

2015

Critical period conditioning by orgasm during heterosexual oral sex

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CRITICAL PERIOD CONDITIONING BY ORGASM
DURING HETEROSEXUAL ORAL SEX

A thesis submitted to
the Graduate College of
Marshall University

In partial fulfillment of
the requirements for the degree of
Education Specialist

in

School Psychology

by

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May 2015

ACKNOWLEDGEMENTS

First, I would like to thank Dr. Haning, Dr. Stroebel, and Dr. Lucas-Adkins for their guidance, support, and encouragement throughout this project. I would also like to thank my husband, David, who has provided me with unconditional love and support throughout this journey.

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ABSTRACT

Data were obtained retrospectively and anonymously using a computerized survey instrument from 450 female and 489 male participants who had experienced orgasm during oral sex before age 18, as well as 352 female and 151 male participants who had not experienced an orgasm while receiving oral sex before age 18. Female participants who experienced an orgasm during oral sex prior to age 18 were significantly more likely to experience an orgasm during oral sex after age 18. For male participants, although the difference was in the hypothesized direction, it did not reach significance. Female participants who experienced an orgasm during oral sex prior to age 18 were significantly more likely to report that being a recipient of oral sex was the easiest way for them to reach orgasm with a partner after age 18 and they had a preference for oral sex if they had experienced an orgasm during oral sex prior to age 18.

CHAPTER 1

LITERATURE REVIEW

The broad purposes in undertaking the present research were to investigate the impact of sexual experience early in life on adult sexual behavior and to understand the role of learning processes in molding human sexual behavior. A computerized search in December 2014 of the Medline, PsychINFO, and PsychARTICLES databases using Academic Search Premier for the terms “critical period” and “oral sex” and “children” in the abstract yielded no recent research examining the influence of critical period learning on children’s sexual development. The present research traced the effect of a single, simple difference in sexual experience between two groups of individuals who engaged in oral sex before age 18: The two groups differed with only one group experiencing orgasm. There are a number of kinds of learning paradigms that may explain influences of early experiences on adult behavior: observational learning (Bandura, 1986), instrumental (operant) conditioning (Kirsch, Lynn, Bigorito, & Miller, 2004), mere-repeated-exposure (see Zajonc, 2001; Zajonc & Markus, 1982 for reviews), classical (Pavlovian) conditioning (Kantorowitz, 1978a, 1978b; Hoffmann, Janssen, & Turner, 2004; Lalumière & Quinsey, 1998; Plaud & Martini, 1999; Rachman, 1966; Rachman & Hogson, 1968; & VanWyk & Geist, 1984); Williams & Weinberg, 2003) and critical period learning (Fox & Rutter, 2010; Griffee et al., 2014a, 2014b; Immelmann, 1975; Oswald, 2008).

Recent relevant research has examined the effect of early life experience with sexual activity and how such experience relates to sexual behaviors in adult life. These studies sought to understand the role that early learning plays in shaping adult sexual behaviors. One of the key findings of these studies was the role critical period learning plays during development in the formation of human sexual behavior (Griffee et al., 2014a, 2014b).

Operant and Classical Conditioning Theories

Operant conditioning (learning to emit responses in the absence of well-defined antecedent stimuli) occurs when either rewards or punishment happen after the response (e.g. in a Skinner box, token economy, slot machine, school, or workplace, Kirsch et al., 2004). Classical conditioning has the unique capability of producing conditioned autonomic responses (e.g. salivation and sexual arousal) to novel stimuli that are not under voluntary control (Hoffman, 2012 and Pfaus et al., 2012). Classical conditioning occurs spontaneously when a conditioned stimulus is paired with an unconditioned stimulus and an unconditioned response. As a result, classical conditioning occurs during everyday life without planning, without warning, and without automatic intellectual knowledge that conditioning has taken place even though both the unconditioned stimulus (US) and conditioned stimulus (CS) are unequivocally obvious and not subliminal.

Classical conditioning has a unique ability to create learned responses that are beyond the reach of voluntary control while often integrating these responses into function (Akins, 2004; Hoffman, 2012; Hollis, 1997; Pfaus et al., 2012). Thus, it was anticipated that learning involving neurophysiologically generated genital arousal would potentially include some component of classical conditioning because many physiological sexual arousal responses are complex, highly integrated, not voluntary, and include CNS, spinal, autonomic, and genital components in their innervation and execution (Chivers, 2005; Levin, 2005; Motofei & Rowland, 2005). This important aspect of classical conditioning warrants more detailed consideration. Development of sexual preferences of all kinds – including both those considered to be within societal norms and those characterized as deviant – has been attributed to classical conditioning that occurred spontaneously during real-life circumstances that resulted in pairing of a conditioned stimulus

with an unconditioned stimulus and an unconditioned response (Kinsey, Pomeroy, Martin, & Gebhard, 1953, pp. 645-647; Laws & Marshall, 1990; Marshall & Eccles, 1993; McGuire, Carlisle, & Young, 1965; O’Keefe et al., 2009; Stroebel et al., 2010; Swindell et al., 2011). Furthermore, Kirsch et al., (2004) have argued persuasively that higher order cognition (beliefs about the antecedents of an outcome “O”), expectancy is involved in both operant and classical conditioning of humans. In both types of conditioning should be viewed as paradigms that lead to behavior change, and that classical conditioning produces a stimulus-outcome (S-O) expectancy which is experienced as automatic or reflexive while operant conditioning produces a response-outcome (R-O) expectancy which is experienced as voluntary.

Laboratory studies of classical conditioning in human deviant sexual behavior. The following studies examine the effect of conditioning on deviant sexual behavior. Successful conditioning of a fetish in males for female boots has been reported (Rachman, 1966; Rachman & Hogson, 1968); the conditioned stimulus (CS), presented as a slide of a black boot with fur trim, was shown for 15 s or 30 s, respectively in the two studies, followed by the unconditioned stimulus (US) of erotic slides presented for 30 s or 10 s, respectively, using a design that required an individualized number of conditioning trials sufficient to achieve a fixed criterion (5 successive plethysmograph reactions to the CS). In the first report, the number of conditioning trials required to achieve the criterion varied from 24 to 65 trials in the three volunteers (Rachman, 1966). In the second report only 5 of the 8 volunteers succeeded in achieving the criterion; the other 3 were dropped from the study. Generalization of the experimentally induced boot fetish to other types of footwear was also demonstrated (Rachman, 1966; Rachman & Hogson, 1968). It should be noted that foot and shoe fetishes have been involved in sexual offenses, and they have resulted in legal consequences (Kunjkrishnan, Pawlak, & Varan, 1988).

Using a different design, Kantorowitz (1977a, 1978b) successfully demonstrated conditioning of augmented penile tumescence by presenting an erotic slide during masturbation starting approximately 2 min before orgasm was achieved and maintaining the slide throughout the masturbation interval to the conclusion of orgasm. Lalumière and Quinsey (1998) successfully used 10-30 s slides of nude adults as the conditioned stimulus and a 40 s videotape of heterosexual interacting couples as the unconditioned stimulus. Hoffmann et al. (2004) successfully used 30 s or 10 s slides of opposite-gender human torsos or a gun as the conditioned stimulus and 30 s film clips of heterosexual interacting couples as the unconditioned stimulus in females, but the parallel experiment with men failed to demonstrate statistical significance, very likely either because of the small number of repetitions or a weak US (Hoffmann et al., 2004). Use of a species irrelevant conditioned stimulus (an amber light) paired with a 2 min erotic video as the unconditioned stimulus did not result in significant differences in human females (Letourneau & O'Donohue, 1997). Their use of a species irrelevant CS and the fact that the unconditioned stimulus produced only moderate levels of arousal in the participants (Pfaus, Kippin, & Soraya, 2001) are the most reasonable explanations for the experiment's failure to show a statistically significant conditioning effect. The effect size resulting from conditioning was not robust in some experiments (Hoffmann et al., 2004). Careful examination of the successful studies (Hoffmann et al., 2004; Kantorowitz, 1978a, 1978b; Lalumière & Quinsey, 1998; Plaud & Martini, 1999; Rachman, 1966; Rachman & Hogson, 1968), with the intent to understand why the demonstrated effect was sometimes not robust, indicates that both the unconditioned stimulus and the conditioned stimulus were often brief, that the unconditioned response (sexual arousal) was relatively minor [except in the studies by Kantorowitz (1978a, 1978b)], that the sexual arousal unconditioned response did not include orgasm [except in the

studies by Kantorowitz (1978a, 1978b)], and that relatively small numbers of repetitions of the conditioning trials were often used [except for Plaud & Martini (1999); Rachman (1966); and Rachman & Hogson, (1968)]. These conclusions are consistent with those reached in the review by O'Donohue and Plaud (1994). Laws and Marshall (1990) and Marshall and Eccles (1993) have presented conditioning theories of the etiology and maintenance of deviant sexual preferences and behaviors.

An analysis of retrospective data of classical conditioning in human deviant sexual behavior. Swindell et al. (2011) examined the initiation of the paraphilic behavior, exhibitionism. They investigated childhood and adolescent “exhibition-like” events for subjects who had exposed themselves or had urges to expose themselves in public places using the data from a computer-assisted, self-administered questionnaire. They found having allowed a sexual partner to view his or her genitals served as a conditioning experience that was both satisfying and sexually exciting Other precipitating events included being allowed to be nude in a mother’s presence.

Critical Period Learning

While operant and classical conditioning have been shown to influence behavior, the timing of these events appears to also be an important factor. Critical period learning can best be thought of as a period during childhood when skills are more easily obtained than they would have been prior to that period of time or after that time. It may also be that once this window of time closes, it will be nearly impossible for a person to achieve that skill to the same level (Fox & Rutter, 2010; Oswald, 2008). Many studies have supported the concept of critical period learning in helping both animals and humans acquire common skills, including language, hearing, and vision. Purves et al. (2001) found that sensitive periods are crucial for learning

courtship songs for various bird species. Early sensory input for these birds is critical to the development of later behavioral and perceptual skills. In addition, Fox and Rutter (2010) found that animals needed to engage the environment to excite “neural structures” that help with “depth perception and other perceptual abilities. The authors also found that if kittens were raised from birth with one eye covered, the kittens did not receive the necessary stimulation to activate neurons in the eye and the eye became effectively blind. Even if exposure to visual stimulation occurred at some future time, the cats remained unable to see from the now uncovered eye (Fox & Rutter, 2010). In this way, it is shown that critical periods not only exist in theory, but there is a strong biological basis for critical period learning.

Much research has examined the critical period learning in humans. Research has shown that young children’s brains are more malleable in the development of language. The development of language skills in children takes place much faster than it does in adults (Oswalt, 2008; Purves et al., 2001). For adults, acquiring new language skills is far more difficult because the window of opportunity has come and gone. This is similar to the way in which birds are unable to produce songs that attract other birds if they miss the critical period learning window (Purves et al., 2001). In children who are deaf, sign language becomes crucial to the development of language because these children are obviously missing early vocalization skills. This shows that regardless of how a human learns language, early experience is critical in future language behavior. Perhaps the most solid argument for critical period learning in human language development can be found in an examination of “feral” children. When children are deprived of language early in life and subsequently taught language skills later, they do not learn to speak fluently, and possess only rudimentary language abilities (Purves et al., 2001).

Critical period learning in humans is also crucial for the development of vision. The

ability to visually experience three- dimensional objects using both eyes is dependent upon early experience with binocular vision. Similar to the kittens in Fox and Rutter's (2010) study, with one eye covered, humans who are born with eyes that do not gaze in the same direction ("lazy eye" or amblyopia) are not able to experience three-dimensional vision later in life. Recent work concerning plasticity of the brain shows that although the brain can adapt and change throughout life, the foundational architecture of the brain must be in place in the early years of development, and that the quality of the childhood environment is very important in the development of rudimentary cognitive processes including sensory perception (Fox, Levitt, & Nelson, 2010).

Most importantly, critical periods should not be misunderstood to be times when learning is enhanced, but rather a time when the conditions are just right for acquiring unique behaviors necessary for proper species development. These unique behaviors are not limited to language and vision, but can extend to other adaptive behaviors including healthy adult sexual development (Griffie et al., 2014a, 2014b).

Berezkei, Gyuris, & Weisfeld (2004) showed that exposure to the opposite sex parents' observable features during the critical period imprinted on the child and were responsible for that child's future mate-choice. In short, at sexual maturity, children tend to select a mate that closely resembles their parents' appearance. Furthermore, wives more often sought out a husband who resembled their father, especially when they had a close emotional relationship with their father, emphasizing the importance of bonding with the opposite sex parent in finding an appropriate mate. The results support the idea of enduring effects of attachment during childhood on later mating preferences (Berezkei et al., 2004). Additionally, animals' critical period learning is crucial for determining future sexual imprinting, a process by which a juvenile animal learns to select an appropriate mate (Berezkei et al., 2004). As Oswald (2008) pointed out, it has been

well documented that there is a critical period for infants to bond with their caregivers. If they do not bond appropriately during the critical period they are at risk for maladjustment, which could lead to poor sexual development, poor mate choice, and generally poor adult sexual relationships.

While sexual imprinting can help determine mate-choice, imprinting can also work negatively in human sexual development by creating maladaptive behaviors including sexual abuse. If children are sexually abused, it is more likely that they will abuse others in a similar manner in which they were abused, once they reach the age of sexual maturity. Becoming a sex offender is not always a conscious choice, but is often a “pathological reaction” to being sexually abused early in life, through the process of classical conditioning (Eisenman and Kristsonis, 1995).

Sexual imprinting has been found to also influence other sexual preferences. In Enquist, Aronsson, Ghirlanda, Jansson, & Jannini’s (2011) study, the researchers attempted to identify sexual preferences in adults that could be linked to childhood exposure to a particular stimulus, especially a preference for lactating mothers. Enquist et al., (2011) and Bereczkei et al. (2004), wrote that sexual imprinting theory states that children exposed to a particular stimulus will favor that stimulus later in their adult lives. Thus sexual preferences acquired during a critical period of learning early in life may be learned through exposure to a particular stimulus (e.g., pregnant or lactating mother) while receiving genital stimulation (Enquist et al., 2011). For the current research, it would be expected that exposure to oral sex during a critical period of learning with a successful orgasm, would yield a preference for oral sex as a means to achieve orgasm.

Conditioning during critical period learning. Griffee et al. (2014a, 2014b) was the first study to investigate the effects of the critical period on sexual development. Her study found

that early experience with sex increased the likelihood that participants would have a high interest in sex as adults. An increased likelihood of engaging in risky sexual behavior was mainly attributable to early sexual behaviors with partners. Furthermore, Griffee et al. found that the absence of early sex or masturbation during critical period learning put women at risk for having a low interest in sex as adults. Prior to Griffee et al. (2014a, 2014b), the effects of critical period learning of sexual functioning had only been investigated in the context of incest or child sexual abuse (O'Keefe et al, 2014

Parameters Not Evaluated Or Not Recently Evaluated In Humans

Even though orgasm frequently occurs during masturbation and partner sex (Kinsey, Pomeroy, & Martin, 1948; Kinsey et al., 1953; Laumann, Gagnon, Michael, & Michaels, 1994), the effectiveness of sexual arousal to orgasm as an unconditioned response was not assessed in three recently reported human studies (Hoffmann et al., 2004; Lalumière & Quinsey, 1998; Plaud & Martini, 1999). Furthermore, although investigators have speculated that younger humans demonstrate more plasticity in earlier or initial sexual experiences (e.g. Hoffman et al., 2004; Lalumière & Quinsey, 1998), similar studies in younger individuals have not been reported. Nor has persistence into adulthood of conditioning established prior to age 18 been tested. Also lacking are statistically validated studies of conditioned responses resulting from real-life experiences (Akins, 2004; O'Donohue and Plaud, 1994) and the origin of urges to engage in paraphilic behaviors. Understanding the multiple components of critical period learning may provide many benefits as Berezkei et al., 2004; Enquist et al., 2011; and Griffee et al., 2014a, 2014b; Purves et al., 2001 have shown. However, much of the work that has been completed has focused on nonhuman subjects (Fox & Rutter, 2010). Studying the role of critical periods in the sexual development of humans will lead to a better understanding of the origins of both normal

and abnormal sexual behavior.

Oral Sex

Oral sex as a sexual behavior. Oral sex in some ways presented a paradox since the partner's anatomy (mouth, lips, tongue) that provided the source of the recipient's sexual stimulation was basically the same regardless of the gender of the providing partner, yet, based on behavior, there was still an associated preference for the gender of the provider (Laumann et al. 1994). Both being a recipient of oral sex and actively providing oral sex to a partner can be sexually arousing (Laumann et al. 1994), a response receptive to Pavlovian conditioning. Although the lifetime experience with oral sex is high (approximately 75%), the proportion who report having engaged in oral sex during the last sexual event is approximately 50 percentage points lower (about 25%), indicating that a variety of responses to oral sex are likely and that oral sex still remains ambiguous in the repertoire of sexual practices (Laumann et al., 1994).

Increasing experience with oral sex. The percentage of the US population that has had experience with oral sex appears to have been increasing since the 1920's. The percentage of men reporting a lifetime history of experience providing or receiving oral sex was approximately 62% for those born between 1933 and 1937. That percentage increased to 90% for those born between 1948 and 1952. Similar changes were noted for women. The higher rate of experience with oral sex appears to have been maintained for more recent cohorts. The change in the percentages reporting such an experience appears to be due to corresponding modifications in the scripts for sex between heterosexual partners that involve more kissing and genital foreplay before moving on to vaginal coitus (Laumann et al., 1994). Another motivation of women who provide oral sex to their male partners is avoiding coitus by providing an alternative outlet to their partner (Masters, Johnson, Kolodny, 1985). Avoiding sexually transmitted disease is not a valid

motivation for substituting oral sex for coitus because oral sex can still result in transmission of infectious diseases including papalomaviruses linked to cancers (Syrjänen, 2007). According to a 2002 US survey of individuals from 18 - 44 years of age, 84.8% of adult males and 83.3% of adult females had received oral sex from an opposite sex partner but only 6.2% of adult males and 11.5% of adult females reported any same-gender contact (Mosher, Chandra, & Jones, 2005). By age 19, 51.5% of US males and 49.6% of US females had received oral sex from opposite-gender partners (Mosher et al., 2005).

The Current Study

Research ethics considerations. Although it is well known that many minors engage in sexual behaviors without obtaining permission from their parents or other authorities (Constantine & Martinson, 1981; Kinsey et al., 1948; Kinsey et al., 1953; Laumann et al., 1994; Mosher et al., 2005) and there is general concern that some of these sexual behaviors could potentially be harmful or have life-long effects (e.g. Constantine & Martinson, 1981; Finkelhor, 1980, 1984, 1994; Kinsey et al., 1948; Kinsey et al., 1953; Laumann et al., 1994; Marshall & Eccles, 1993; Mosher et al., 2005), conventional wisdom holds that research on the long-term sequelae of sexual behaviors engaged in by minors is unethical to do using prospective or laboratory approaches (Constantine & Martinson, 1981; Levine, Faden, Grady, Hammerschmidt, Eckenwilere, & Sugarman, 2004; Yan & Munir, 2004). Aside from the problem of gaining parental permission, there is serious concern that asking minors questions about sexual behaviors or assigning them randomly to “treatment” groups for the purpose of directing some to engage in and some not to engage in certain sexual behaviors in order to ascertain the effects that such experiences have later in life could have adverse effects on the participants or result in long-term troublesome changes in behavior. In order to avoid such ethical dilemmas, data was obtained

retrospectively and anonymously from adults by a computerized questionnaire.

Study rationale. It was presumed that a conditioning trial occurred whenever the circumstances of a sexual behavior were such that conditioning could have been expected to occur during a critical period of sexual development. Because oral sex has become increasingly acceptable (Laumann et al., 1994; Mosher et al., 2005), it was believed that participants would be less likely to falsely deny engaging in oral sex than would be the case than with behaviors with less societal approval. Furthermore, since oral sex cannot lead to procreation in and of itself, there would be no reason to believe that natural selection during evolution would have led to a specific gene coding for (or against) the behavior of being a recipient of oral sex, making it likely that engaging in oral sex would be a learned behavior rather than a behavior determined purely by the presence or absence of one or more genes (Laumann et al., 1994).

The factors that result in some individuals experiencing oral sex prior to age 18, while others do not, may include various kinds of socialization, interaction with a variety sexual scripts [some endorsing oral sex and others proscribing it, (Laumann et al., 1994)], peer pressure, and a considerable element of chance including the availability of a willing partner and enough privacy to permit the couple to explore orogenital sexuality. There is variation in most populations with regard to whether individuals have experienced oral sex before age 18 (Laumann et al., 1994; Mosher et al., 2005) and also variation in what they experienced if they did participate in it before age 18. Variations in such experience to examine include what effect (if any) reaching orgasm during oral sex prior to age 18 had on the participant's subsequent experience with oral sex (and several control behaviors) after age 18. These self-initiated experiments would never have been analyzed or have come to light if the participants had not subsequently chosen to share their histories through the medium of the anonymous self-survey. Based on the learning theories

outlined above and the theories regarding conditioning of sexual behavior (Laws & Marshall, 1990; Marshall & Eccles, 1993; McGuire et al., 1965; for reviews see Hoffman, 2012; Hollis, 1997; Pfaus et al., 2012), during a critical period of sexual development (Eisenman and Kristsonis, 1995; Enquist, Aronsson, Ghirlanda, Jansson, & Jannini's, 2011; Griffee et al., 2014a, 2014b) it was expected that operant conditioning, classical Pavlovian conditioning, and mere-repeated-exposure conditioning would all occur when an individual reached orgasm as a recipient of oral sex as long as nothing bad happened. The following hypotheses were formulated based on these expectations.

Hypotheses

- 1) Conditioning resulting from experiencing an orgasm during oral sex before age 18 during a critical period of sexual development will increase the probability of reaching an orgasm during oral sex after age 18.
- 2) Conditioning resulting from experiencing an orgasm during oral sex before age 18 during a critical period of sexual development will increase the probability that oral sex is the easiest way to reach orgasm with a partner after age 18.

CHAPTER II

METHOD

Participants

All participants over the age of 18 gave informed consent using forms approved by the relevant institutional review boards. The participants were recruited from a population consisting mainly of undergraduate and graduate college students from three mid-sized, mid-Atlantic college campuses using bulletin board postings and announcements in classes. To obtain a wider base and to increase age, education, and life-experience diversity, university faculty and staff and individuals from the same general population of the mid-Atlantic United States who had already completed their education were also recruited using announcements in public meetings (e.g. churches, ACLU, gay picnics etc.) and snowball recruiting. All participants were unpaid, but many of the students received credit from their professors in psychology, social work, and criminal justice courses. Extensive data on demographic and behavioral variables for each respondent was recorded so that potential confounding effects could be assessed and adjusted if needed. Not only was the original sample a volunteer sample (with the potential for bias due to self selection), but the sub-sample was subsequently selected consisting of 802 female and 640 male participants as described below.

Careful restriction of the study population to heterosexual individuals who had enjoyed being a recipient of oral sex before age 18, who were capable of reaching an orgasm one way or another with a partner, and who had had coitus in the context of a long-term relationship was utilized to minimize the effects of confounding factors. To test the hypothesis 450 female and 489 male participants were included who had reached orgasm as a recipient of oral sex before age 18. To provide for controls, 352 female and 151 male participants were included who had

received pleasurable oral sex without an orgasm before age 18.

Measures and Procedure

Computer-assisted self interview (CASI) techniques have been shown to be superior to pencil and paper self interviews and face to face interviews for eliciting truthful responses about sensitive sexual behaviors (Gribble, Miller, Rogers, & Turner, 1999). The CASI program (SSAPE1, ©S-SAPE, LLC, 2002, P.O. Box 11081, Charleston, WV 25339) used for the present study has been described and validated (Griffee et al., 2014a, 2014b). The research was conducted in university computer laboratories with up to 45 computers in a room with sufficient space between participants so that others were not in a position to see their computer screens. The study was designed to be anonymous so that participants could be totally honest without fearing that there could be reprisals or other adverse consequences if their answers became known, and participants were accurately informed of all protections to their anonymity prior to providing their data. No names or other identifiers were collected by the survey instrument and anonymity was further protected by electronic randomized filing of the encrypted results in a hidden random access file filled with fake data as well as simultaneous filing of many fake decoy lines. Decoding was only performed on the randomized file containing all respondent's randomly filed encrypted data. These precautions minimized the chance that the respondents would willfully not be totally honest in the data that they provided.

Experience with oral sex prior to age 18. Item: “The best way to describe my experience with receiving genital stimulation from oral sex with a partner before I reached the age of 18 is: (1) I never received oral-genital stimulation from a partner before I reached the age of 18. (2) I received oral-genital stimulation, but I didn't like it, or I found it repulsive before the age of 18. (3) I received oral-genital stimulation from a partner and found it enjoyable, but I

never reached an orgasm that way before I reached age 18. (4) I receive oral-genital stimulation from a partner and found it enjoyable, and I reached an orgasm that way before I reached age 18.” We coded 1-3 to 0 and 4 to 1 to create a 0/1 dummy variable. The code of “1” indicated those who had participated in oral sex and had achieved an orgasm that way. The code of “0” coded for all other responses.

Easiest way to reach an orgasm with a partner. Item: “When I am with my favorite sex partner, I find that I can reach orgasm most easily when: (1) My partner stimulates my genital area with his/her mouth. (2) My partner stimulates my genital area with his/her hand. (3) My partner and I have intra-vaginal intercourse. (4) My partner and I have rectal intercourse. (5) This question is not applicable to me since I have never had an orgasm in any of these ways with my favorite sex partner.” We recoded the data using “1” to indicate that being a recipient of oral sex was the easiest way to reach an orgasm and a “0” indicating that oral sex was not the easiest way to reach an orgasm.

Orgasm likelihood. Item: “When I was between the ages of 18 and 40 years old and with my favorite sex partner, the best way to describe the percentage of time that I was able to achieve an orgasm is:” “(1) “Never,” (2) “1-25%,” (3) “26-50%,” (4) “51-75%,” and (5) “76-100%.”

Age at first orgasm. Item: “What age were you when you experienced your first orgasm awake?” The participant was instructed to enter “00” for never.

Age at first coitus. Item: “Enter the ages when you first had sexual relations with long-term female and male adult partners (enter 00 if no such relations occurred).” “In the case where this gender combination is male-female please use ‘vaginal intercourse’ as the definition for sexual relations.”

Sexual behavior sub-items. The following sub-item variables were recoded for each of

the sexual behavior items. (1) “Did you ever engage in this behavior in this age range? (No/Yes coded 0/1). (2) “Number of partners:” (suppressed for masturbation). (3) “On about how many occasions did you engage in this behavior? (4) And (5) “What were the earliest and latest ages in the “(applicable age range)” age interval that you engaged in this behavior?”

Sexual behavior: adult partner sex screening items. (1) “Your age range: 18-99 years; Behavior: Sexual relations of any kind with a female age 18 or older. Give your best guess for numbers – don’t get hung up on being precise!” (2) “Your age range: 18-99 years; Behavior: Sexual relations of any kind with a male age 18 or older. Give your best guess for numbers – don’t get hung up on being precise!”

Sexual behavior: oral sex after age 18. To see items 3-18 (below) participants had to answer to appropriate respective adult partner sex screening Items (1) or (2) affirmatively. (3) “Your age range: 18-99 years; Behavior: Sexual relations involving your ejaculation as a result of oral stimulation of your penis by your female partner with a female age 18 or older. Give your best guess for numbers – don't get hung up on being precise!” (4) “Your age range: 18-99 years; Behavior: Sexual relations involving your reaching orgasm as a result of oral stimulation of your genital area with a male age 18 or older. Give your best guess for numbers – don't get hung up on being precise!”

Sexual behavior: five adult male-partner sex items used as control variables. (5) “Your age range: 18-99 years; Behavior: Sexual relations involving your reaching orgasm by accepting your male partner's penis into your vagina with a male age 18 or older. Give your best guess for numbers – don’t get hung up on being precise!” (6) “Your age range: 18-99 years; Behavior: Sexual relations involving your reaching orgasm assisted by manual stimulation of your genitals by your male partner with a male age 18 or older. Give your best guess for numbers

– don't get hung up on being precise!” (7) “Your age range: 18-99 years; Behavior: Sexual relations involving bringing your male partner to orgasm by stimulating his penis with your mouth with a male age 18 or older. Give your best guess for numbers – don't get hung up on being precise!” (8) “Your age range: 18-99 years; Behavior: Sexual relations involving bringing your male partner to orgasm by stimulating his penis with your hand with a male age 18 or older. Give your best guess for numbers – don't get hung up on being precise!” (9) “Your age range: 18-99 years; Behavior: Sexual relations involving bringing your male partner to orgasm by accepting his penis into your vagina with a male age 18 or older. Give your best guess for numbers – don't get hung up on being precise!”

Sexual behavior: three adult female-partner sex items used as control variables. (10) “Your age range: 18-99 years; Behavior: Sexual relations involving intra-vaginal ejaculation with a female age 18 or older. Give your best guess for numbers – don't get hung up on being precise!” (11) “Your age range: 18-99 years; Behavior: Sexual relations involving bringing your female partner to orgasm by stimulating her genital area with your mouth with a female age 18 or older. Give your best guess for numbers – don't get hung up on being precise!” (12) “Your age range: 18-99 years; Behavior: Sexual relations involving bringing your female partner to orgasm by stimulating her genital area with your fingers with a female age 18 or older. Give your best guess for numbers – don't get hung up on being precise!”

Sexual behavior: five before age 18 partner sex items. (13) “Your age range: 1-17 years; Behavior: Sexual experimentation involving the female partner looking at your genitals with a female age no more than 4 years older or younger than yourself. Give your best guess for numbers – don't get hung up on being precise!” (14) “Your age range: 1-17 years; Behavior: Sexual experimentation involving looking at your female partner's genitals with a female age no

more than 4 years older or younger than yourself. Give your best guess for numbers – don't get hung up on being precise!” (15) “Your age range: 1-17 years; Behavior: Sexual experimentation involving touching your female partner's genitals with a female age no more than 4 years older or younger than yourself. Give your best guess for numbers – don't get hung up on being precise!” (16) “Your age range: 1-17 years; Behavior: Sexual experimentation involving the female partner touching your genitals with a female age no more than 4 years older or younger than yourself. Give your best guess for numbers – don't get hung up on being precise!” (17) “Your age range: 1-17 years; Behavior: Sexual experimentation involving insertion of your penis into your female partner's vagina with a female age no more than 4 years older or younger than yourself. Give your best guess for numbers – don't get hung up on being precise!” (18) “Your age range: 1-17 years; Behavior: Sexual experimentation involving the male partner inserting his penis into your vagina with a male age no more than 4 years older or younger than yourself. Give your best guess for numbers - don't get hung up on being precise!” Sample items 13-16 are each representative of a total of eight items that can be deduced from the sample by pairing one of two sexes (male or female) with one of four age-differential categories: (a) The partner was more than 4 years younger than the respondent, (b) The partner’s age was within 4 years of the respondent’s age, (c) The partner was more than 4 years older than the respondent but under the age of 18, and (d) The partner was more than 4 years older than the respondent and over the age of 18. Similarly, Sample items 17-18 are each representative of a total of four items that can be deduced from the sample by including one of the above four age-differential categories.

Sexual experimentation included all voluntary behaviors that occurred before age 18 that the respondent had concluded were of a sexual nature. The data for number of partners, number of times, the earliest age, and the latest age that the sexual experimentation took place were

recorded separately by gender of the partner and the age-differential between the respondent and the respondent's partner for four age categories (a-d): For the purposes of this report, the data from the four age-differential groups were integrated by summing the data for the number of partners and number of times and by setting earliest age to the minimum-and latest age to the maximum among the four age-differential groups within male or female partners.

Five non-sexual control items. “ (1) I have had trouble with running up debts because of unwise purchases.” “ (2) I drink or have drunk coffee, tea, colas, or other caffeinated beverages every day for an extended period of time.” “ (3) I currently smoke tobacco products or use smokeless tobacco products on a daily basis (or I have in the past).” “ (4) I have had trouble because I have lost larger sums gambling than I could really afford.” “(5) I have had trouble with being overweight.”

Behavioral Sexual Orientation and Identification of Heterosexual Participants

Behavioral sexual orientation. We used the number of times that the respondent reported for the female (SBAFP) and male (SBAMP) adult partner sex items (items 1 and 2, above) to define the behavioral sexual orientation variable [$100 \times \text{SBAMP} / (\text{SBAMP} + \text{SBAFP})$], Haning, 2005; Haning, et al., 2007; Bickham et al., 2007]. Individuals reporting less than 5% of their partner-based sexual behaviors with same-gender partners were classified as behaviorally heterosexual (hereafter called heterosexual) and the rest were classified as gay or bisexual. Individuals who reported no sexual relations of any kind with either adult males or adult females were coded as “missing data,” eliminating all individuals from the present study who had not ever been sexually active as adults. The set of participants in the present study was selected by computerized search from the database (with data from a total of 3,541 participants) solely using the following criteria: (1) They were heterosexual as defined above. (2) They had entered an age

other than "00" in response to the item on Age at First Orgasm. (3) They had not selected choice-1 for the Orgasm Likelihood item. (4) They had not selected choice – 5 for the Easiest Way to Reach Orgasm with a Partner item. (5) They had not entered 00 for Age at First Coitus with an opposite gender partner. (6) The selection of the control group and the group that had reached orgasm as a recipient of oral sex before age 18 was based on the Experience with Oral Sex Prior to Age 18 item. We included those who selected choice – 3 as controls, and we included those who selected choice – 4: "I receive oral-genital stimulation from a partner and found it enjoyable, and I reached an orgasm that way before I reached age 18" as the experimental group.

CHAPTER III

RESULTS

Demographics of the Participants

The median age of both the 802 females and the 640 male participants was 21 (ranges 18-57 and 18-62 respectively), and approximately 17% of female participants and 21% of the male participants had already obtained college degrees at the time of study participation. There were no significant differences in either age or education between the test and the control groups within genders by the non-parametric Mann-Whitney U test (see Tables 1-3).

Hypothesis (1) Conditioning resulting from experiencing an orgasm during oral sex before age 18 will increase the probability of reaching an orgasm during oral sex after age 18

Female participants. Of the 450 female participants who had experienced an orgasm during oral sex before age 18, 215 (47.8%) experienced an orgasm during oral sex with a male partner after age 18. Of the 352 participants who had enjoyed oral sex before 18 without experiencing an orgasm, 106 (30.1%) reached an orgasm with a male partner during oral sex after age 18 (see Table 4). Exponentiation of the regression coefficient from the logistic regression to obtain the odds ratio showed that female participants who had experienced an orgasm during oral sex before age 18 were approximately 2.1 times more likely to have experienced an orgasm during oral sex with a male partner after reaching age 18 than were those who had enjoyed being a recipient of oral sex without reaching an orgasm by age 18 ($p < .001$), Model 1, see Table 6). Because an entry of "1" in the dependent variable indicating that the respondent had engaged in oral sex after the age of 18 also indicated that he or she had experienced an orgasm that way, logistic regression was also used to adjust for the global likelihood that the respondent was able to achieve an orgasm during sex with a good partner by

any means.

First, the reported likelihood of achieving an orgasm during sex with a partner when the participants were between 18 and 40 years of age was tested in order to look for differences in the intrinsic ability to reach orgasm. The likelihoods of reaching orgasm when they were with a good partner and also between the ages of 18 and 40 years of age were significantly different ($72.7 \pm 28.1\%$ vs. $78.7 \pm 26.8\%$, respectively, $p = p < .001$ by the Mann-Whitney U test), for those who had and had not reached orgasm when they received oral sex before age 18. However, the difference was relatively small in size, and forcing the orgasm likelihood variable into the multiple regression equation along with the dummy variable encoding the participant's experience with oral sex prior to age 18 showed only a slight change in the estimate of the above odds ratio (from 2.1 to 2.3), that orgasm likelihood was a statistically significant predictor for the dependent variable, and that the participant's experience with oral sex prior to age 18 remained significant as a predictor ($p < .001$, Model 2, see Table 6). These findings supported hypothesis (1) by showing that experiencing an orgasm prior to age 18 as a recipient of oral sex significantly increased the chance of reaching an orgasm as a recipient of oral sex after age 18.

We used the non-parametric Mann-Whitney test to test the difference between the two groups (those who had not and those who had reached orgasm before age 18) in the earliest age at which they reported reaching an orgasm during oral sex after age 18, the reported number of different partners with whom they had participated in the behavior, and the number of times that they engaged in the behavior. This comparison was limited to those who reported reaching orgasm at least once after age 18 during oral sex provided by an opposite sex partner. The mean age of first reaching orgasm during oral sex with a male partner after age 18 was 18.2 ± 1.3 years (mean \pm SD) in the 450 who had reached orgasm during oral sex prior to age 18 and 18.8 ± 1.8

years in the 352 who had not. This difference 18.2 vs. 18.8 was statistically significant by the Mann-Whitney U test ($p < .001$). The mean number of times they had reached orgasm during oral sex after age 18 was 144.2 ± 223.94 (mean \pm SD) in the 450 who had reached orgasm during oral sex prior to age 18 and 116.4 ± 204.6 in the 352 who had not. This difference (144.2 vs. 116.4) was statistically significant by the Mann-Whitney U test ($p = .002$). These findings provided ancillary support for hypothesis (1) by showing that experiencing an orgasm prior to age 18 as a recipient of oral sex significantly advanced the age of the first reaching orgasm as a recipient of oral sex after age 18 and significantly increased the number of times that the participants reached orgasm during oral sex provided by an opposite gender partner after 18. There was no significant difference in the number of partners (4.2 ± 6.95 vs. 3.4 ± 4.97) with whom they engaged in the behavior.

Male participants. Of the 489 male participants who had experienced an orgasm during oral sex before age 18, 104 (21.3%) experienced an orgasm during oral sex with a female partner after age 18. Of the 151 participants who had enjoyed oral sex before age 18 without experiencing an orgasm, 25 (16.6%) achieved an orgasm as a recipient of oral sex with a female partner after reaching age 18 (see Table 5). The odds ratio showed that male participants who had experienced an orgasm during oral sex before age 18 were approximately 1.4 times more likely to have experienced an orgasm during oral sex with a female partner after reaching age 18 than were those who had enjoyed being a recipient of oral sex without reaching an orgasm by age 18 ($p = .208$, Model 3, see Table 6). Although the difference was in the hypothesized direction, it did not reach the .05 level of statistical significance. Because of the small odds ratio, it's likely that a significantly larger number would have to be studied before an odds ratio of this size reached statistical significance. Because an entry of "1" in the dependent variable indicating

that the respondent had engaged in oral sex after the age of 18 also indicated that they had experienced an orgasm that way, we also used logistic regression to adjust for the global likelihood that the respondent was able to achieve an orgasm during sex with a good partner by any means.

First, we tested the reported likelihood of achieving an orgasm during sex with a partner when the participants were between 18 and 40 years of age in order to look for differences in the intrinsic ability to reach orgasm. The likelihoods of reaching orgasm when they were with a good partner and also between the ages of 18 and 40 years of age were not significantly different ($92.2\% \pm 17.3\%$ vs. $96.3\% \pm 12.1\%$, *ns* by the Mann-Whitney U test) for those who had and had not reached orgasm when they received oral sex before age 18. Forcing the orgasm likelihood variable into the multiple regression equation, along with the dummy variable encoding the participant's experience with oral sex prior to age 18 showed only a minimal change in the estimate of the above odds ratio (from 1.36 to 1.42) and also that the participant's experience with oral sex prior to age 18 remained a not statistically significant predictor for the dependent variable, whereas orgasm likelihood was a significant as a predictor ($p = .002$, Model 4, see Table 6).

We used the non-parametric Mann-Whitney test to test the difference between the two groups (those who had not and those who had reached orgasm during oral sex before age 18) in the earliest age at which they reported reaching an orgasm during oral sex after age 18. This comparison was limited to those who reported reaching orgasm at least once after age 18 during oral sex provided by an opposite sex partner. The mean age of first reaching orgasm during oral sex with a female partner after age 18 was 18.09 ± 0.47 years (mean \pm SD) in the 104 who had reached orgasm during oral sex prior to age 18 and 18.52 ± 1.38 years in the 151 who had not.

This difference (18.09 vs. 18.52) was statistically significant by the Mann-Whitney U test ($p < .001$). These findings provided ancillary support for hypothesis (1) by showing that experiencing an orgasm prior to age 18 as a recipient of oral sex significantly advanced the age of the first reaching orgasm as a recipient of oral sex after age 18 and significantly increased the number of times that the participants reached orgasm during oral sex provided by an opposite-sex partner after 18. There was no significant difference in the number of partners (14.4 ± 42.3 vs. 9.3 ± 15.8) with whom they engaged in the behavior.

Hypothesis (2) Conditioning resulting from experiencing an orgasm during oral sex before age 18 will increase the probability that oral sex is the easiest way to reach orgasm with a partner after age 18.

Female participants. The largest percentage (48.6%, $n = 171$) of the 352 women who *had not* experienced orgasm during oral sex before age 18 reported that *vaginal intercourse* was the easiest way for them to reach orgasm during sex with a favorite partner. The largest percentage (47.8%, $n = 215$) of the 450 women who *had* experienced orgasm during oral sex before age 18 reported that *oral sex* was the easiest way for them to reach orgasm during sex with a favorite partner (see Table 7). The relative predictive power of the variables was judged by the size of the score statistic at step zero of the logistic regression and also by the stepwise order of entry. Based on the odds ratio of the most powerful predictor obtained from the logistic regression, having experienced an orgasm during oral sex before age 18 increased by approximately 2.3-times the probability that the participant would report that oral sex was the easiest way for them to reach orgasm with a partner after adjustment for the two other statistically significant control variables (Model 5, see Table 6, $p < .001$). Interestingly enough, the second most powerful predictor in the logistic regression was being overweight, one of the

control variables. It is possible that the increase in the thickness of the mons pubis and the labia majora in overweight women reduces the stimulation of the clitoris during intercourse. This is further complicated for females who are considered very obese in that the size of the abdomen may hold the male so far away that the couple is not able to achieve penile penetration at all. These results supported hypothesis 2 in females.

Male participants. The majority of participants in both groups found it easiest to reach orgasm with the favorite partner during vaginal intercourse (see Table 8). The logistic regression analysis showed that the only significant predictor for oral sex being the easiest way to reach orgasm as an adult was orgasm likelihood as measure of ease of reaching orgasm (Model 6, Table 6, $p < .05$). It was very clear that there was a large biological preparedness factor since the majority of males in both groups (75.5%, $n = 114$ of the 151 males who had not reached orgasm during their experience with oral sex before age 18 and 73.4%, $n = 359$ of the 489 who had experienced an orgasm as a recipient of oral sex before age 18) found it easiest to reach orgasm during coitus with a female partner.

CHAPTER IV

DISCUSSION

To our knowledge this is the first study to provide information on the statistical predictive relationship between reaching orgasm during oral sex before age 18 and sexual outcome variables measuring adult sexual behaviors. In the present study female participants who had experienced an orgasm as a recipient of oral sex before age 18 were significantly more likely to reach an orgasm during oral sex after the age of 18. For male participants, the difference was in the hypothesized direction, but it did not reach significance. Female participants were also significantly more likely to report that being a recipient of oral sex was the easiest way for them to reach an orgasm with a partner if they had reached orgasm that way prior to age 18.

The results of the present study can best be explained by the operation of conditioning in the sense described by Kirsch et al., (2004), and both the roles of automatic and cognitively mediated processes have been taken into account. For example, the significant increase in the percentage of women who reported that they were able to reach orgasm most easily as a recipient of oral sex provided by their male partner is regarded as an example of the interaction between the cognitive and automatic processes. Their report in response to the item in the computerized questionnaire on the kind of stimulation that allowed them to reach orgasm most easily was obviously the result of their cognitive analysis of their sexual experience over the years with one or more partners as was their provided estimate of the number of partners and the number of times that they engaged in the various behaviors. On the other hand, reaching orgasm is not totally under voluntary control (Chivers, 2005; Motofei & Rowland, 2005; Levin, 2005), as demonstrated by the well documented difficulty that many women have reaching orgasm during coitus alone or even any way at all (Kinsey et al., 1953; Laumann et al., 1994; Masters &

Johnson, 1966, 1970). The current study suggests that Pavlovian conditioning was involved. Women reached orgasm through oral sex and it was, reinforced with each successive orgasm that allowed them to gain a modicum of control of the complex, highly integrated orgasm function even though it included CNS, spinal, and autonomic components that were not under voluntary control (Chivers, 2005; Motofei & Rowland, 2005; Levin, 2005). But the way that they gained control was to negotiate with their partner to induce their partner to provide the oral-genital stimulation that they knew (by self-observation) would allow them to reach orgasm. On the other hand, the observation, the analysis, all of the interpersonal negotiations, finding a suitable venue, attending to personal hygiene, getting undressed, etc. that they needed to go through to achieve orgasm while receiving oral sex were all cognitive functions that involved muscle systems fully under voluntary control.

Indeed, it was highly likely that at least three paradigms of learning were responsible for the observed outcomes, each supporting specific aspects of the behaviors. For example, operant conditioning would most likely be involved to engage in the behavior due to the expectancy of rewarding pleasure (Kirsch et al., 2004). Mere-repeated-exposure, would create a preference for engaging in the behavior as long as nothing bad had happened previously (Zajonc, 2001; Zajonc & Markus, 1982). Pavlovian conditioning would result in an expectancy that physiological sexual arousal ultimately leading to orgasm would occur upon exposure to stimulation provided by the mouth of a sexual partner since that had occurred previously on one or more occasions (Kirsch et al., 2004), making it all work since physiological sexual arousal is a complex, highly-integrated response that is not under voluntary control (Chivers, 2005; Motofei & Rowland, 2005; Levin, 2005). Furthermore, receiving oral sex from a partner that was maintained until physiological sexual arousal occurred (with or without orgasm) fulfilled criteria for all three

paradigms as long as pleasure resulted, nothing bad happened, and the source of sexual stimulation was presented shortly before physiological sexual arousal with or without orgasm. Moreover, orgasm seems to be especially potent when it comes to producing conditioning (e.g. Kantorowitz, 1977,1978) as further evidenced by the fact that the only fundamental difference between the controls in the study and the comparison group that achieved orgasm during oral sex before reaching age 18, was that the members of the latter group had all reached orgasm before age 18 during oral sex while the controls did not, even though the controls had also received oral sex from a partner before age 18. It should be emphasized that the data also showed that women who had engaged in coitus before age 18 were not significantly more likely or less likely to report that oral sex was the easiest way to reach orgasm with a partner than those who had not engaged in coitus before age 18.

The female participants reported that they had reached orgasm after age 18 during oral sex provided by an opposite sex partner a median of 55 and 30 times (for those who had and had not reached orgasm during oral sex before age 18, respectively). Similarly, the male participants reported that they had reached orgasm that way a median of 75 and 45 times.

The conditioning process that began before age 18 was significantly more likely to be continued after age 18, started significantly earlier after age 18, and was then continued on multiple occasions after age 18. The number of conditioning trials engaged in after age 18 by respondents were more variable in number than those reported in some of the controlled laboratory studies of Pavlovian conditioning in humans [e.g. 8 trials (Kantorowitz (1977,1978), 11 trials, (Lalumière & Quinsey, 1998; Hoffmann et al., 2004) or 45 trials, (Plaud & Martini, 1999)], but the number of conditioning trials that many respondents participated in (a maximum of 999) far exceeded those used in the cited experiments.

As mentioned above, reaching orgasm as a recipient of oral sex prior to age 18 was a significant predictor of reporting that oral sex was the easiest way to reach orgasm in females. The fact that a similar odds ratio of 1.7 (that did not reach statistical significance) was also noted in male participants was all the more impressive given the knowledge that intravaginal ejaculation (as opposed to extravaginal ejaculation) optimizes the chance that conception will occur as a result of a given mating (Levin, 2005; Speroff, 2004). The important factors that may explain the fact that statistical significance was not achieved were the smaller Nagelkerke R Square for male participants (.025), the smaller total n for males than for females, and the very high rate at which males reported that vaginal coitus was the easiest way to reach orgasm with a partner, resulting in a small n in the group that found it easiest to reach orgasm with a partner during oral sex.

There are important biological preparedness factors that explain the observed sex difference in the reports about the easiest way to reach orgasm with a partner. The only requirement for females to optimize their chance of conception is that they permit their male partner to ejaculate intra-vaginally within a narrow window at the time of ovulation (Levin, 2005; Speroff, 2004). There is no biological necessity for women to reach orgasm during vaginal coitus or to even reach orgasm at all to become pregnant (Levin, 2005; Speroff, 2004). So there is no reason to think that women would have acquired any special biological preparation to reach orgasm in any particular way through the processes of natural selection (Levin, 2005; Speroff, 2004). Rather, the focus of any selective process on female sexual function would be to optimize her willingness to allow her male partner to ejaculate intra-vaginally (Levin, 2005; Speroff, 2004). So the observation that many women reported that the easiest way for them to reach orgasm with a partner was by manual stimulation or oral stimulation of their genital area rather

than through vaginal coitus alone was consistent with these ideas about the likely effects of the process of natural selection (see Table 7). On the other hand, for males the forces of natural selection would favor males who ejaculated intra-vaginally on a regular and frequent schedule approximating the life span of their sperm in the female genital tract because under those conditions their sperm would be most likely to be present when their female partner's oocyte was available for fertilization (Levin, 2005; Speroff, 2004).

Important Information for School Psychologists

This research uncovers important findings for school psychologists. School psychologists should be aware that early sexual experiences shape later adult behavior. In particular, early positive experiences will cause these young people to seek out more partners, and at an earlier age. Without comprehensive sexual education programs, that are facilitated by educated professionals, many adolescents and young adults will often base their decisions about sex on misinformation from peers or misleading Internet sources (McClung & Perfect, 2012).

The National Association of School Psychologists' (NASP) position on sexual education is that "it should be taught in schools to help young people make healthy decisions regarding sex throughout their lives" (McClung & Perfect, 2012). School psychologists are in a unique position to help evaluate effective intervention programs and aid with curriculum development and implementation.

Perhaps the best way to accomplish this lofty goal is through consultation. By utilizing the consultation model psychologists can be indirectly involved in a school's sexual health education program. School psychologists can consult with those responsible for choosing a sexual health education program, those who will be implementing the curriculum in the classroom, and most importantly parents. One main critique of school sexual education programs

is the amount of parental resistance. School psychologists can help school personnel in a variety of ways. Effective communication with parents prior to implementation is one way to combat this issue. More importantly, research shows that talking with adolescents about sexual health is critical, and often delays the first sexual encounter. School psychologists should help facilitate parent workshops on how to set clear limits, show nonjudgmental communication, and how to place developmentally appropriate limits on teens (Liace, Nunez, & Luckner, 2011).

Study Limitations

Some limitations must be taken into consideration when interpreting the results of this study. This was an epidemiological, self-selected, cohort study based on a convenience sample, not an experimental study. While our results for males were in the hypothesized direction, they did not reach a level of significant. Perhaps with a larger male sample the results would reach the .05 level of statistical significance, and collecting additional data is a suggestion for future research.

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Table 1
Age of Female Participants

	N	Mean	Std. Deviation	Median
Female Control Group	352	22.778	5.8336	20.959
Female Test Group	450	22.638	5.928	20.747

Table 2
Age of Male Participants

	N	Mean	Std. Deviation	Median
Male Control Group	151	24.358	7.8054	20.862
Male Test Group	489	23.399	7.6541	20.969

Table 3
Percentage of Highest Educational Level Obtained

	Male	Female
High School	6.6%	2.5%
Enrolled in College	76.1%	76.7%
Bachelor's	13.6%	17.1%
Master's	2.3%	3.1%
Doctoral	1.4%	.6%

Table 4
Female Orgasm

		Enjoyed oral sex before age 18 but without orgasm	Experienced orgasm before age 18 during oral sex
Oral sex after age 18 without orgasm	Count	246	235
	Percentage	69.9%	52.2%
Oral sex after age 18 with orgasm	Count	106	215
	Percentage	30.1%	47.8%

Table 5

Male Orgasm

		Enjoyed oral sex before age 18 but without orgasm	Experienced orgasm before age 18 during oral sex
Oral sex after age 18 without orgasm	Count	126	385
	Percentage	83.4%	78.7%
Oral sex after age 18 with orgasm	Count	25	104
	Percentage	16.6%	21.3%

Table 6
Logistic Regression Models Based on Using Choice-3 as a Control

Statistical Model Number and Dependent Variable	<i>B</i>	<i>SE</i>	Wald	<i>p</i>	Exp(B)
Independent Variables (Predictors)					
Model 1: Orgasm during oral sex with a male partner after age 18 (Nagelkerke R Square = .043) Females: <i>n</i> = 802					
Orgasm during oral sex before age 18	0.753	0.150	25.3	< .001	2.123
Constant	-0.842	0.116	52.5	< .001	
Model 2: Orgasm during oral sex with a male partner after age 18 (Nagelkerke R Square = .067) Females: <i>n</i> = 802					
Orgasm during oral sex before age 18	0.846	0.154	31.2	< .001	2.329
Orgasm likelihood	-0.010	0.003	14.5	< .001	0.990
Constant	-0.113	0.221	0.259	<i>ns</i>	
Model 3: Orgasm during oral sex with a female partner after age 18 (Nagelkerke R Square = .004) Males: <i>n</i> = 640					

Orgasm during oral sex before age 18	0.309	0.245	1.58	<i>ns</i>	1.361
Constant	-1.617	0.219	54.57	< .001	

Model 4: Orgasm during oral sex with a female partner after age 18 (Nagelkerke R Square = .025)

Males: *n* = 640

Orgasm during oral sex before age 18	0.351	0.248	2.01	<i>ns</i>	1.421
Orgasm likelihood	-0.019	0.006	9.14	.002	0.981
Constant	0.157	1.619	0.064	<i>ns</i>	

Model 5: Oral sex was the easiest way to reach orgasm with a partner (Nagelkerke R Square = .075)

Females: *n* = 802

Orgasm during oral sex before age 18	.854	.154	30.55	< .001	2.35
Being overweight	.356	.161	4.923	.027	1.43
Orgasm likelihood	-.010	.003	14.71	< .001	.990
Constant	-.217	.227	.918	<i>ns</i>	

Model 6: Oral sex was the easiest way to reach orgasm with a partner (Nagelkerke R Square = .020)

Males: *n* = 640

Orgasm likelihood	-.019	.006	8.67	.003	.982
Constant	.374	.598	.392	<i>ns</i>	

Model 7: Oral sex was the easiest way to reach orgasm with a partner (Nagelkerke R Square = .051)

Females: *n* = 802

Orgasm during oral sex before age 18	.759	.150	25.56	< .001	2.14
Being overweight	.344	.159	4.68	.030	1.41
Constant	-.950	.128	55.39	< .001	

Table 7
Easiest way for a female to reach orgasm

		Enjoyed oral sex before age 18 but without orgasm	Experienced orgasm before age 18 during oral sex
Partner stimulates genital area with his mouth	Count	106	215
	Percentage	30.1%	47.8%
Partner stimulates genital area with his hand	Count	73	68
	Percentage	20.7%	15.1%
Intravaginal intercourse	Count	171	165
	Percentage	48.6%	36.7%
Rectal intercourse	Count	2	2
	Percentage	0.6%	0.4%

Table 8
Easiest way for a male to reach orgasm

	Enjoyed oral sex before age 18 but without orgasm	Experienced orgasm before age 18 during oral sex
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Partner stimulates genital area with his mouth	Count	25	104
	Percentage	16.6%	21.3%
Partner stimulates genital area with his hand	Count	4	16
	Percentage	2.6%	3.3%
Intravaginal intercourse	Count	114	359
	Percentage	75.5%	73.4%
Rectal intercourse	Count	8	10
	Percentage	5.3%	2.0%



Office of Research Integrity
Institutional Review Board
401 11th St., Suite 1300
Huntington, WV 25701

FWA 00002704

IRB1 #00002205
IRB2 #00003206

July 23, 2014

Stephen O'Keefe, Ph.D.
Psychology Department

RE: IRBNet ID# 127810-7

At: Marshall University Institutional Review Board #2 (Social/Behavioral)

Dear Dr. O'Keefe:

Protocol Title: [127810-7] Effects of Recalled Family Attitudes and Childhood Sexual Experiences on Adult Sexual Attitudes and Adjustment

Expiration Date: July 20, 2015

Site Location: MUGC - 1083

Submission Type: Continuing Review/Progress Report APPROVED

Review Type: Expedited Review

The above study and informed consent were approved for an additional 12 months by the Marshall University Institutional Review Board #2 (Social/Behavioral) Chair. The approval will expire July 20, 2015. Continuing review materials should be submitted no later than 30 days prior to the expiration date.

If you have any questions, please contact the Marshall University Institutional Review Board #2 (Social/Behavioral) Coordinator Bruce Day, ThD, CIP at 304-696-4303 or day50@marshall.edu. Please include your study title and reference number in all correspondence with this office.

Kristy Woods

1097 Locust Drive A Huntington, WV 25705

woods133@marshall.edu

304-942-2237

Education: Education Specialist Degree in School Psychology

Marshall University, Huntington, WV

NASP-approved

Thesis: Critical Period Conditioning by Orgasm During Heterosexual Oral Sex

Thesis Chair: Sandra S. Stroebel, Ph.D., NCSP

Expected May 2015

Master of Arts Degree in Psychology with School Psychology Emphasis

Marshall University, Huntington, WV

Summa Cum Laude

December 2013

Bachelor of Arts Degree in Psychology

Minor in Political Science

Cleveland State University, Cleveland, OH

December 2010

Professional Licensed School Psychologist, Ohio Department of Education (OH3198958)

Credentials: Expected July 2015

Nationally Certified School Psychologist, Praxis Score as of 06/27/2014:

School Psychologist – 183; Expected July 2015

Professional Intern School Psychologist, South Central Ohio Educational Service

Experience: Center, 2014 – Present

Washington-Nile Elementary, Middle, and High School; Vern Riffe School; Scioto County Career Technical Center

Marlene Henderson, EdS, Supervising School Psychologist

- Complete initial psychoeducational evaluations. At present, 22 students have been evaluated for services.
- Complete triennial psychoeducational evaluations. At present, 12 students have been re-evaluated for services.
- At present, chaired 29 initial/re-evaluation meetings.
- Competent in numerous assessment instruments, including cognitive, achievement, behavioral-social-emotional, and projective tests.
- Assisted in conducting curriculum-based measurement benchmarking at Washington-Nile Elementary, ongoing progress monitoring and input into AIMSweb data management system.
- Maintain an individual counseling caseload.
- Plan and facilitate a 2nd grade girls counseling group once a week for 12 weeks.
- Competent in numerous counseling techniques, including Play Therapy, Solution-Focused Brief Therapy, Cognitive-Behavioral Therapy, and Eclectic Approaches.
- Co-facilitate Middle School Grade Level Team meetings every other Thursday.

- Active member in Intervention Assistance Team meetings, using a Response-To-Intervention (RTI) model to meet the needs of students struggling academically and/or behaviorally. At present, 50 meetings have been attended.
- Led multiple professional development workshops at Washington-Nile Elementary, Middle, and High School on Specially Designed Instruction.
- Led a professional development workshop at Washington-Nile Middle School on the areas of processing deficit and their link to areas of academic achievement.
- Contribute to Individualized Education Program (IEP) development for children with learning, language, and socio-emotional disabilities.
- Engage in the problem-solving process at an individuals and systems level to resolve various academic and behavioral issues for students.
- Observed crisis intervention and threat assessment, assist when appropriate.

Practicum Student, Marshall University Summer K-12 Enrichment Program, Summer 2014

Completed a clinical field-based experience, which was six weeks, four days per week. The practicum provided opportunities for practice, under supervision, the application of knowledge and specific skills in the resolution of individual, group, and system-level problems within a multi-age classroom.

- Developed and maintained positive and collaborative relationships with educators from a variety of disciplines and effectively functioned as a multidisciplinary team member.
- Conducted curriculum based assessments, functional behavioral analyses, and psychoeducational assessments. Psychoeducational assessments were completed at different grade levels, one of which was a preschooler. In addition, one cross-battery assessment was completed.
- Used a variety of behavior management techniques and strategies to assist the team in developing an appropriate classroom management plan, as well as helping to develop individual behavior management plans for students as needed.
- Used a variety of assessment techniques and strategies to assist the team planning and evaluating the learning of the entire class as well as individual assessments (testing, report writing, and interpretation) of students as needed.
- Used a variety of instructional techniques and strategies to provide whole class guidance and instruction as a primary prevention strategy.
- Development and use of consultation skills to teachers and parents.

Practicum Student, West Hamlin Elementary, 2013-2014

Conrae Lucas-Adkins, EdS, PsyD, Supervising School Psychologist

- Completed classroom observations.
- Completed Curriculum Based Assessments (CBA's) for reading, math, spelling, and written language.
- Tutored a child for 8 weeks. Monitored progress giving periodic CBA's.
- Designed and implemented interventions for children with academic and behavioral difficulties.
- Attended Student Assistance Team and Eligibility meetings.
- Completed Functional Behavioral Assessments.
- Counseled a child for ten weeks. Videotaped sessions were critiqued.
- Performed consultative services, both indirect and direct. Audio taped sessions were critiqued.
- Provided a process based counseling group for six weeks.

Related Experience: **Teaching Assistant, Marshall University, Psychology Program, 2012-2014**

Steven Mewaldt, PhD, Supervising Faculty Member
Taught Introductory Psychology.

Behavior Management Specialist, Cammack Children's Center, 2011-2013

Huntington, West Virginia
Anthony Warnick, Executive Director
Created and implemented an effective adolescent behavior management program.

Adjunct Faculty, Mountwest Community & Technical College, Liberal Arts & Human Services, Spring 2013

Linda Vinson, Associate Professor, Supervising Faculty Member
Taught Lifespan Development.

Primary Counselor, Transitions, 2012

Ashland, Kentucky
David Chalupa, Director
Provided drug and alcohol counseling to people transitioning from the state and federal prison systems to normal life.

Workshops Provided: Krieg, F., Fouch, S., & Woods, K. (2013, September). Implementing evidence-based interventions. Inservice presented to teachers across grades 6-12 at Wythe County Public Schools. Information presented included strategies for effective instruction at the secondary level, as well as information on data collection and the decision-making model.

Affiliations:

- National Association of School Psychologists
- West Virginia School Psychologists Association
- The Honor Society of Phi Kappa Phi

Computer Skills: Microsoft Office (Word, Excel, PowerPoint), Statistical Package for the Social Sciences (SPSS), ProgressBook, WPPSI-IV, WISC-IV, WAIS-IV, WJ-IV COG, NEPSY-II, SB5, WJ-IV ACH, KTEA-II, BASC-II, Conners 3, ABAS-II, and Essentials of Cross Battery Assessment Scoring Software.

Available: July 1, 2015