of the Sixth Amendment to the United States Constitution, under which defendant is guaranteed the right to “be confronted with the witnesses against him.” U.S. Const. amend. VI; State v. Dunbar, 152 Vt. 399, 410, 566 A.2d 970, 976 (1989). This right, however, is also subject to considerations like those specified in Rule 403. See Delaware v. Van Arsdall, 475 U.S. 673, 678-79 (1986).

¶ 82. In this case, defendant sought to impeach the friend on the basis of bias. As stated above, the use of such questioning is bound only by limits on relevancy and by related considerations set forth by Rule 403. Cross-examination on the basis of bias is not limited by the rules governing character evidence, and the trial court erred in ruling otherwise.

¶ 83. The court had, however, a second reason for excluding the evidence, namely, that its probative value was substantially outweighed by its prejudicial effect. We turn now to this conclusion.

¶ 84. At the outset, we acknowledge that the evidence had probative value. “Evidence that the alibi witness and defendant were crime partners . . . was admissible on the question of credibility” and was “far more probative” than other evidence of bias available to the

defendant. People v. Freeman, 882 P.2d 249, 273 (Cal. 1994). This is the case partly because the son and the friend each knew information that would incriminate the other and subject him to potential conviction or incarceration. As defendant argued, this situation is shared by gang members. See O’Neal v. Delo, 44 F.3d 655, 661 (8th Cir. 1995) (“[T]estimony regarding the association of [the defendant] and his witnesses with [racist gang] organizations was probative [on the] credibility of his witnesses.”); State v. Roberts, 931 P.2d 683, 687 (Kan. 1997) (concluding that “[s]imple friendship does not create the same inference of incentive to protect another person that is created by evidence of membership in the same gang”(citation omitted)); James v. State, 998 P.2d 389, 394 (Wyo. 2000) (once sufficient evidentiary foundation established, gang membership admissible to show witness bias). We are aware of evidence that those who commit crimes as a group often form bonds of shared identity with their partners in crime and are, therefore, less willing to betray their coconspirators. See N. Katyal, Conspiracy Theory, 112 Yale L.J. 1307, 1322-23 (2003).

¶ 85. Nevertheless, “the trial court retains wide latitude to impose reasonable limits on cross-examination to prevent, among other things, undue prejudice and confusion of the issues.” State v. Hanks, 172 Vt. 93, 98, 772 A.2d 1087, 1091 (2001). The situation here is somewhat similar to that in State v. French, 152 Vt. 72, 80, 564 A.2d 1058, 1063 (1989), where we upheld exclusion of impeachment evidence. Part of that impeachment effort related to the witness’s prior conduct of passing bad checks. We assumed that the evidence was relevant to challenge the witness’s credibility, but we nevertheless upheld the exclusion because of the risk of unfair prejudice posed by the question. Similarly, we upheld the denial of an impeachment question about whether the witness’s deposition testimony was closer to the truth than the testimony she gave during an earlier trial of the case. We said that “[t]his approach to

impeachment, tantamount to a demand that the witness admit perjury, was more prejudicial than probative.” Id.

¶ 86. Although the impeachment evidence in this case was relevant and had substantial probative value, it nevertheless went to a collateral issue. The alibi of the son was not pivotal in light of the presence of defendant’s DNA in the victim’s mouth and vagina and the absence of the son’s DNA. The impeachment evidence was highly prejudicial and inflammatory. Defendant was able to show by other means that the son and friend were very close, giving the friend a motive to cover for the son. In these circumstances, we hold that the trial court acted within its discretion to exclude the evidence under V.R.E. 403.

¶ 87. Defendant’s related constitutional claim is similarly unsuccessful. Under the Sixth Amendment, defendant has “an opportunity for effective cross-examination, not cross-examination that is effective in whatever way, and to whatever extent, the defense might wish.” Delaware v. Fensterer, 474 U.S. 15, 20 (1985). Van Arsdall dealt with a situation where the trial court prohibited any inquiry into the witness’s motive to lie, and our cases finding a violation have similarly involved a total deprivation of the opportunity to show the witness’s bias. 475 U.S. at 679; See, e.g., State v. Findlay, 171 Vt. 594, 596, 765 A.2d 483, 487 (2000) (mem.); In re A.B., 170 Vt. 535, 537, 740 A.2d 367, 369 (1999) (mem.). Our past cases also often involved the credibility of the central witness against the defendant. See Findlay, 171 Vt. at 596, 765 A.2d at 486; A.B., 170 Vt. at 537, 740 A.2d at 369. By contrast, we have been particularly supportive of restrictions on cross-examination when the defendant wanted to explore details of criminal conduct or other misconduct that was irrelevant or only marginally

relevant to the charges against the defendant. See State v. Raymond, 148 Vt. 617, 620-21, 538 A.2d 164, 166 (1987); State v. Larose, 150 Vt. 363, 369-70, 554 A.2d 227, 231-32 (1988).

¶ 88. This case involves cross-examination of a collateral witness, see Larose, 150 Vt. at 368-69, 554 A.2d at 231, and is also a case in which defendant was otherwise able to show the witness's motive to lie. As we stated above in the discussion of Rule 403, the evidence was highly prejudicial to the witness, because defendant wanted to delve into details of the shared criminal exploits of the witness and defendant's son. Under these circumstances, there was no Confrontation Clause violation.

Affirmed.

FOR THE COURT:

Associate Justice

¹ We note that the parties disputed the relationship between mtDNA and microscopic hair comparison. Defendant relied upon a study that showed that, in nine out of eighty instances, microscopic hair analysis produced a false positive. See Cheng, supra, at 109. The State responded that hair analysis and mtDNA “look[] for different sorts of characteristics.” Specifically, the State quoted a study recommending that “both microscopic and mtDNA analysis be used for analyzing hair evidence.” The State emphasized that

“microscopy is not a ‘screening test’ and mtDNA analysis is not a ‘confirmatory test.’ ” While we agree with the State that mtDNA and microscopic hair analysis use different characteristics and represent distinct methodologies, our reading of the academic scholarship indicates that microscopy testimony is, for the most part, considered reliable only when it is accompanied by mtDNA analysis. Cheng, supra, at 111. While we agree with the State that “defendant’s claims of error rates and false positives are not grounds for exclusion of this [microscopy] evidence,” we disagree with the State’s analysis of the relationship between that evidence and mtDNA.

 ² There were two versions of the sex list, only one of which included the rating and the reason for the rating. Defendant ultimately sought to introduce the list without the ratings.