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Validation of a Self-Report Questionnaire Assessing the Bodily and Physiological Sensations of Orgasm

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ABSTRACT

Introduction: Despite a plethora of research on sexual functioning during the past decades, the field is still lacking standardized measurements specifically characterizing orgasm. Although several validated tools are available to assess sexual function in healthy and clinical populations, items on orgasm are limited to frequency or dichotomous responses. A neurophysiologic model of orgasm developed from previous research in able-bodied and spinally injured populations offers a promising framework for the construction of a new questionnaire.

Aim: To develop and validate a brief self-report measurement of orgasm by the assessment of bodily and physiologic sensations perceived during climax by able-bodied individuals. Although the currently available tool focuses on the phenomenological sensations associated with climax, the goal of this questionnaire was to capture the more specific genital and extragenital sensations associated with orgasm.

Main Outcome Measures: The current Bodily Sensations of Orgasm questionnaire and the Orgasm Rating Scale.

Methods: Data from previous research conducted on individuals with spinal cord injury and the available empirical literature provided a pool of 45 items organized into four categories, which were reviewed by an expert panel. Upon review, a 28-item questionnaire was created and administered to a community sample of 227 participants, including men and women, 18 to 73 years old.

Results: Exploratory factor analyses supported the four-factor model, in which orgasm is comprised of extragenital sensations, genital sensations and spasms, nociceptive sensations, and sweating responses. Overall, a high degree of internal consistency was found for the final 22-item questionnaire (Cronbach $\alpha = 0.87$), with individual reliability coefficients showing moderate to high internal consistency ($r = 0.65-0.79$) for each dimension. Overall temporal stability of the measurement was acceptable ($r = 0.74$). Using the Orgasm Rating Scale, satisfying convergent validity was confirmed, thereby indicating that the two measurements are complementary.

Conclusion: The Bodily Sensations of Orgasm questionnaire allows for a brief evaluation of the physical and physiologic sensations associated with orgasm. Findings also suggest perceptual differences between men and women with regard to climax, with women reporting a larger repertoire of climactic sensations during orgasm.
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Key Words: Orgasm; Spinal Cord Injury; Cardiovascular Responses; Autonomic Responses; Genital Sensations; Extragenital Sensations

INTRODUCTION

Despite much public interest and repeated attempts by the scientific community to characterize the human orgasmic experience, orgasm research is still marked by sex-specific definitions and an overall lack of unifying framework. This is particularly problematic in clinical practice for the assessment and treatment of orgasm difficulties in various populations, including those with spinal cord injury (SCI). The existence of multiple typologies also plays a key role in the lack of clear, agreed-upon characteristics of the human orgasm.[1] Labels such as "mixed

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orgasms,"[2,3] coital vs extra-coital orgasms,[4] clitoral vs vaginal orgasms in women,[5,6] and penile vs seminal orgasm in men[7] contribute to the confusion.

Despite recent attempts, the field has not reached a universally satisfying definition of orgasm. The pleasurable dimension of climax seems to be the only unifying theme thus far,[6] albeit subject to considerable individual variability. Masters and Johnson[8] examined such variability in their physiologic studies investigating the bodily and genito-pelvic changes occurring during climax. Since then, most studies have centered on the genital physiologic changes occurring during orgasm,[1] focusing primarily on the muscle contractions (perineal and anal) recorded in men and women.[9,10] Some researchers have attempted to broaden the definition of orgasm by highlighting the psychological state(s) associated with climax[1] and by combining the psychological and physiologic dimensions that characterize the human orgasm.[11,12] However, a major obstacle has been the emphasis put on dichotomous accounts of orgasm (vaginal vs clitoral orgasms, mind vs body sensations, occurrence vs non-occurrence), rather than on the various physiologic sensations associated with the overall climactic experience.

Two recent international consensuses on orgasm have been reached and they depart from the previous focus on the characteristic muscular contractions. In fact, these consensuses define women's orgasmic experience as a "variable and transient peak sensation of intense pleasure creating an altered state of consciousness, usually accompanied with involuntary, rhythmic contractions of the pelvic striated circumvaginal musculature, often uterine and anal contractions, in addition to myotonia that resolves the sexually induced vasocongestion, and usually accompanied with a sensation of well-being and contentment"[13] and men's as a "cerebral processing of pudendal nerve sensory stimuli resulting from increased pressure in the posterior urethra, sensory stimuli arising from the verumontanum and contraction of the urethral bulb and accessory sexual organs."[14] Although these definitions constitute a step toward the operationalization of orgasm as a concept, they are still associated with two major issues. First, they suggest that orgasm differs between men and women, despite physiologic and subjective evidence of similar orgasmic responses in men and women[1,15,16]; second, they fail to distinguish between intense sexual arousal and orgasm for women.

This absence of a unifying description of orgasm translates to a lack of universally accepted assessment tools. In 1998, Warner[17] designed and tested the Peak of Sexual Response Questionnaire to assess the psycho-affective dimensions of the female orgasm; however, this measurement failed to differentiate between orgasm and sexual arousal. Currently, the International Index of Erectile Function (IIEF)[18] and the Female Sexual Function Index (FSFI),[19] two widely used assessment tools in sex research, dedicate only one and three items to orgasm, respectively. Although these two well-validated measurements are useful for the assessment of overall sexual function, they do not address the physical sensations characterizing orgasm or pleasure, and they do not provide a unique tool to assess women and men. More recently, Mah and Binik[20] developed the Orgasm Rating Scale (ORS) to assess the phenomenological sensations associated with orgasm in men and women. Their two-dimensional model conceptualizes orgasm as sensory and cognitive-affective characteristics, but the phenomenological adjectives do not particularly capture the specific bodily sensations that are associated with climax.

Courtois et al[21–24] developed a brief assessment tool organized by four categories of specific bodily sensations associated with the human orgasmic experience, as described in the literature on physiologic recordings in men and women during climax.[8,22–24] Similar to the able-bodied population, findings from the SCI population describe climax as associated with different bodily responses, which also are observed during another phenomenon called "autonomic dysreflexia" (AD).[25] AD is a clinical condition that is usually triggered by nociceptive stimulation, but also ejaculation, in individuals with lesions above T6 (ie, above the major sympathetic outflow from the spinal cord) and is associated with a sympathetic storm characterized by signs such as hypertension (systolic blood pressure $>$ 20 mm Hg), tachycardia, hyperventilation, muscular contractions, and shivering.[25] In able-bodied individuals, this autonomic storm triggered by climax is normally under supraspinal control[24] and immediately tempered down to normal within 2 minutes after ejaculation.[22–24]

The similarities between the able-bodied and SCI populations led Courtois et al[21–24] to postulate that orgasm is a non-pathologic equivalent of AD. Based on their data, Courtois et al[23] developed a 33-item questionnaire to test the hypothesis that orgasm is related to mild AD symptoms. Their questionnaire assessed sensations, muscular contractions, autonomic arousal, and dysreflexic sensations.

Preliminary data suggest that Courtois et al's neurophysiologic model of orgasm is consistent with the many genital and extragenital events recorded during orgasm in men with and without SCI.[8,22–24] Further research with able-bodied men and women is needed to establish the validity of their model. Therefore, the purpose of the present study was to validate the questionnaire in able-bodied men and women. Ultimately, the goal is to offer an assessment tool that could help patients identify the sensations of orgasm, for example, anorgasmic women identifying the specific bodily sensations that build up to and characterize orgasm.

This study was designed to assess the validity of a tool measuring the specific bodily sensations characterizing orgasm, as experienced by men and women, and consistent with our four-factor model of climax as a non-pathologic equivalent of AD. The following hypotheses guided the research: (i) the validity of our four-factor model should be confirmed, (ii) the sensory dimension of our questionnaire should be mostly correlated to the ORS sensory dimension and the remaining dimensions should be moderately correlated to the ORS, and (iii) women should show a larger sensory repertoire than men during climax.