Letter to the Editor of *Journal of Sexual Medicine*

Women’s endorsement of different models of sexual functioning supports polythetic criteria of Female Sexual Interest/Arousal Disorder in DSM-5

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There has been much interest in identifying the best model of sexual functioning that would apply universally to women and men. Though Masters and Johnson’s [1] model depicting arousal, plateau, orgasm, and resolution dominated the field of sex therapy for decades, researchers have been formulating and testing other models of sexual response. The goal of the recent study by Giraldi et al. [2] was to examine the endorsement of three different models of sexual functioning in a large Danish non-clinical sample of men and women. A total of 499 men and 573 women completed, among other measures, the Female Sexual Function Index (FSFI) and the Female Sexual Distress Scale (FSDS; for women) and the International Index of Erectile Function (for men). Participants were also given a brief description of three models of sexual response, and asked to choose the one that described their own sexual response with their current partner, or, if none fit, “None of these”. The three descriptions were originally written for the well-known “Nurses’ Sexuality Study” [3] to correspond to the linear models of sexual response proposed by Masters and Johnson and Kaplan [4] and the circular model proposed by Basson [5], respectively (see Appendix).

Among the original sample, only the data from 429 women and 401 men, all sexually active, were analyzed. There were some major strengths of the study, such as the large sample size, and the inclusion of both women and men, allowing Giraldi et al. to make comparisons between the sexes. In this letter, we draw attention to important methodological limitations that were not addressed in the article, as well as our concerns related to the authors’ interpretations of their findings and representation of the development of the DSM-5 criteria for Female Sexual Interest/Arousal Disorder (FSIAD).

**Questionnaire Design**

In this study, Giraldi et al. selected three models of sexual response from among those developed over the past 50 years. Of those developed over the last decade, Giraldi et al. cited only two: the “Dual Control Model” [6] and the “Sexual Tipping Point” [7]. In contrast to the authors’ statement that the Dual Control Model describes “*male* sexual response…as a balance between central excitation and inhibition”, this model has been proposed to apply equally to women [6]. In any case, the Dual Control Model is not a model describing human sexual response, but one that conceptualizes individual differences in sexual arousal. It is curious that the authors did not mention the Incentive Motivation Model [8-10], which arguably has generated the most empirical research compared to other models such as the circular model, or include its description as an option for participants in this study.

Importantly, the descriptions of the three models of sexual response (see Appendix) that were included differ in several significant ways (context, accuracy, complexity, and ordering), and these differences may have biased participants’ endorsement of the models.

(1) Context: While the explanation of the Masters and Johnson model focused only on the person’s experience *during* the sexual encounter, the descriptions of both the Kaplan and the Basson models also focused on the experiences leading to a sexual encounter. This is problematic, since it is possible for a person to initiate sex for desire or non-desire related reasons and still endorse the description in the Masters and Johnson model. Thus, the descriptions of the Kaplan and Basson models are potentially compatible with the description of the Masters and Johnson model, rather than the three being mutually exclusive.

(2) Accuracy: While the Masters and Johnson and Kaplan models are accurately described, the description of the Basson model does not reflect the possibility of initiating a sexual encounter due to feelings of sexual desire. The actual Basson model includes “spontaneous sexual desire” at the center of the circular cycle, as a possible motivator for sexual activity [5].

(3) Complexity: It is notable that the description of the Masters and Johnson model was brief and clear, whereas the description of the Kaplan model was more complex, and the description of the Basson model was even more complex, twice as long, potentially confusing, and framed in the negative rather than the positive (“I mostly agree to sexual activity… for reasons *other than* sexual desire”).

(4) Ordering: The order in which the descriptions of the models were presented to participants was always Masters and Johnson’s first, followed by Kaplan’s and then Basson’s. Given the primacy effect [11], which finds that people tend to remember and identify with things earlier on in a list compared to those presented later, it is possible that this effect may have influenced endorsement across the three models. However, the recency effect [11] may also have influenced endorsement of the later presented models. At a minimum, the order of presentation of the models should have been counterbalanced across participants.

**Interpretation of Results**

With respect to the female participants, 34% endorsed the Kaplan model, 28% endorsed the Masters and Johnson model, and 26% endorsed the Basson model. Interestingly, 13% of the women did not endorse any of the three models. Giraldi et al. [2] concluded that equal proportions of women endorsed the three models and that “no single model described women’s sexual response, but all the presented models could describe the sexual experiences of a portion of women” (p. 124). This seems to be a reasonable conclusion to make based on the proportions of women endorsing the three descriptions.

Women who endorsed the Kaplan or Masters and Johnson models had mean FSFI scores that were significantly higher than women who endorsed the Basson model or none of the models. Furthermore, using a cut-off score of 15 on the FSDS, women with sexual distress scores ≥ 15 were significantly more likely to endorse the Basson model or none of the models than women who scored below the clinically significant distress cut-off. The subgroup of 17% of the women who scored ≤ 26.55 on the FSFI and had scores above 15 on the FSDS were also examined. Among these women, who represented the “sexually dysfunctional” group, over half (56%) endorsed the Basson model, 19% endorsed none of the models, 18% endorsed the Kaplan model, and only 7% the Masters and Johnson model. The majority of the women who endorsed the Basson model fell in this “sexually dysfunctional” group. Giraldi et al. concluded that it is mostly women reporting sexual difficulties who endorsed the Basson model, whereas women with scores in the “functional” range on the FSFI and FSDS were more likely to endorse the descriptions of the Masters and Johnson and Kaplan models.

The authors suggested that “women who endorse the Basson model might be at a higher risk of developing sexual dysfunctions” (p. 125). While this is a possibility, there are other explanations that should be given equal consideration, including: (1) women who are experiencing sexual problems may begin to relate more to the Basson model, which explicitly includes the possibility of non-desire motivations for sexual activity; and (2) women with depressed mood may both experience sexual problems and endorse this study’s description of the Basson model (due to its negative/pessimistic wording). It is unfortunate that the study measured depressed mood but that its association with endorsement of the three models was not reported.

With respect to the male participants, in contrast to the authors’ statement that “for the men included in our study, desire precedes arousal, and this difference can be distinguished” (p. 124), their results suggest significant variability, as only 38% of the men endorsed the Kaplan model. Giraldi et al.’s findings appear to demonstrate that, consistent with previous studies that have questioned the adequacy of existing models of sexual response in describing men’s sexual responses [12], no one linear model explained the sexual response experienced by men (or women).

Finally, some of the conclusions by Giraldi et al. are contradictory. After stating in the Results section that “a *considerable difference* existed between men’s and women’s endorsements of the models of sexual response” (p. 120), the Discussion section begins with: “The most prominent results in the study are the overall *similarity* between men’s and women’s endorsements of the models” (p. 123).

**Representation of FSIAD and Other Clarifications**

In several places, the authors misrepresent the process leading to the revised diagnostic criteria for female sexual disorders in the DSM-5. They state that the introduction of FSIAD was “mainly based on the concept that women are not able to distinguish between arousal and desire, and it incorporates the Basson model as a description of women’s sexual function” (p. 126). This is incorrect. First, the Basson model was not incorporated as a model underlying the FSIAD diagnosis. We have previously stated that the rationale underlying the DSM-5 proposals included moving beyond the widely-criticized human sexual response cycle model as a framework for female sexual disorders [13]. In fact, the committee adopted polythetic criteria for FSIAD precisely to underline the fact that no single model of sexual response fits the experience of all women, as reflected in the FSIAD “diagnostic features” section: “There may be different symptom profiles across women, as well as variability in how sexual interest/arousal disorder may be expressed…” (p. 433) [14].

Second, the introduction of FSIAD was not “mainly based” on women’s lack of differentiation between arousal and desire, as suggested by Giraldi et al. Comprehensive literature reviews provided the full rationale for why the definition of hypoactive sexual desire disorder (HSDD) in the DSM-IV-TR was expanded [15] and why FSAD was eliminated [16]. The description of FSIAD in the DSM-5 states that “sexual desire and arousal frequently coexist and are elicited in response to sexual cues” (p. 434) [14] and the Sexual Dysfunctions subworkgroup responsible for introducing the FSIAD diagnosis has never claimed that sexual desire and arousal are indistinguishable.

In contrast to the authors’ assertion that “these data indicated that a merging of desire and arousal disorders in the DSM-5 is inconsistent with women’s overall sexual experiences” (p. 126), their results actually support the expanded polythetic criteria for FSIAD. The fact that women can meet any three of six FSIAD criteria allows for different ways in which sexual response (and the lack thereof) can be experienced within and across women and very much fits their findings, which revealed approximately equal endorsement of the different models. Using the descriptions of the models in their study, the previous criteria for HSDD, which were based on the Masters and Johnson model, would have only captured the experience *during* the sexual encounter. The authors draw conclusions about motivations for sexual activity (e.g., “Nearly 50% of the investigated men endorsed the M&J model, which described sexual arousal as the primary motive for sexual activity”, p. 124), which is inappropriate considering their description of the Masters and Johnson model begins once sexual activity has already begun, and does not discuss motivation at all.

Other problems with the way the models were presented include the following: (1) The lack of definitions for terms such as “desire” and “arousal” may have created inconsistency in how participants understood these terms and thus which model they endorsed. (2) As noted above, the description of the Masters and Johnson model is brief and clear, whereas the description of the Basson model is twice as long and more complex, which therefore may have elicited biased responding. In fact, it may be the case that individuals who reported distressing sexual difficulties have spent more time thinking about their own sexuality and sexual function, and thus have greater insight into the complexity of the process, prompting them to choose the Basson model. (3) Participants were asked to choose the one model that best described their sexual response. This does not allow us insight into whether a single participant might have endorsed a different model at different times or in different relationships.

In conclusion, the results of this study were interesting and consistent with much of the previous research on women and men’s sexuality, and we congratulate Giraldi et al. on attempting to move the science of understanding models of sexual response forward. Women showed more variation than men regarding which models they endorsed, consistent with previous evidence on the variability of women’s sexuality (for review, see [17]). Contrary to Giraldi et al.’s conclusions, we would contend that their data very much support the introduction of FSIAD and its polythetic criteria in DSM-5.

References

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Appendix

1. “When I’m being sexual with my partner, I become excited, or “turned on”. Then those feelings and sensations build through our activity until I may reach orgasm. Then I return to a “relaxed” state. (Masters and Johnson model)
2. “I mostly agree to sexual activity with my partner or initiate it when I am feeling sexual desire or “in the mood”—meaning I want the sexual sensations, excitement, pleasure, maybe orgasm(s) and the good feelings that follow. Once my partner and I start interacting and touching and stimulating each other, I get aroused—excited, feel the sexual sensations building and maybe have orgasm(s). (Kaplan).

 “I mostly agree to sexual activity with my partner or initiate it for reasons other than sexual desire (for example, I might want to…) (p. 128) and this model was originally written to correspond with Basson’s [4] circular model of sexual response.