Archives of Sexual Behavior (2019) 48:1315–1320
https://doi.org/10.1007/s10508-018-1313-5

COMMENTARY

Was It Good for Her? An Alternative Perspective on Life History Theory, Female Same-Sex Sexuality, and Pleasure

Lisa M. Diamond[1] · **Jenna Alley**[1]

Received: 17 August 2018 / Accepted: 20 September 2018 / Published online: 11 October 2018
© Springer Science+Business Media, LLC, part of Springer Nature 2018

In their Target Article, "A Life History Approach to the Female Sexual Orientation Spectrum: Evolution, Development, Causal Mechanisms, and Health," Luoto, Krams, and Rantala (2018) attempt to provide an evolutionary account of phenotypic variability in the spectrum of female same-sex sexuality, through the lens of life history theory (LHT). As Luoto et al. note, LHT is useful for understanding the potential origins of individual differences across a range of human behaviors, sexuality among them, and it has been fruitfully used to explain, for example, individual differences in sexual maturation and sexual risk taking. We applaud this overall goal and the specific use of LHT, but we are not convinced that the subtypes of female same-sex sexuality which Luoto et al. primarily focus on—"butch" and "femme"—are the most relevant ones. We also find that a key aspect of LHT remains underdeveloped by Luoto et al.: the role of early postnatal life experience in shaping individual differences in life history strategies.

LHT posits that the development of "fast" versus "slow" life history strategies (the former prioritizing high mating effort, early sexual maturation, high risk taking, and unrestricted sexual activity; the latter prioritizing slow maturation, delayed sexual mating, more restricted sexual activity, and greater parental investment) is shaped by early environmental conditions which signal what type of life conditions the developing organism is likely to face. Are resources, safety, and nurturance readily available, in which case a "slow" strategy is most adaptive, or is the environment harsh and unpredictable, in which case one's lifespan may be short and a "fast" strategy is more adaptive?

According to LHT, this helps to explain why individuals exposed to early-life adversity, such as neglect, parental loss, and abuse, tend to have earlier rates of sexual maturation and sexual debut, and higher rates of externalizing behaviors, and sexual risk taking (reviewed in Ellis, 2004; Ellis et al., 2012). How might LHT explain female same-sex sexuality? According to Luoto et al. (2018), its primary usefulness concerns its potential to explain "masculinized" feature of nonheterosexual women. They propose that female nonheterosexuality involves biobehavioral and psychological masculinization which affects not only their sexual orientation, but also their LH strategies. In essence, they view female same-sex sexuality as "a hormonally mediated fast LH strategy," and they view fast strategies as fundamentally masculine. Hence, in some ways their application of LHT is more akin to classic parental investment theory, in which "masculine" reproductive strategies always involve more unrestricted mating, whereas "feminine" strategies involve more restricted mating and greater parental investment.

Perhaps this is why they gravitate toward a gender-based approach to phenotypical variation in female same-sex sexuality (i.e., "butch" versus "femme"). We are not convinced by Luoto et al. (2018) that these subtypes represent "natural types" especially in light of the weak empirical basis for their claims and their surprisingly scant attention to the well-documented historical and cultural bases—and hence social malleability—of these categories (Bart, 1986; Duggan, 1988; Faderman, 1981, 1992; Penelope, 1984; Pisankaneva, 2002; Stasia, 2003). However, rather than dwelling on this issue, we want to draw attention to a different type of phenotypic variation in female nonheterosexuality which is referenced by Luoto et al., but insufficiently developed: The distinction between exclusive lesbians and those with bisexual patterns of attraction (including women who consider themselves "mostly" but not completely heterosexual). Numerous studies using random representative samples show that women with bisexual patterns of attraction substantially outnumber women with exclusive same-sex attractions (reviewed by Diamond, 2016), and as Luoto et al. point out, research supports the notion that exclusive lesbians may differ in important ways from bisexually attracted women, showing less fluidity in their sexual attractions and patterns of arousal. We agree with this characterization, and hence, we

This comment refers to the article available at https://doi.org/10.1007/s10508-018-1261-0.

✉ Lisa M. Diamond
diamond@psych.utah.edu

[1] Department of Psychology, University of Utah, 380 South 1530 East, Room 502, Salt Lake City, UT 84112-0251, USA

are surprised that the lesbian/bisexual distinction receives less emphasis than the butch/femme distinction in their exploration of LHT.

We also find it curious that although a key tenet of LHT is the role of early-life experiences in shaping the development of fast versus slow LH strategies, Luoto et al. (2018) devote almost no attention to variability in early-life experiences among subsets of nonheterosexual women. Rather, they cite research linking environmental adversity to nonheterosexual women as a monolithic group, and they appear to suggest that maternal exposure to early adversity may alter the intrauterine environment in a manner that may lead to greater nonheterosexuality in female offspring (presumably through fetal androgenization). We think that a more appropriate and fruitful application of LHT to female same-sex sexuality is one that examines whether variation in the exclusivity of women's same-sex sexuality (i.e., the existence of lesbian versus bisexual subtypes of nonheterosexuality) maps on to variability in (1) lesbian vs. bisexual women's exposure to early-life adversity, and (2) lesbian vs. bisexual women's expression of fast life history strategies, such as early sexual debut, sociosexuality, impulsiveness, and higher sexual risk behaviors. In short, we think that the lesbian/bisexual distinction is far more relevant to LHT than the "butch/femme" distinction.

Luoto et al.'s (2018) review of research on lesbian/bisexual variation relevant to LHT is notably inadequate. They argue (based on a relatively limited empirical foundation) that among nonheterosexual women, those that are more exclusively homosexual are more biologically and psychologically "masculinized," and hence are characterized by faster life history strategies (earlier sexual debut, riskier sexual behavior, greater sociosexuality, and greater impulsivity). Yet, they misrepresent the extant data on this point. For example, although they cite research to support their claim that sociosexuality is elevated in nonheterosexual women more generally, some of these studies fail to distinguish between bisexual and lesbian women, and a closer look at the empirical record confirms that sociosexuality (and associated traits, such as sex drive) show specific elevation in bisexual women, whereas exclusively lesbian women do not generally show greater sociosexuality or sex drive than exclusively heterosexual women (Bailey, Gaulin, Agyei, & Gladue, 1994; Eisenberg, Ackard, Resnick, & Neumark-Sztainer, 2009; Lippa, 2006, 2007; Lyons, Lynch, Brewer, & Bruno, 2014; Schmitt, 2006; Semenyna, Belu, Vasey, & Honey, 2018).

Similar findings have emerged across a wide range of well-conducted population- and community-based studies which have examined lesbian/bisexual distinctions in "fast life history" indicators and the early-life conditions (neglect, abuse, adversity) that are theorized to give rise to them. For example, it is bisexuals rather than exclusive lesbians who have been found to have the highest rates of early-life abuse and adversity (Alvy, Hughes, Kristjanson, & Wilsnack, 2013; Andersen & Blosnich, 2013; Drabble, Trocki, Hughes, Korcha, & Lown, 2013; Friedman et al., 2011; Hughes, Johnson, Steffen, Wilsnack, & Everett, 2014; McLaughlin, Hatzenbuehler, Xuan, & Conron, 2012; Persson, Pfaus, & Ryder, 2015; Sweet & Welles, 2012; Zou & Andersen, 2015), the earliest sexual behavior (Goodenow, Szalacha, Robin, & Westheimer, 2008; Tornello, Riskind, & Patterson, 2014; Xu, Sternberg, & Markowitz, 2010), the greatest number of sexual partners (Goodenow et al., 2008; Tornello et al., 2014; Xu et al., 2010), the highest rates of delinquency (Beaver et al., 2016), substance use (Blosnich, Farmer, Lee, Silenzio, & Bowen, 2014; Goodenow et al., 2008; Hughes et al., 2014; Lhomond, Saurel-Cubizolles, & Michaels, 2014; Matthews, Blosnich, Farmer, & Adams, 2014; McLaughlin et al., 2012; Plöderl & Tremblay, 2015), mood and anxiety disorders, including suicidality (Blosnich et al., 2014; Bolton & Sareen, 2011; Bostwick, Boyd, Hughes, & McCabe, 2010; Hughes et al., 2014; Jorm, Korten, Rodgers, Jacomb, & Christensen, 2002; Marshal et al., 2013; Matthews et al., 2014; Persson et al., 2015; Plöderl & Tremblay, 2015; Pyra et al., 2014), adolescent pregnancy (Saewyc, Poon, Homma, & Skay, 2008; Tornello et al., 2014), high-risk sexual behavior (Blosnich et al., 2014; Kerr, Ding, & Thompson, 2013; Morrow & Allsworth, 2000), and lowest life satisfaction (Powdthavee & Wooden, 2015). We find it curious that this robust pattern of results goes unreported by Luoto et al. (2018). In their enthusiasm for the butch/femme distinction (which, in addition to showing extensive cultural variation, is relatively difficult to operationalize), we think they have devoted too little attention to the form of phenotypic variation in female same-sex sexuality (exclusive versus nonexclusive) that proves most relevant to LHT, and for which there is the most robust empirical support for such a link.

New Questions for LHT: What About Pleasure?

With this critique in mind, we want to offer our own thoughts on how LHT might help to explain differences between exclusive and nonexclusive forms of female same-sex sexuality and to suggest potential developmental mechanisms that we think have been understudied in existing research. To begin with, we believe it is important to call attention to several unique features of human female sexuality which are particularly relevant to a LH perspective, but which rarely receive explicit discussion in this context. First, sexual pleasure and reproduction are more uncoupled for human females than males. Human females (along with a number of other primate species) lack periods of circumscribed estrus, meaning that they can engage in (and often seek out) sexual activity at any point in their reproductive cycle, even when there is no chance of conception. Similarly, a woman's capacity to conceive a child during any particular sexual act is unrelated to her sexual motivation or sexual pleasure during that act (whereas for men, the lack of sexual desire or motivation during a sexual act would interfere with

the experience of erection, making successful insemination difficult).

The reason why the uncoupling of female sexual desire from reproduction might have proven evolutionarily adaptive for humans and other primates has received extensive attention elsewhere (Hrdy, 1981, 1987; Small, 1993), and the capacity of higher primates to use sex for purposes such as social bonding and hierarchy, rather than reproduction, is appropriately reviewed by Luoto et al. (2018). Yet we think that the uncoupling of human female sexual pleasure from reproduction has important—but heretofore unappreciated—implications for the phenomenon of female same-sex arousal and pleasure.

As reviewed by Luoto et al. (2018), studies employing diverse methodologies have found that whereas males tend to become genitally aroused only in response to their "preferred" gender (i.e., gay men become aroused to male sexual stimuli, bisexual men become aroused to both male and female sexual stimuli, and heterosexual men become aroused to female stimuli), most females become genitally aroused to all sexual stimuli, irrespective of gender, showing a pattern that Chivers (2017) has called "nonspecific" (see also Chivers, Rieger, Latty, & Bailey, 2004; Chivers, Seto, & Blanchard, 2007). In short, all women may be capable of desiring periodic sexual contact with women. How might this prove relevant for LHT? According to LHT, experiences of early adversity shift individuals toward "fast" life history strategies characterized by early sexual maturation, early and unrestricted mating, and a tendency toward impulsiveness and risk taking. Theoretically, these characteristics should increase the likelihood of reproductive success when the environment is dangerous and life is short. According to Luoto et al. (2018), the psychological mechanisms undergirding fast life history strategies are "psychological masculinity," characterized by sensation seeking and risk taking.

Yet we would like to suggest an alternative psychological mechanism, one that makes particular sense for women given the disentangling of human female sexuality from reproduction: heightened prioritization of sexual pleasure. On first thought, one might ask, "Well, why is this any different from the traditional emphasis on impulsiveness and risk-taking?" Both impulsiveness and risk taking revolve around the experience of reward, and the degree to which one is willing to delay reward (in the case of impulsiveness) or to make potentially costly trade-offs in the pursuit of rewards (in the case of risk taking). One of the problems with lumping generalized impulsiveness/risk taking with *sexual* impulsiveness/risk taking is the assumption that sexual behavior is always rewarding. We would suggest that this unstated assumption, which is pervasive in the evolutionarily literature, reflects a fundamental male bias.

Extensive research has found that men are substantially more likely than women to reach orgasm through penile–vaginal intercourse (Blosnich et al., 2014; Garcia, Lloyd, Wallen, & Fisher, 2014; Herbenick et al., 2010; Laumann, Gagnon, Michael, & Michaels, 1994; Lloyd, 2005; Masters & Johnson, 1966), especially during casual sexual encounters (Armstrong & Reissing, 2015). In contrast to penile–vaginal intercourse, oral and manual stimulation are more reliably associated with orgasm in women (Frederick, St. John, Garcia, & Lloyd, 2018; Fugl-Meyer, Öberg, Lundberg, Lewin, & Fugl-Meyer, 2006; Herbenick et al., 2010; Richters, de Visser, Rissel, & Smith, 2006). This has been suggested to explain the fact that women who have sex with women reliably report greater orgasm and sexual satisfaction than women who only have sex with men (Coleman, Hoon, & Hoon, 1983; Frederick et al., 2018; Garcia et al., 2014). An additional factor suggested by Coleman et al. (1983) is "empathy," meaning that women are better able to anticipate the type of genital stimulation that pleases a female body. Armstrong, England, and Fogarty (2012) also emphasize gender equity, noting that in addition to "technical competence" at genital stimulation, women viewed equity in the giving and receiving of sexual pleasure as critical to sexual enjoyment and orgasm, and they report expecting low equity during casual heterosexual sex encounters (i.e., during such encounters they expect men to prioritize their own pleasure over the female partner's). Because of these factors, studies show that when women with bisexual attractions are specifically asked to contrast the desirability of same-sex versus other-sex casual sex encounters, they perceive same-sex encounters as more likely to provide sexual pleasure (Conley, 2011).

Hence, one potential mechanism linking early adversity to high sociosexuality and bisexuality among women may involve the psychological prioritization of sexual pleasure, even when such pleasure entails sexual contact with "socially disapproved" sexual partners. Traditional operationalizations of sociosexuality define "unrestricted" sexual behavior as behavior which occurs outside the conventional boundaries of a committed relationship (and hence, outside the social rules that prohibit or punish promiscuous sexual behavior). We think that an alternative definition of "unrestricted" sexual behavior—and one that is particularly relevant to women—is one involving the pursuit of sexually pleasurable behavior outside the social rules which prohibit certain types of appropriate partners (i.e., same-sex partners).

In conclusion, we offer the following life history interpretation of variation in female nonheterosexuality: (1) Variability in early-life adversity leads to variability in life history strategies; (2) fast life history strategies for both men and women involves the prioritization of sexual pleasure *over* the societal rules surrounding sexual behavior; (3) given women's broad capacity for same-sex arousal, young women (even those who are heterosexual) are more likely than men to be sexually aroused by opportunities for same-sex contact; (4) given that female–female sexual contact is more likely to be physically satisfying than penile–vaginal intercourse, especially within casual sexual encounters, women with fast life history strategies, who pursue higher rates of casual sex and who prioritize sexual pleasure over societal restrictions, are likely to continue

pursuing periodic same-sex sexual contact, even if they also experience strong sexual desires for men. Some evidence supports the notion that such a "fast-bisexual" life history strategy in women would not, in fact, hamper reproductive success, given that evidence suggests that women with bisexual patterns of attraction actually have greater numbers of *male* sexual partners than do heterosexual women (Xu et al., 2010) and greater rates of pregnancy (Saewyc et al., 2008).

We echo critiques made in previous research (Conley, Rubin, Matsick, Ziegler, & Moors, 2014) regarding the insufficient attention to sexual pleasure in evolutionary investigations of human sexuality. To the degree that researchers continue presuming sexual pleasure to be a "moot point" when it comes to sexual behavior (i.e., everyone wants it and everyone receives it in equal measure), we will fail to adequately account for the full range of biological and environmental factors that give rise to diverse forms of other-sex and same-sex behavior in women and men. We wholeheartedly endorse Luoto et al.'s (2018) specific attention to phenotypic variation in the expression of same-sex sexuality in women, but we think an accurate account of this variation must devote greater attention to distinctions between women with exclusive versus nonexclusive attractions, greater attention to issues of early-life experience, and greater attention to the woefully understudied topic of pleasure.

References

Alvy, L. M., Hughes, T. L., Kristjanson, A. F., & Wilsnack, S. C. (2013). Sexual identity group differences in child abuse and neglect. *Journal of Interpersonal Violence, 28*(10), 2088–2111.

Andersen, J. P., & Blosnich, J. (2013). Disparities in adverse childhood experiences among sexual minority and heterosexual adults: Results from a multi-state probability-based sample. *PLoS ONE, 8*(1), e54691. https://doi.org/10.1371/journal.pone.0054691.

Armstrong, E. A., England, P., & Fogarty, A. C. K. (2012). Accounting for women's orgasm and sexual enjoyment in college hookups and relationships. *American Sociological Review, 77*(3), 435–462. https://doi.org/10.1177/0003122412445802.

Armstrong, H. L., & Reissing, E. D. (2015). Women's motivations to have sex in casual and committed relationships with male and female partners. *Archives of Sexual Behavior, 44*(4), 921–934. https://doi.org/10.1007/s10508-014-0462-4.

Bailey, J. M., Gaulin, S., Agyei, Y., & Gladue, B. (1994). Effects of gender and sexual orientation on evolutionarily relevant aspects of human mating psychology. *Journal of Personality and Social Psychology, 66,* 1081–1093.

Bart, P. (1986). My brief career as a femme. *Lesbian Ethics, 2,* 92–95.

Beaver, K. M., Connolly, E. J., Schwartz, J. A., Boutwell, B. B., Barnes, J. C., & Nedelec, J. L. (2016). Sexual orientation and involvement in nonviolent and violent delinquent behaviors: Findings from the National Longitudinal Study of Adolescent to Adult Health. *Archives of Sexual Behavior, 45*(7), 1759–1769. https://doi.org/10.1007/s10508-016-0717-3.

Blosnich, J. R., Farmer, G. W., Lee, J. G. L., Silenzio, V. M. B., & Bowen, D. J. (2014). Health inequalities among sexual minority adults: Evidence from ten U.S. states, 2010. *American Journal of Preventive Medicine, 46*(4), 337–349. https://doi.org/10.1016/j.amepre.2013.11.010.

Bolton, S.-L., & Sareen, J. (2011). Sexual orientation and its relation to mental disorders and suicide attempts: Findings from a nationally representative sample. *Canadian Journal of Psychiatry, 56*(1), 35–43.

Bostwick, W. B., Boyd, C. J., Hughes, T. L., & McCabe, S. E. (2010). Dimensions of sexual orientation and the prevalence of mood and anxiety disorders in the United States. *American Journal of Public Health, 100*(3), 468–475. https://doi.org/10.2105/ajph.2008.152942.

Chivers, M. L. (2017). The specificity of women's sexual response and its relationship with sexual orientations: A review and ten hypotheses. *Archives of Sexual Behavior*, *46*, 1161–1179. https://doi.org/10.1007/s10508-016-0897-x.

Chivers, M. L., Rieger, G., Latty, E., & Bailey, J. M. (2004). A sex difference in the specificity of sexual arousal. *Psychological Science, 15,* 736–744.

Chivers, M. L., Seto, M. C., & Blanchard, R. (2007). Gender and sexual orientation differences in sexual response to sexual activities versus gender of actors in sexual films. *Journal of Personality and Social Psychology, 93*(6), 1108–1121.

Coleman, E. M., Hoon, P. W., & Hoon, E. F. (1983). Arousability and sexual satisfaction in lesbian and heterosexual women. *Journal of Sex Research, 19*(1), 58–73. https://doi.org/10.1080/00224498309551169.

Conley, T. D. (2011). Perceived proposer personality characteristics and gender differences in acceptance of casual sex offers. *Journal of Personality and Social Psychology, 100*(2), 309–329. https://doi.org/10.1037/a0022152.

Conley, T. D., Rubin, J. D., Matsick, J. L., Ziegler, A., & Moors, A. C. (2014). Proposer gender, pleasure, and danger in casual sex offers among bisexual women and men. *Journal of Experimental Social Psychology, 55,* 80–88. https://doi.org/10.1016/j.jesp.2014.06.002.

Diamond, L. M. (2016). Sexual fluidity in males and females. *Current Sexual Health Reports*, *8*, 249–256. https://doi.org/10.1007/s11930-016-0092-z.

Drabble, L., Trocki, K. F., Hughes, T. L., Korcha, R. A., & Lown, A. E. (2013). Sexual orientation differences in the relationship between victimization and hazardous drinking among women in the National Alcohol Survey. *Psychology of Addictive Behaviors, 27*(3), 639–648. https://doi.org/10.1037/a0031486.

Duggan, L. (1988). The anguished cry of an 80's fem: I want to be a drag queen. *Out/look, 1,* 65–93.

Eisenberg, M. E., Ackard, D. M., Resnick, M. D., & Neumark-Sztainer, D. (2009). Casual sex and psychological health among young adults: Is having "friends with benefits" emotionally damaging? *Perspectives on Sexual & Reproductive Health, 41*(4), 231–237. https://doi.org/10.1363/4123109.

Ellis, B. J. (2004). Timing of pubertal maturation in girls: An integrated life history approach. *Psychological Bulletin, 130*(6), 920–958. https://doi.org/10.1037/0033-2909.130.6.920.

Ellis, B. J., Del Giudice, M., Dishion, T. J., Figueredo, A. J., Gray, P., Griskevicius, V., & Wilson, D. S. (2012). The evolutionary basis of risky adolescent behavior: Implications for science, policy, and practice. *Developmental Psychology, 48*(3), 598–623. https://doi.org/10.1037/a0026220.

Faderman, L. (1981). *Surpassing the love of men*. New York: William Morrow.

Faderman, L. (1992). The return of butch and femme: A phenomenon of lesbian sexuality of the 1980s and 1990s. *Journal of the History of Sexuality, 2,* 578–596.

Frederick, D. A., John, H. K., Garcia, J. R., & Lloyd, E. A. (2018). Differences in orgasm frequency among gay, lesbian, bisexual, and heterosexual men and women in a U.S. national sample. *Archives of Sexual Behavior, 47*(1), 273–288. https://doi.org/10.1007/s10508-017-0939-z.

Friedman, M. S., Marshal, M. P., Guadamuz, T. E., Wei, C., Wong, C. F., Saewyc, E. M., & Stall, R. (2011). A meta-analysis of disparities in childhood sexual abuse, parental physical abuse, and peer victimization among sexual minority and sexual nonminority individuals. *American Journal of Public Health, 101*(8), 1481–1494. https://doi.org/10.2105/AJPH.2009190009.

Fugl-Meyer, K. S., Öberg, K., Lundberg, P. O., Lewin, B., & Fugl-Meyer, A. (2006). On orgasm, sexual techniques, and erotic perceptions in 18- to 74-year-old Swedish women. *Journal of Sexual Medicine, 3*(1), 56–68. https://doi.org/10.1111/j.1743-6109.2005.00170.x.

Garcia, J. R., Lloyd, E. A., Wallen, K., & Fisher, H. E. (2014). Variation in orgasm occurrence by sexual orientation in a sample of U.S. Singles. *Journal of Sexual Medicine, 11*(11), 2645–2652. https://doi.org/10.1111/jsm.12669.

Goodenow, C., Szalacha, L. A., Robin, L. E., & Westheimer, K. (2008). Dimensions of sexual orientation and HIV-related risk among adolescent females: Evidence from a statewide survey. *American Journal of Public Health, 98*(6), 1051–1058.

Herbenick, D., Reece, M., Schick, V., Sanders, S. A., Dodge, B., & Fortenberry, J. D. (2010). An event-level analysis of the sexual characteristics and composition among adults ages 18 to 59: Results from a national probability sample in the United States. *Journal of Sexual Medicine, 7*(Suppl. 5), 346–361. https://doi.org/10.1111/j.1743-6109.2010.02020.x.

Hrdy, S. B. (1981). *The woman that never evolved*. Cambridge, MA: Harvard University Press.

Hrdy, S. B. (1987). The primate origins of human sexuality. In R. Bellig & G. Stevens (Eds.), *The evolution of sex* (pp. 101–132). San Francisco: Harper & Row.

Hughes, T. L., Johnson, T. P., Steffen, A. D., Wilsnack, S. C., & Everett, B. (2014). Lifetime victimization, hazardous drinking, and depression among heterosexual and sexual minority women. *LGBT Health, 1*(3), 192–203. https://doi.org/10.1089/lgbt.2014.0014.

Jorm, A. F., Korten, A. E., Rodgers, B., Jacomb, P. A., & Christensen, H. (2002). Sexual orientation and mental health: Results from a community survey of young and middle-aged adults. *British Journal of Psychiatry, 180*(5), 423–427.

Kerr, D. L., Ding, K., & Thompson, A. J. (2013). A comparison of lesbian, bisexual, and heterosexual female college undergraduate students on selected reproductive health screenings and sexual behaviors. *Women's Health Issues, 23*(6), e347–e355. https://doi.org/10.1016/j.whi.2013.09.003.

Laumann, E. O., Gagnon, J. H., Michael, R. T., & Michaels, F. (1994). *The social organization of sexuality: Sexual practices in the United States*. Chicago: University of Chicago Press.

Lhomond, B., Saurel-Cubizolles, M.-J., & Michaels, S. (2014). A multidimensional measure of sexual orientation, use of psychoactive substances, and depression: Results of a national survey on sexual behavior in France. *Archives of Sexual Behavior, 43*(3), 607–619. https://doi.org/10.1007/s10508-013-0124-y.

Lippa, R. A. (2006). Is high sex drive associated with increased to sexual attraction to both sexes? It depends on whether you are male or female. *Psychological Science, 17*(1), 46–52.

Lippa, R. A. (2007). The relation between sex drive and sexual attraction to men and women: A cross-national study of heterosexual, bisexual, and homosexual men and women. *Archives of Sexual Behavior, 36*(2), 209–222.

Lloyd, E. A. (2005). *The case of the female orgasm: Bias in the science of evolution*. Cambridge, MA: Harvard University Press.

Luoto, S., Krams, I., & Rantala, M. J. (2018). A life history approach to the female sexual orientation spectrum: Evolution, development, causal mechanisms, and health. *Archives of Sexual Behavior*. https://doi.org/10.1007/s10508-018-1261-0.

Lyons, M., Lynch, A., Brewer, G., & Bruno, D. (2014). Detection of sexual orientation ("gaydar") by homosexual and heterosexual women. *Archives of Sexual Behavior, 43*(2), 345–352. https://doi.org/10.1007/s10508-013-0144-7.

Marshal, M. P., Dermody, S. S., Cheong, J., Burton, C. M., Friedman, M. S., Aranda, F., & Hughes, T. L. (2013). Trajectories of depressive symptoms and suicidality among heterosexual and sexual minority youth. *Journal of Youth and Adolescence, 42*(8), 1243–1256. https://doi.org/10.1007/s10964-013-9970-0.

Masters, W. H., & Johnson, V. E. (1966). *Human sexual response*. Boston: Little, Brown.

Matthews, D. D., Blosnich, J. R., Farmer, G. W., & Adams, B. J. (2014). Operational definitions of sexual orientation and estimates of adolescent health risk behaviors. *LGBT Health, 1*(1), 42–49.

McLaughlin, K. A., Hatzenbuehler, M. L., Xuan, Z., & Conron, K. J. (2012). Disproportionate exposure to early-life adversity and sexual orientation disparities in psychiatric morbidity. *Child Abuse and Neglect, 36*(9), 645–655. https://doi.org/10.1016/j.chiabu.2012.07.004.

Morrow, K. M., & Allsworth, J. E. (2000). Sexual risk in lesbians and bisexual women. *Journal of the Gay & Lesbian Medical Association, 4*(4), 159–165. https://doi.org/10.1023/A:1026507721501.

Penelope, J. (1984). Whose past are we reclaiming? *Common Lives/Lesbian Lives*, *13*(Autumn), 16–36.

Persson, T. J., Pfaus, J. G., & Ryder, A. G. (2015). Explaining mental health disparities for non-monosexual women: Abuse history and risky sex, or the burdens of non-disclosure? *Social Science and Medicine, 128,* 366–373. https://doi.org/10.1016/j.socscimed.2014.08.038.

Pisankaneva, M. (2002). Reflections on butch-femme and the emerging lesbian community in Bulgaria. *Journal of Lesbian Studies, 6,* 135–144.

Plöderl, M., & Tremblay, P. (2015). Mental health of sexual minorities: A systematic review. *International Review of Psychiatry, 27*(5), 367–385. https://doi.org/10.3109/09540261.2015.1083949.

Powdthavee, N., & Wooden, M. (2015). Life satisfaction and sexual minorities: Evidence from Australia and the United Kingdom. *Journal of Economic Behavior & Organization, 116,* 107–126. https://doi.org/10.1016/j.jebo.2015.04.012.

Pyra, M., Weber, K. M., Wilson, T. E., Cohen, J., Murchison, L., Goparaju, L., & Cohen, M. H. (2014). Sexual minority women and depressive symptoms throughout adulthood. *American Journal of Public Health, 104*(12), e83–e90. https://doi.org/10.2105/AJPH.2014.302259.

Richters, J., de Visser, R., Rissel, C., & Smith, A. (2006). Sexual practices at last heterosexual encounter and occurrence of orgasm in a national survey. *Journal of Sex Research, 43*(3), 217–226. https://doi.org/10.1080/00224490609552320.

Saewyc, E. M., Poon, C. S., Homma, Y., & Skay, C. L. (2008). Stigma management? The links between enacted stigma and teen pregnancy trends among gay, lesbian, and bisexual students in British Columbia. *Canadian Journal of Human Sexuality, 17*(3), 123–139.

Schmitt, D. P. (2006). Sexual strategies across sexual orientations: How personality traits and culture relate to sociosexuality among gays, lesbians, bisexuals, and heterosexuals. *Journal of Psychology & Human Sexuality, 18*(2–3), 183–214. https://doi.org/10.1300/J056v18n02_06.

Semenyna, S., Belu, C., Vasey, P., & Honey, L. (2018). Not straight and not straightforward: The relationships between sexual orientation, sociosexuality, and dark triad traits in women. *Evolutionary Psychological Science*, 8, 249–256. https://doi.org/10.1007/s40806-017-0111-y.

Small, M. F. (1993). *Female choices: Sexual behavior of human primates*. Ithaca, NY: Cornell University Press.

Stasia, C. (2003). Butch-femme interrupted: Angelina Jolie, bisexuality, and the new butch-femme. *Journal of Bisexuality, 3*(3), 181–201.

Sweet, T., & Welles, S. L. (2012). Associations of sexual identity or same-sex behaviors with history of childhood sexual abuse and HIV/STI risk in the United States. *Journal of Acquired Immune Deficiency*

Syndromes, 59(4), 400–408. https://doi.org/10.1097/QAI.0b013e3182400e75.

Tornello, S. L., Riskind, R. G., & Patterson, C. J. (2014). Sexual orientation and sexual and reproductive health among adolescent young women in the United States. *Journal of Adolescent Health, 54*(2), 160–168. https://doi.org/10.1016/j.jadohealth.2013.08.018.

Xu, F., Sternberg, M. R., & Markowitz, L. E. (2010). Women who have sex with women in the United States: Prevalence, sexual behavior and prevalence of herpes simplex virus type 2 infection-results from national health and nutrition examination survey 2001-2006. *Sexually Transmitted Diseases, 37*(7), 407–413. https://doi.org/10.1097/OLQ.0b013e3181db2e18.

Zou, C., & Andersen, J. P. (2015). Comparing the rates of early childhood victimization across sexual orientations: Heterosexual, lesbian, gay, bisexual, and mostly heterosexual. *PLoS ONE, 10*(10), e0139198.