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The Study of Ejaculatory Response in Men in the Psychophysiological Laboratory

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Sexual psychophysiological researchers have had limited success in studying ejaculatory response in the laboratory in men and, more specifically, in identifying factors that differentiate the sexual response of men with premature ejaculation (PE) from controls. A number of methodological limitations may have contributed to the lack of effects in these studies, including lack of stimuli and response measures specific to ejaculatory response. To understand further the sexual response patterns of men with premature ejaculation, penile response, subjective arousal, and subjective and objective measures of pending or actual ejaculation were measured in men with premature ejaculation and controls to two types of stimulation: an erotic video and an erotic video plus penile vibrotactile stimulation. Erectile response differed across stimulus conditions, but not across groups (men with PE versus controls). A number of group, stimulus, and group by stimulus effects were found on subjective measures of arousal, perceived penile response, and ejaculatory response. In fact, 5 of 14 men with PE ejaculated under the combined stimuli, whereas only 1 of 8 controls ejaculated. These findings support the efficacy of using penile tactile stimulation and assessment of objective and subjective correlates in laboratory-based investigations of ejaculatory response.

Psychophysiological researchers investigating sexual dysfunction have been successful in differentiating the response of men with erectile dysfunction (ED) from sexually functional men (Bancroft et al., 1985; Beck & Barlow, 1986; Rowland & Heiman, 1991). Under laboratory conditions where participants are presented with erotic stimuli and their sexual response is measured, clear differences between ED and functional men in both genital response and subjective arousal are seen. In contrast, such experimental studies have been relatively unsuccessful in differentiating the sexual response of men with premature ejaculation (PE) from that of functional counterparts, in that the response patterns of these groups are indistinguishable (e.g., Kockott, Feil, Ferstl, Aldenhoff, & Besinger, 1980; Spiess, Geer, & O'Donohue, 1984; Strassberg, Kelly, Carroll, & Kircher, 1987). Failure to elicit different response patterns between PE and control men in the laboratory has prevented a systematic, controlled study of premature ejaculation, a disorder that is currently not well understood (Grenier & Byers, 1995; Ruff & St. Lawrence, 1985).

The lack of differences between PE and control groups in previous studies may be attributed to inadequate stimuli and/or response measures. Specifically, researchers have generally relied on visual erotica as the mode of sexual stimulation, yet men with PE typically ejaculate rapidly when tactile stimulation to the penis is involved. Furthermore, previous researchers have focused mainly on erectile measures and paid little or no attention to objective or subjective measures of ejaculatory response (e.g., actual ejaculation or feelings of impending ejaculation), yet such measures are clearly critical to the study of premature ejaculation. Finally, most laboratory studies have been unable to demonstrate genital response differences between PE men and controls when relying on penile circumferential measures. Yet differences in penile rigidity may be the more relevant measure for assessing genital response under high levels of arousal, as might occur in men with PE (e.g., Rowland & Slob, 1992).

The purpose of the current study was to identify conditions that enable successful study of ejaculatory response in the psychophysiological laboratory. To address the shortcomings of previous studies, our procedure involved stimuli and response measures more specific to PE. We chose sexual stimulation that included a tactile component (administered to the penis) as well as a strong visual component. Response measures were not limited to penile circumference and subjective arousal but included a measure partly responsive to penile rigidity and, more importantly, subjective and objective assessments of pending or actual ejaculatory response. Using these parameters, we examined whether the addition of penile vibrotactile stimulation to the sexual situation might affect measures related to erectile and ejaculatory response and whether men with PE

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might show stronger sexual response (subjective, erectile, and ejaculatory) to vibrotactile stimulation than their functional counterparts.

Method

Participants

Twenty-two Dutch men participated. All were heterosexual, at least 18 years old, and had obtained the consent of their sexual partner. These participants were compensated with $15 or with the cost of travel expenses to and from the laboratory. Eight men were sexually functional volunteers (control group), and 14 were patients with premature ejaculation (PE group). Men in the PE group were referred by the urology clinic of a major academic hospital where they had sought help for a sexual problem. Specifically, these men had been initially diagnosed on the basis of self-reported inability to control ejaculation during coitus with accompanying subjective or interpersonal distress; each reported having had the dysfunction for a minimum of six months. Consistent with this classification, these men reported ejaculation latencies of one minute or less and indicated significantly fewer thrusts to ejaculation than controls (see Table 1). Six men in the PE group reported secondary erectile problems, as defined by the inability to achieve or maintain erection sufficient for coitus or masturbation at least "some of the time" (i.e., based upon clinical interview and supported by scores ranging from 3 or higher on a 7-point scale where 1 = never to 7 = always, on a questionnaire item assessing this aspect of sexual function). These diagnoses were further confirmed through an extensive medical history and a structured clinical exploration of a 50-item sexual response inventory based on multi-axial dimensions (Schover, Friedman, Weiler, Heiman, & LoPiccolo, 1982) conforming to the DSM-IV diagnostic categories of desire, arousal, and orgasm (American Psychiatric Association, 1994). Before participation in the study, all patients underwent a complete physical examination during which physicians paid special attention to urogenital, neurological, and vascular function to ascertain that these men had no history of disease, surgical procedures, or medication use known to affect sexual functioning.

The eight medically healthy, sexually functional volunteers, who were recruited mainly through word of mouth, were included as a comparison group. Absence of sexual problems and health complications or of use of medications known to affect sexual functioning was confirmed by the structured clinical interview and medical assessment.

Prior to participation, all men were aware of the fact that the study dealt with measures of sexual response (including ejaculatory response). However, because many aspects of the participant's sexual response were measured during the session (e.g., erectile response, subjective response, affective response), it was not likely that measurement of ejaculatory response stood out as a focal point within the study. Nevertheless, because the population of dysfunctional participants consisted of men with PE, it was perhaps obvious that ejaculatory response was an important measure in this study. Control participants were likewise informed that, among other things, this study dealt with effects on ejaculatory response.

Stimuli

Two stimulus conditions were used in each laboratory session: an erotic videotape (VIDEO) and an erotic videotape presented in combination with penile vibrotactile stimulation (VIDEO+VIBRO). Because penile vibrotactile stimulation by itself has limited efficacy in inducing sexual arousal (Rowland, Cooper, & Slob, 1996; Rowland & Slob, 1992), it was not included as one of the stimulus conditions.

Within each session, two different videotapes were used, each 9-10 minutes and similar in the types of sexual activities portrayed. The erotic nature of these stimuli, along with a standardized procedure for their use, had been established in earlier research (Rowland, den Ouden, & Slob, 1994; Rowland & Slob, 1992). The experiment was counterbalanced such that each video was paired an equal number of times with and without vibrotactile stimulation.

Vibrotactile stimulation was delivered with a mini-vibrator attached to

Table 1

Comparison of Control and PE Groups on Demographic Characteristics and Sexual Functioning

	Controls	Patients	*p*
Demographic/general			
Number of participants	8	14	
Age (yr)	39.9 ±4.1	41.8 ±2.5	.68
Percentage with sex partner	75	93	
Length of relationship (yr)	14.8	12.8	.39
Quality of sex life[a]	4.6 ±0.3	3.4 ±.03	.03
Frequency of intercourse/week	1.4 ±0.3	1.8 ±0.4	.52
Sexual desire			
Interest in sex[b]	4.1 ±0.3	4.8 ±0.4	.36
Sexual thoughts?[b]	3.4 ±0.5	4.7 ±0.4	.08
Sexual fantasies?[b]	2.9 ±0.5	3.5 ±0.5	.47
Erectile function			
Problem getting erection[b]	1.6 ±0.6	2.6 ±0.5	.24
Problem keeping erection[b]	2.1 ±0.5	3.8 ±0.7	.18
Ejaculatory function			
Frequency of ejaculation too soon[b]	1.7 ±0.6	6.9 ±0.1	<.001
Latency ejaculation intercourse (min)[c]	6-9	< 1.0	<.001
Thrusts to ejaculation[c]	>20	3.5-8.5	.001
Latency ejaculation masturbation (min)[c]	5-8	1-3	.003

[a]For this item, 1 = very poor, 7 = excellent. [b]For these items, 1 = almost never, 7 = almost always or very often. [c]For these items, value represents median interval.

the underside tip of the penis just posterior to the glans using an erectiometer (yellow type: Slob, Blom, & van der Werff ten Bosch, 1990). This vibrator (see Rowland & Slob, 1992, for a complete description) generates vertical displacement up to 1.5 mm and lateral displacement up to 5 mm, with output frequency ranging from 10 to 60 Hz, depending on input voltage. Area of surface stimulation was approximately 270 mm^2. Vibrotactile stimulation was not continuous, but rather consisted of alternating on (25-second) and off (5-second) periods. This particular temporal pattern of vibration, when used in combination with an erotic video, was found to be highly effective in stimulating arousal in a series of pretests with the vibrator.

Response Measures

Erectile response was measured with an erectiometer, a device consisting of a calibrated feltlike band (19 x 2 cm) with a plastic sliding collar that expands with tumescence but is also sensitive to changes in rigidity because it requires a minimum force of 250 g to initiate expansion. The erectiometer (which also included the vibrator) was placed at the tip of the penis just posterior to the glans.

Following each stimulus period, men responded to four scaled items (in general, 1 = not at all; 7 = very much). One item each pertained to physical ("how erect was your penis") and subjective arousal ("strongest feeling of sexual arousal"), and two pertained to ejaculatory response ("feeling of control over ejaculation" and "how close were you to ejaculating"). On a separate item, respondents also indicated whether they ejaculated during the stimulus period.

Procedure

Prior to participation, the procedure was explained to the volunteer, and written consent was obtained. Participants were informed that they could withdraw from the experiment at any time. Patients were then interviewed extensively by a trained clinician to ascertain the nature of their sexual problem. As part of this interview, the clinician had access to patient medical and sexual records provided through the urology clinic. Control men underwent an abbreviated interview to rule out the existence of sexual or medical problems or the use of medications known to have deleterious effects on sexual functioning. As part of the interview, all men filled out a number of forms soliciting detailed information on personal history, sexual and medical history, and current sexual functioning.

Each man was then scheduled for a 30-minute "pretest" session. The purpose of this pretest was to adapt the participant to the laboratory procedures and equipment, including penile vibrotactile stimulation, and therefore no data gathered during this session were used. This session, carried out in a private, softly lit room, involved two nine-minute stimulus segments: VIDEO and VIDEO+VIBRO. After initial placement of the measurement device by the male experimenter, communication between participant and experimenter was maintained through an intercom system. Prior to onset of the stimuli, men were allowed to experiment with the vibration amplitude and were asked to select an amplitude on the basis of "most pleasant." This level was administered during the pretest and also during the subsequent session used for data collection. The level of vibration did not differ between groups, $t[18] = -.64$; $p = .53$. Immediately before stimulation, a set of instructions appeared on the video screen that encouraged a permissive, but non-demanding atmosphere for sexual arousal and that normalized ejaculation, should it occur (see Rowland & Slob, 1992, for a typical script).

Three to six weeks later, men were scheduled for the actual test session, which was carried out under similar conditions as the pretest, except that two different videotapes were used. At the outset, the male experimenter placed the erectiometer on the participant's penis, or if the participant was sufficiently familiar with the procedure from his experience during the preliminary lab adaptation session, the experimenter visually inspected the placement of the device. Presentation of sexual stimuli began after a minimum of four minutes of baseline. The order of stimulus presentation for all men was VIDEO, then VIDEO+VIBRO, with an interstimulus interval of approximately 10 minutes or longer if complete detumescence had not yet occurred. This particular order was chosen because previous research in our lab has indicated that VIDEO+VIBRO elicits stronger penile response than VIDEO alone, and therefore the likelihood of ejaculation during the first stimulus segment (in this case VIDEO) was minimized. Because the order of stimulation does not account for the greater penile response under VIDEO+VIBRO (Rowland & Slob, 1992; Rowland et al., 1994), nor most variance in subjective arousal between conditions (Rowland et al., 1994), counterbalancing of stimuli was not deemed necessary. Following each stimulus period, the participant responded to the items described previously, along with a number of other items (not relevant to the focus of this study and therefore not reported here) aimed at measuring affective and cognitive reactions to the stimulation.

Results

Data Analysis

All men with PE (both those with just PE and those with PE as their primary sexual dysfunction plus ED problems) were combined into a single group for analysis and compared against sexually functional men (control group). The rationale for combining these two groups of men was based on two factors. First, the primary focus of this study was to understand the role of sexual stimulation, particularly penile tactile stimulation, on men with ejaculatory disorders; second, the PE diagnosis was primary for all patients. In combining these samples, statistical power would

be substantially increased, a relevant strategy given the low *n*s typical of laboratory-based research involving persons with sexual dysfunctions.

To justify aggregation, a procedural check was carried out to test for differences between PE and PE-plus-ED groups. Preliminary analysis indicated similarity between these groups on nearly all variables related to genital (ejaculatory and erectile) measures and subjective measures (Table 2). As a result, these groups were combined (designated PE) for all subsequent analyses.

Group differences (PE versus control) on self-report items of sexual functioning prior to the testing sessions were assessed with *t*-tests or, where medians were used, the Mann-Whitney test. Because these analyses were intended only to ascertain the results of differential diagnosis, no adjustment of alpha was made. Experimental conditions were analyzed using two-way ANOVA, with one between-subjects factor, Group (PE versus control), and one within-subjects factor Stimulus (VIDEO versus VIDEO+VIBRO).

Description of Groups

Table 1 shows responses for men with PE and controls to items pertaining to sexual history and functioning administered prior to the psychophysiological sessions. Briefly, men with PE differed significantly from controls on a number of self-reported ejaculatory measures. No group differences were found on items relating to frequency of intercourse, sexual desire, and erectile function.

Penile Response

Table 3 shows average increase from baseline for penile circumference, as measured by the erectiometer, for the two groups under the two stimulus conditions. Although groups did not differ significantly, $F[1,20] = 1.51$, $p = .23$, increase in penile circumference was significantly greater under the VIDEO+VIBRO condition than under the VIDEO condition, $F[1,20] = 6.04$, $p = .02$, $\eta^2 = .23$, power = .65. Although no significant interaction effect was found, $F[1,20] = 1.26$, $p = .28$, in accordance with the expectation that men with PE would be affected more by VIDEO+VIBRO than VIDEO alone, individual comparisons across stimulus conditions were carried out for each group. VIDEO+VIBRO produced a significant increase in penile response in men with PE, $F[1,13] = 6.57$, $p = .02$, but not in control men, $F[1,7] = 1.90$, $p = .21$.

Table 3

Maximum Circumference Change (Mean ± SE) from Baseline (mm) in Penile Response as Measured with the Erectiometer

Stimulus	Control ($n = 8$)	PE ($n = 14$)
VIDEO	21.1 ±3.0	14.7 ±2.4
VIDEO+VIBRO	23.5 ±2.4	22.0 ±2.5

Subjective Response

Table 4 shows responses of the PE and control groups to the four post-stimulus items on sexual arousal and ejaculatory response for the VIDEO and VIDEO+VIBRO conditions. Results of statistical analyses are also included in this table. Significant stimulus effects were found on the two items measuring perceived arousal and both items measuring ejaculatory response. Specifically, higher scores occurred on the items "strongest feeling of arousal," "how erect was the penis," and "how close were you to ejaculation" and lower on the item "ease of control over ejaculation" in the VIDEO+VIBRO condition compared with the VIDEO condition.

Regarding group effects, on items pertaining to perceived penile and subjective arousal, there were no significant differences. On one of the two items pertaining to ejaculation, "how close were you to ejaculation," the PE

Table 2

Comparison of PE and PE+ED Groups on Penile Response and Subjective Measures of Sexual Arousal and Ejaculatory Response

Measure	Stimulus	PE ($n = 8$)	PE with ED ($n = 6$)
mm increase in penile circumference	VIDEO	15.3 +2.2	14.0 ±4.0
	VIDEO+VIBRO	20.1 ±3.3	22.0 ±4.6
	Group: $F[1,12] = .01$; $p = .93$		
	Stimulus: $F[1,12] = 6.66$; $p = .02$		
	Grp x Stim: $F[1,12] = .46$; $p = .51$		
Strongest arousal	VIDEO	5.6 ±0.2	5.8 ±0.1
	VIDEO+VIBRO	6.6 ±0.3	6.2 ±0.2
	Group: $F[1,12] = .07$; $p = .80$		
	Stimulus: $F[1,12] = 13.70$; $p < .01$		
	Grp x Stim: $F[1,12] = 3.43$; $p = .04$		
Penile response (1 = none, 7 = full erection)	VIDEO	5.8 ±0.3	5.4 ±0.3
	VIDEO+VIBRO	6.9 ±0.2	6.5 ±0.4
	Group: $F[1,12] = .45$; $p = .51$		
	Stimulus: $F[1,12] = 4.02$; $p = .07$		
	Grp x Stim: $F[1,12] = .00$; $p = .97$		
Control over ejaculation	VIDEO	7.0 ±0.0	7.0 ±0.0
	VIDEO+VIBRO	5.0 ±0.5	3.1 ±0.4
	Group: $F[1,12] = 3.02$; $p = .15$		
	Stimulus: $F[1,12] = 21.42$; $p < .01$		
	Grp x Stim: $F[1,12] = 5.06$; $p = .04$		
Closeness to ejaculation (1 = not at all, 7 = very close)	VIDEO	2.8 ±0.3	2.8 ±0.4
	VIDEO+VIBRO	4.5 ± 0.5	5.5 ±0.3
	Group: $F[1,12] = .30$; $p = .59$		
	Stimulus: $F[1,12] = 17.94$; $p < .01$		
	Grp x Stim: $F[1,12] = .77$; $p = .40$		

Note: Unless otherwise specified, 1 = none or not at all; 7 = very intense or high.

Table 4

Comparison of Control and PE Groups on Post-stimulus Ratings (Mean ± SE) Pertaining to Arousal and Ejaculatory Response

Item	Stimulus		Control (n = 8)	PE (n = 14)
Strongest arousal	VIDEO		4.9 ±0.2	5.7 ±0.2
	VIDEO+VIBRO		6.3 ±0.3	6.4 ±0.2
	Group:	F[1,20] =	2.37; p = .14; effect size = .11;	power = .31
	Stimulus:	F[1,20] =	34.94; p < .01; effect size = .64;	power = 1.00
	Grp x Stim:	F[1,20] =	3.49; p = .08; effect size = .15;	power = .43
Penile response (1 = none, 7 = full erection)	VIDEO		5.3 ±0.2	5.6 ±0.4
	VIDEO+VIBRO		6.5 ±0.3	6.7 ±0.4
	Group:	F[1,20] =	.39; p = .54; effect size = .02;	power = .08
	Stimulus:	F[1,20] =	7.53; p = .01; effect size = .27;	power = .74
	Grp x Stim:	F[1,20] =	.02; p = .89; effect size < .01;	power = .05
Control over ejaculation	VIDEO		6.1 ±0.4	7.0 ±0.0
	VIDEO+VIBRO		6.0 ±0.6	4.3 ±0.7
	Group:	F[1,20] =	.60; p = .45; effect size = .03;	power = .14
	Stimulus:	F[1,20] =	6.43; p = .02; effect size = .24;	power = .67
	Grp x Stim:	F[1,20] =	5.34; p = .03; effect size = .21;	power = .59
Closeness to ejaculation (1 = not at all, 7 = very close)	VIDEO		1.5 ±0.2	2.8 ±0.5
	VIDEO+VIBRO		3.1 ±0.5	5.0 ±0.5
	Group:	F[1,20] =	5.04; p = .04; effect size = .20;	power = .57
	Stimulus:	F[1,20] =	18.16; p < .01; effect size = .48;	power = .98
	Grp x Stim:	F[1,20] =	.34; p = .57; effect size = .02;	power = .07

Note: Unless otherwise specified, 1 = none or not at all; 7 = very intense or high.

group scored significantly higher than the control group.

In addition, there was a significant group x stimulus interaction on the item "ease of control over ejaculation." Post hoc analysis revealed greater control under the VIDEO condition than under the VIDEO+VIBRO condition for the PE group, F[1,13] = 14.44, p = .002; η^2 = .53; power = .94, but not for the control group, F[1,7] = .03, p = .88. A nonsignificant group x stimulus interaction was found on "strongest feeling of arousal." However, post hoc analysis showed that the PE group indicated significantly higher arousal than controls under the VIDEO condition, F[1,20] = 5.22, p = .03; η^2 = .21; power = .58, whereas no significant difference was found between groups under the VIDEO+VIBRO condition, F[1,20] = .22, p = .65.

Ejaculation

Five of 14 men with PE and 1 of 8 controls ejaculated. Of the five men who ejaculated in the PE group, three had PE only, and two had PE combined with erectile problems. All ejaculations occurred during VIDEO+VIBRO stimulation.

Discussion

This study represents an important advance in the study of ejaculatory response within the context of a controlled, psychophysiological investigation. Although differences between PE men and controls have been demonstrated in laboratory settings, they have not been demonstrated using the typical psychophysiological protocol where stimulus and response measures are rigidly controlled, and therefore replicable under similar conditions, or where new variables might be introduced and studied. We believe that defining such a methodology is important because it opens the way for a systematic investigation of variables that maintain, alleviate, or exacerbate premature ejaculation. Specifically, the inclusion of penile vibrotactile stimulation, along with several objective and subjective self-report measures related to ejaculatory response, enabled the assessment of changing proximity to ejaculatory threshold. Participants reported feeling "closer to ejaculation" and "less control over ejaculation" under VIDEO+VIBRO than under VIDEO alone. Consistent with this pattern, six men ejaculated under the VIDEO+VIBRO condition, whereas none did under VIDEO. Thus, vibrotactile stimulation used in conjunction with visual erotic stimulation constitutes an important stimulus variable in the investigation of ejaculatory response.

This study also confirms earlier research indicating that the use of penile vibrotactile stimulation together with visual sexual stimulation induces greater erectile response than visual stimulation alone (Incrocci & Slob, 1994; Janssen, Everaerd, van Lunsen, & Oerlemans, 1994 a,b; Rowland & Slob, 1992; Rowland et al., 1994). In comparison with VIDEO alone, VIDEO+VIBRO elicited stronger subjective sexual arousal and self-reported penile response. Although we did not specifically control for stimulus order effects, previous studies have shown such effects to be minimal (Rowland & Slob, 1992; Rowland et al., 1994). Thus, the results of the current study provide evidence that vibrotactile stimulation is effective in increasing subjective arousal and penile response and bringing the man closer to the ejaculatory threshold.

In general, PE men reported feeling closer to ejaculation than did control men, no matter what type of stimulation was used. However, differences were also detected between men with PE and controls in their responses specifically to the two types of stimulation. PE men reported feeling less control over ejaculation when vibrotactile stimulation was included with the erotic videotape, whereas control men reported no such change. A similar pattern emerged for actual ejaculation, the behavioral endpoint on the ejaculatory response continuum. Five of 14 men in the PE group ejaculated under the VIDEO+VIBRO

stimulus, whereas only 1 of 8 men in the control group did. Taken together, these findings delineate an experimental methodology that may assist future investigation of ejaculatory response in a controlled, laboratory setting. Such a methodology may not only be important for identifying and understanding factors that affect premature ejaculation but includes the added feature of providing an alternative to the study of ejaculatory responses through masturbation, an activity that some men are uncomfortable with in the laboratory, and against which others have strong religious and cultural taboos.

References

American Psychiatric Association. (1994). *Diagnostic and statistical manual of mental disorders* (4th ed.). Washington, DC: Author.

Bancroft, J., Bell, C., Ewing, D. J., McCulloch, D. K., Warner, P., & Clark, B. F. (1985). Assessment of erectile function in diabetic and non-diabetic impotence by simultaneous recording of penile diameter and penile arterial pulse. *Journal of Psychosomatic Research, 29,* 303-313.

Beck, J. G., & Barlow, D. H. (1986). Effects of anxiety and attentional focus on sexual responding-I: Physiological patterns in erectile dysfunction. *Behavior Research & Therapy, 24,* 9-17.

Grenier, G., & Byers, E. S. (1995). Rapid ejaculation: A review of conceptual, etiological, and treatment issues. *Archives of Sexual Behavior, 24,* 447-472.

Incrocci, L., & Slob, A. K. (1994). Visual sexual stimulation and penile vibration in screening men with erectile dysfunction. *International Journal of Impotence Research, 6,* 227-229.

Janssen, E., Everaerd, W., van Lunsen, R. H. W., & Oerlemans, S. (1994a). Visual stimulation facilitates penile responses to vibration in men with and without erectile disorder. *Journal of Consulting and Clinical Psychology, 62,* 1222-1228.

Janssen, E., Everaerd, W., van Lunsen, R. H. W., & Oerlemans, S. (1994b). Validation of a psychophysiological waking erectile assessment (WEA) for the diagnosis of male erectile disorder. *Urology, 43,* 686-695.

Kockott, G., Feil, W., Ferstl, R., Aldenhoff, J., & Besinger, U. (1980). Psychophysiological aspects of male sexual inadequacy. *Archives of Sexual Behavior, 9,* 477-493.

Rowland, D. L., Cooper, S. E., & Slob, A. K. (1996). Genital and psychoaffective response to erotic stimulation in sexually functional and dysfunctional men. *Journal of Abnormal Psychology, 105,* 194-203.

Rowland, D. L., & Heiman, J. R. (1991). Self-reported and genital arousal changes in sexually dysfunctional men following a sex therapy program. *Journal of Psychosomatic Research, 35,* 1-11.

Rowland, D. L., & Slob, A. K. (1992). Vibrotactile stimulation enhances sexual response in sexually functional men: A study using concomitant measures of erection. *Archives of Sexual Behavior, 21,* 387-400.

Rowland, D. L., den Ouden, A. H., & Slob, A. K. (1994). The use of vibrotactile stimulation for determining sexual potency in the laboratory in men with erectile problems: Methodological considerations. *International Journal of Impotence Research, 6,* 153-160.

Ruff, G. A., & St. Lawrence, J. S. (1985). Premature ejaculation: Past research progress, future directions. *Clinical Psychology Review, 5,* 627-639.

Schover, L. R., Friedman, J., Weiler, S., Heiman, J. R., & LoPiccolo, J. (1982). A multi-axial diagnostic system for sexual dysfunctions: An alternative to DSM-III. *Archives of General Psychiatry, 39,* 614-619.

Slob, A. K., Blom, J. H. M., & van der Werff ten Bosch, J. J. (1990). Erection problems in medical practice: Differential diagnosis with relatively simple method. *Journal of Urology, 143,* 46-50.

Spiess, W. S., Geer, J., & O'Donohue, W. T. (1984). Premature ejaculation: Investigation of factors in ejaculatory latency. *Journal of Abnormal Psychology, 93,* 242-245.

Strassberg, D. S., Kelly, M. P., Carroll, C., & Kircher, J. C. (1987). The psychophysiological nature of premature ejaculation. *Archives of Sexual Behavior, 16,* 327-336.

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