

EJACULATION DISORDERS

Are the Criteria for the Diagnosis of Premature Ejaculation Applicable to Gay Men or Sexual Activities Other than Penile-Vaginal Intercourse?



Sean M. McNabney, MS,^{1,2} Claire E. Weseman, BS,¹ Kriszta Hevesi, PhD,³ and David L. Rowland, PhD¹

ABSTRACT

Introduction: The criteria for premature ejaculation (PE) have generally been limited to the diagnosis of heterosexual men engaging in penile-vaginal intercourse and therefore the applicability of PE diagnostic criteria to gay men and to activities beyond penile-vaginal intercourse has yet to be explored in depth.

Aim: To compare the prevalence of PE in gay and straight men and to assess whether PE-related diagnostic measures (ejaculatory control, ejaculation latency [EL], and bother/distress) can be applied with confidence to gay men or to men engaging in sexual activities other than penile-vaginal intercourse.

Methods: Gay and straight participants ($n = 3878$) were recruited to take an online survey assessing sexual orientation, sexual function/dysfunction (including specific PE-related measures), sexual relationship satisfaction, and various other sexual behaviors during partnered sex or masturbation.

Outcomes: Comparison of ejaculatory control, EL, and bother/distress across gay and straight men, as well as across different types of sexual activities.

Results: A slightly lower PE prevalence among gay men became undetectable when other predictors of prevalence were included in a multivariate analysis (aOR = 0.87 [95% CI: 0.60–1.22]). Gay men with PE reported longer typical ELs ($z_U = -3.35$, $P < .001$) and lower distress ($z_U = 3.68$, $P < .001$) relative to straight men, but longer ELs and lower distress were also associated with anal sex.

Clinical Translation: Clinicians can feel confident about using existing criteria for the diagnosis of PE in gay men but should be aware of potentially longer ELs and lower PE-related bother/distress—probably related to the practice of anal sex—compared with straight men.

Strengths and Limitations: Although well-powered and international in scope, this study was limited by biases inherent to online surveys, the lack of a sizable sample of bisexual men, and a lack of differentiation between men with acquired vs lifelong PE.

Conclusions: Irrespective of sexual orientation, gay and straight men with PE reported shorter ELs, lower satisfaction, and greater bother/distress than functional counterparts. While PE-related diagnostic criteria (ejaculatory control, EL, and bother/distress) are applicable to gay men, accommodation for longer ELs and lower bother/distress in gay men should be considered. **McNabney SM, Weseman CE, Hevesi K, et al. Are the Criteria for the Diagnosis of Premature Ejaculation Applicable to Gay Men or Sexual Activities Other than Penile-Vaginal Intercourse?. Sex Med 2022;10:100516.**

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Key Words: Premature Ejaculation; Gay; Homosexual; Ejaculatory Control; Distress/Bother; Diagnostic Criteria

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¹Department of Psychology, Valparaiso University, Valparaiso, IN, USA;

²Department of Applied Health Science, School of Public Health, Indiana University, Bloomington, IN, USA;

³Institute of Psychology, Eötvös Loránd University, Budapest, Hungary

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INTRODUCTION

Premature ejaculation (PE), a condition of ejaculating prior to or shortly after vaginal penetration, affects about 5–10% of the male population.^{1,2} Professional standards committees have characterized PE as having three broad components: the inability to control or postpone ejaculation, a short ejaculation latency (EL) with minimal stimulation, and negative psychological, behavioral, or interpersonal consequences such as bother/distress or avoidance of sexual intimacy.^{3–5} Although these criteria have been applied with confidence to the diagnosis of heterosexual men having penile-vaginal intercourse, it is unclear whether they extend beyond heterosexual men having penile-vaginal intercourse and also apply to non-straight men (eg, gay, bisexual) engaging in other types of sexual activities. Indeed, studies assessing the general prevalence of PE in men having different sexual orientations have suggested that gay men may be less likely than straight men to report PE,⁶ hinting that PE symptomology (EL, ejaculatory control, bother/distress) might differ across sexual orientation.

Except for two recent studies,^{7,8} there has been a dearth of research comparing PE criteria across populations of men having different sexual orientations. The first of those studies—focusing on EL—found that gay and non-straight men (ie, gay and bisexual) reported slightly longer (though non-significant) ELs during partnered sex than straight men. On other EL measures, such as the presumed threshold for men with PE or the typical EL for all men, sexual orientation made no difference. The second study found that gay men with and without PE reported less difficulty with ejaculatory control and less PE-related bother/distress than straight men. One putative explanation for the discrepancy in bother/distress may be that for straight men, ejaculatory control during vaginal intercourse not only influences a man's sexual experience, but also could affect his female partner's likelihood of reaching orgasm. Moreover, some straight men might assume that their partner prefers longer penetrative latencies when in fact other forms of stimulation (eg, oral sex or manual clitoral stimulation) could be equally pleasurable or desirable. For gay men, in contrast, activities such as providing oral stimulation or receptive anal sex are not contingent upon a man's own ejaculatory threshold but that of his partner.⁸

The aforementioned findings intimate that the specific type of sexual activity (eg, oral and anal sex instead of vaginal intercourse in gay men) may be as or more relevant to the application of PE diagnostic criteria to non-straight men than sexual orientation *per se*. Gay men, for example, engage more frequently in partnered masturbation and oral sex (giving and receiving) than heterosexual men^{9,10} (see Appendix, Supplementary Table A1). They also report much higher rates of both insertive and receptive anal sex than straight men; and as might be expected, vaginal intercourse—while common among heterosexual men—is virtually non-existent among gay men.

Data comparing ELs of men of different sexual orientations engaging in different sexual activities are non-existent. However,

studies comparing ELs during vaginal sex with ELs during other types of partnered sexual activity in *heterosexual men* experiencing normal ejaculatory latencies (ie, men without PE) have generally found that these ELs (eg, vaginal, oral, partner manual) correlate highly with one another.^{11–13} Masturbation EL patterns, however, deviate from this pattern, being shorter among men *with normal ejaculatory function* but longer among men *with PE*.^{11,12,14–18} Lacking from all these studies, however, is the analysis of ELs during the kinds of partnered sexual activities most prevalent among gay men, for example, insertive anal sex.

Rationale and Goals for the Study

To date, no studies evaluating PE outcomes have examined both sexual orientation *and* type of sexual activity within a single study or sample. As a result, clinicians and non-heterosexual patients alike could not assume with confidence that the existing diagnostic guidelines for PE could be applied to gay men and types of sexual activities lying outside the traditional realm of penile-vaginal intercourse. Although there is no *a priori* reason to suspect that gay and straight men differ in their propensity to exhibit PE symptomology, different types of sexual activity (eg, anal, vaginal, oral, manual) involve distinct types and intensities of penile stimulation which, in turn, might well hasten or slow the ejaculatory response. Furthermore, given the stimulatory differences between oral, anal, manual, and vaginal sex, perceptions of ejaculatory control and bother/distress might also differ across straight and gay men.¹⁹ Therefore, studies that address the suitability/generalizability of PE criteria beyond heterosexual men engaging in vaginal intercourse should ideally include information about both sexual orientation *and* predominant type of sexual activity in order to parse out these potentially confounding variables.

In this study, we investigated the roles of both sexual orientation and/or type of sexual activity on PE prevalence and the PE diagnostic criteria of EL, ejaculatory control, sexual satisfaction/pleasure, and distress/bother within a single sample. Specifically, we used the one Patient Report Outcomes (PRO) instrument with the best (validated) *diagnostic* questions (ie, the PEDT²⁰ for the construct of "ejaculatory control," the *sine qua non* for PE⁴) to independently assess ELs and distress/bother in both PE and non-PE men of different sexual orientations and engaging in different types of sexual activities. This strategy of using a validated measure of one dimension of a disorder to explore its other dimensions represents an appropriate way of investigating this issue.²¹

Drawing from a large multinational Internet-based sample, we pursued five goals. We (1) determined the prevalence of PE in straight and gay men, as well as sociosexual factors associated with these prevalence rates (Aim 1); (2) explored differences in estimated ELs, bother/distress, and sexual satisfaction during partnered sex between gay and straight men either having no ejaculatory disorders or (3) having PE, as defined by poor ejaculatory control (Aims 2 and 3); (4) explored the relationship of different types of sexual activities (eg, vaginal intercourse, anal

sex, and activities other than vaginal or anal sex) to estimated ELs, bother/distress, and sexual satisfaction in gay and straight men (Aim 4); and (5), in a multivariate analysis, assessed the combined associations of sexual orientation, type of sexual activity, and sexual/demographic covariates of known relevance to sexual response on predicting estimated ELs and PE-related bother/distress (Aim 5).

METHOD

Participants

Participants were recruited via voluntary self-selection from July 2019 through February 2020 to complete a survey pertaining to sexual health and behavior. The survey completion rate was 81% of those who initially opened the survey. Excluded were men who (1) never had a sexual partner, (2) identified as asexual, bisexual (see Results), transgender, or other, (3) indicated having delayed/inhibited ejaculation, (4) showed inconsistency in responding as determined by embedded “attention checks” that flagged inconsistent or impossible responses on specific items (resulting from lack of attention, respondent fatigue, not following directions properly, and so on), or (5) did not provide complete data on relevant items. The final sample included 3934 men (mean age = 39.1, SE = 0.21; range = 18–85). [Figure 1](#) depicts the incremental removal of participants based upon these exclusion criteria.

The sample was recruited through two approaches. The first group recruited from the USA and other English-speaking countries ($n = 699$) included men who visited the research homepage or encountered postings on several reddit.com forums or any of the unpaid social media (eg, Facebook) and public announcements/advertisements. The second group was recruited from Hungary and included men who responded to comparable forum posts, unpaid online/public advertisements, or the Hungarian research webpage ($n = 3243$). A final group (data not included) consisted of men attending a major university in Hungary ($n = 134$) who volunteered for a pencil-and-paper version of the questionnaire. These men were assigned an anonymous code to enable test-retest reliability on specific questionnaire items after a 4–6-week interval.

Survey Questionnaire

We followed best practice procedures in the development and implementation of the online survey. During the survey development, a pilot study was conducted with seven focus groups. Two focus groups included men in the United States ($n = 10$, mean age = 32.4), and five groups included men from Hungary ($n = 79$, mean age = 20.7), the latter consisting primarily of university students in several professional and academic disciplines. Group members reviewed the questionnaire items, commenting on their

relevance and clarity of phrasing, and suggested both wording changes and additional response categories.²² Focus groups also appraised item face-validity and assessed the time required for survey completion. For Hungarian respondents, the questionnaire was translated to Hungarian by a professional translator and subsequently back-translated to English to ensure preservation of meaning. Questions from standardized instruments that were already language-validated in Hungarian were used in their translated form, with minor wording changes when necessary, for example, substituting “intercourse” with “partnered sex.”

In addition to the above best practices in online survey construction and distribution, we ensured participants of anonymity, embedded attention checks in the survey, implemented safeguards against multiple submissions from the same individual, designed the survey so it could be completed in under 20 minutes to reduce attrition, and did not offer rewards or incentives, thereby removing external motivators as a reason for survey completion.^{22–26}

The first six questions of the 55-item survey consisted of demographic characteristics that included the respondent’s age, level of educational attainment, anxiety/depression over the previous 6 months (as a proxy for psychological health), and any chronic medical conditions related to sexual functioning. The second portion examined participants’ sexual histories during the previous 12–24 months, including sexual orientation, number of current sexual partners, self-reported importance of/interest in sex, general relationship satisfaction, and sexual relationship satisfaction. This section also evaluated the frequencies of partnered sex, masturbation, and pornography use during masturbation. The third section addressed common sexual dysfunctions in men and included relevant items from the International Index of Erectile Function, abridged version (IIEF-5^{27,28}) and the Premature Ejaculation Diagnostic Tool (PEDT).^{20,29} In the final section of the questionnaire, men were asked about the specific activities they typically engaged in during partnered sex, selecting as many options as applicable from a list of 12 activities (derived from focus group discussions), with a 13th option of specifying an activity/behavior not provided in the list. More details regarding the wording and response categories for the grouping variables, covariates, and sexual function outcomes are provided in the Appendix (Supplementary [Tables A2](#) and [A3](#)).

Organizing/Grouping Variables

PE Grouping. We used three items from the Premature Ejaculation Diagnostic Tool (PEDT²⁰) pertaining to ejaculatory control during partnered sex to establish three categories of men: those with no PE, with probable PE, and definite PE.¹ Each item was evaluated on a 1–5 scale, with 1 = never

¹The PEDT includes five items, two of which are related to distress/bother/frustration for the man and his sexual partner(s). Because ejaculatory control represents the core element of PE,^{30,31} only those items pertaining to control were used to define PE status.

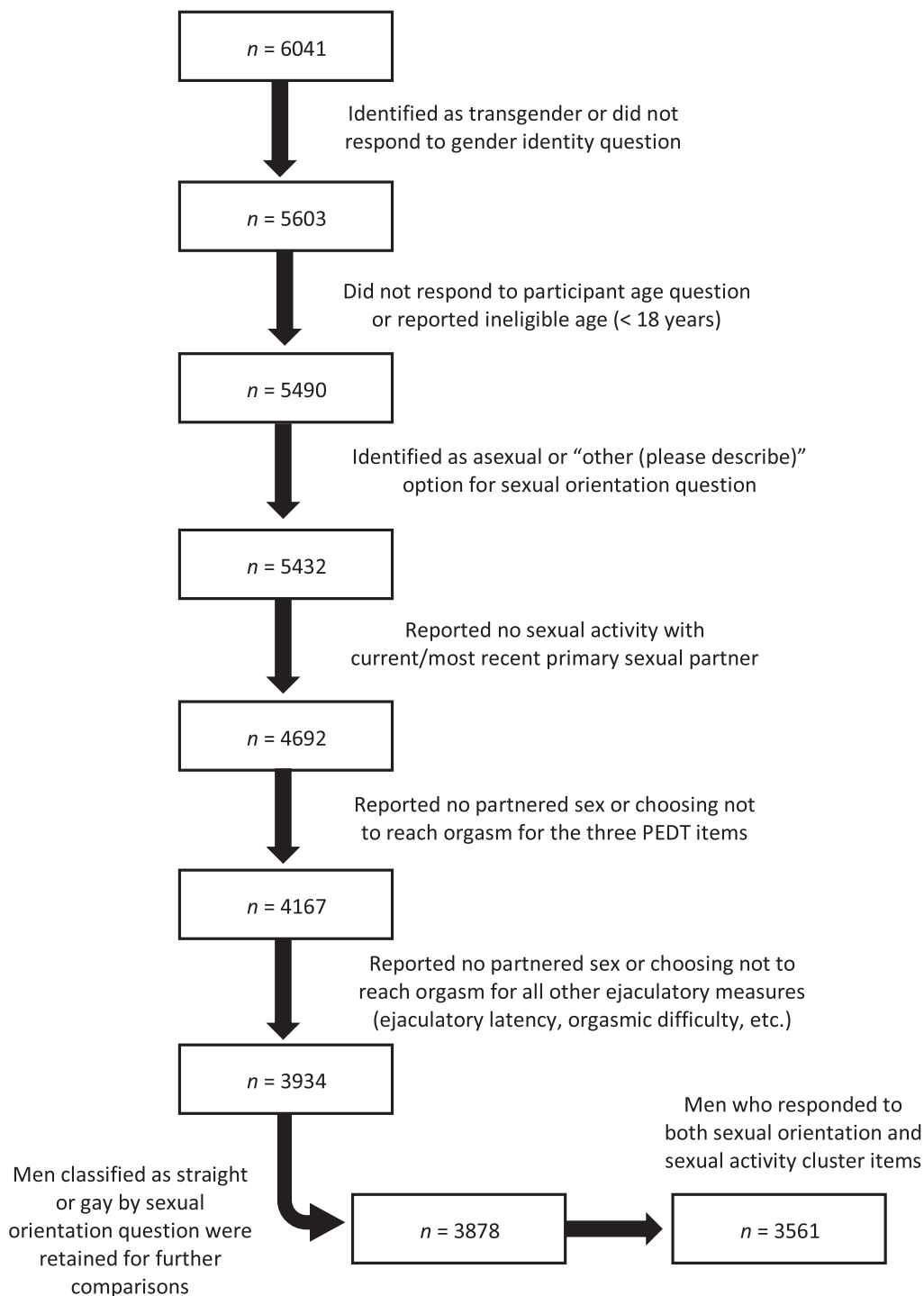


Figure 1. Flow diagram of study sample based on inclusion and exclusion criteria.

or almost never (0–15%), 2 = less than half the time (15–40%), 3 = about half the time (40–60%), 4 = over half the time (60–85%), 5 = always or almost always (85–100%). Values for these three items were added to generate a composite PEDT score ranging from 3 to 15, with higher scores indicating a greater likelihood of PE. Using the composite scores, we applied cutoff values to classify men into “no PE” (scores < 9), “probable PE” (scores 9–12), and

“definite PE” (scores 13–15), consistent with the general diagnostic approach of the PEDT using all five items. The PEDT-derived composite score showed a test-retest correlation of 0.850, indicating high reliability. Furthermore, Cronbach’s alpha values for these three items were 0.83 (95% CI: 0.82, 0.84) for straight men and 0.80 (95% CI: 0.77, 0.83) for gay men, indicating high and similar levels of internal reliability for both populations.

Men in the “no PE” group were assumed to have normal ejaculatory function, as men with delayed ejaculation were excluded from this group. Because no standardized instrument is available for assessing delayed/inhibited ejaculation, any participants responding “4” or “5” to the question: “Do you ever have difficulty reaching orgasm during partnered sex,” with response options of 1 (almost never) to 5 (almost always), were excluded from the analysis. This question correlates well with another question related to delayed/inhibited in the survey regarding the percent of occasions the man reaches ejaculation during sexual episodes with his partner (Spearman $r = -0.49$).

Sexual Orientation. Sexual orientation was coded as a categorical variable with 5 attraction preferences, where 1 = strongly or exclusively straight/heterosexual (attracted to women), 2 = mainly straight/heterosexual, 3 bisexual (attracted about equally to women and to men), 4 = mainly gay/homosexual (attracted to men), and 5 = strongly/exclusively gay/homosexual. The format and wording of this question represents a standard form recommended for assessing sexual orientation.³² From this question, we generated three groups: 1 + 2 (mainly straight/attracted to women); 3 (bisexual); and 4 + 5 (mainly gay/attracted to men), resulting in the three-category variable structure (ie, straight, bisexual, gay). However, due to its small sample size ($n = 56$), the bisexual group was dropped from further analysis.

Types of Sexual Activities. Men were also classified based upon their self-identified activities during partnered sex: (1) vaginal penetration only; (2) including insertive anal intercourse; and (3) non-penetrative sexual engagement (ie, respondents *not* engaging in penile-vaginal sex or insertive anal sex). These categories, although not completely exclusive in terms of type of activity, grouped men by their predominant type of sexual activity (see Appendix, Supplementary Tables A4 and A5 for breakdowns of these categories by number and sexual orientation, respectively). The PEDT-derived composite scores also exhibited high internal consistency for the vaginal penetration (Cronbach's $\alpha = 0.85$ [95% CI: 0.84, 0.86]), insertive anal intercourse ($\alpha = 0.81$ [95% CI: 0.79, 0.83]), and non-penetrative activities ($\alpha = 0.80$ [95% CI: 0.75, 0.84]), respectively.

Outcome Variables

Consistent with the aims of the study, three outcome categories were examined.

Prevalence of PE in Gay and Straight Men. This variable was established by creating a dichotomous outcome variable of no vs combined probable/definite PE based on PEDT scores.

Ejaculation Latency (EL) variables. Two outcomes were assessed. (1) Men estimated their typical ELs (EL Average) during partnered sex—defined as the interval from the time that penile stimulation begins (usually penetration), with the goal of moving toward ejaculation, to the time of ejaculation—by selecting from the following ordered categories: 1 = less than 1 min; 2 = 1–2 min; 3 = 3–5 min; 4 = 6–10 min; 5 = 11–15 min; 6 = 16–20 min; 7 = 21–25 min; 8 = > 25 min; 9 = I seldom/never reach orgasm. (2) Men also estimated in minutes their typical shortest times to ejaculation (EL Min) during partnered sex. Men choosing not to ejaculate for whatever reason during partnered sex were removed from the analysis.

Bother/Distress and Sexual Satisfaction. The constructs of bother/distress and sexual satisfaction figure heavily in the assessment of PE based on Patient Report Outcomes (PROs).^{20,33} Given that a previous study of gay men with PE reported less PE-related bother/distress than straight men with PE,⁸ we explored differences in both constructs across groups. Specifically, we asked “during sex with your partner, if you have difficulty with sex such as ejaculating before you want, does this bother, upset, or frustrate you, or make you feel guilty,” with response options 1 = almost never, 5 = almost always. We further asked “during sex with your partner, how pleasurable or satisfying would you rate your orgasm,” with response options of 1 = not satisfying, 5 = very satisfying.

Covariates in the Regression Analyses

In addition to the two main variables of interest (sexual orientation and type of sexual activity), we included a number of covariates of known empirical or presumed theoretical relevance to PE, including age, anxiety/depression, sexual relationship satisfaction, frequency of partnered sex, and erectile functioning (as assessed by the IIEF-5²⁷). Origin-of-data was also included as a control covariate in all regression analyses.

Procedure

Ethics approval was obtained from the Institutional Review Boards (IRB) at the authors' institutions in the United States and Hungary. The 55-item online survey took about 20 minutes or less for 85% of the respondents. Participants were guaranteed anonymity, and safeguards were implemented to prevent multiple submissions. Informed consent was obtained by participants' checking boxes attesting (1) to their current age being ≥ 18 years, and (2) to their informed consent before accessing the questionnaire. Respondents were informed that they could end participation at any time by closing the webpage.

Data Preparation, Cleaning, and Analysis

Prevalence rates for PE were established as the percentage of men with PEDT scores of 9–12 (probable) or 13–15 (definite)

divided by the overall number of men in the respective group (Aim 1). Comparisons across groups (PE status and sexual orientation: Aims 2–3) and types of sexual activity (Aim 4) used *t*-tests/ANOVA or non-parametric tests for ordinal variables, with $P \leq .01$ to control for the number of comparisons. Binary logistic regression was used to assess multivariate predictors of PE prevalence and ordered logistic regression for bother/distress, respectively (Aim 1, Aim 5). Linear regression (standard entry) was used to assess predictors of EL (Aim 5). Origin of data (USA+ or Hungary) was included as a control covariate for the regression analyses. Analyses were performed using either IBM SPSS Statistics, version 27.0³⁴ or R (version 4.0.2)³⁵ in the RStudio environment, version 1.3.1073.³⁶

RESULTS

Description of the Sample

Table 1 provides a description of the overall sample and subsamples of gay and straight men. Gay men were younger and reported fewer medical issues impacting sexual function (eg,

diabetes, vascular disease, etc.), greater anxiety, greater likelihood of having either no current partner or > 1 partner, and greater frequency of pornography use and masturbation. Because the study intentionally oversampled the gay population by posting on gay-friendly websites, about 11% of the sample identified as primarily gay/homosexual. Only 1.4% identified as bisexual, thus excluding them from the analysis. About 4% of the sample met the PEDT criterion for definite PE; another 15% met the criterion for probable PE.

PE Prevalence and its Predictors in Gay and Straight Men (Aim 1)

Prevalence determination (no vs probable/definite) suggested a slightly but significantly lower rate of PE (using PEDT scores) among gay men (Table 2) ($P = .037$). However, logistic regression analysis for the dichotomous outcome of “no” vs “probable/definite” PE (Table 3) indicated that sexual orientation was no longer a significant predictor of prevalence when evaluated in the context of other demographic and sexual variables (gay orientation aOR = 0.87 [95% CI: 0.60–1.22], $P = .43$). Variables

Table 1. Demographic characteristics of the study sample ($n = 3931$)

Sociodemographic variable*	Overall sample [†]	Sexual orientation		<i>P</i> -value	Effect size
		Straight ($n = 3458$)	Gay ($n = 420$)		
Age	39.1 (13.1)	40.32 (12.99)	30.52 (9.4)	<.001	Cohen's <i>d</i> = 0.77
<i>Level of Educational Attainment</i>					
Less than High School	149 (3.8%)	142 (4.1%)	6 (1.4%)	<.001	Cramér's <i>V</i> = 0.099
High School or Equivalent	1034 (26.3%)	915 (26.5%)	96 (22.9%)		
Technical Degree/Skill Certification	549 (14.0%)	495 (14.3%)	48 (11.5%)		
Some College	722 (18.4%)	645 (18.7%)	67 (16.0%)		
Undergraduate (Bachelor's) Degree	644 (16.4%)	524 (15.2%)	108 (25.8%)		
Graduate or Post-Baccalaureate Study	833 (21.2%)	735 (21.3%)	94 (22.4%)		
<i>Medical Issue</i>					
No Reported Medical Issue(s)	3101 (78.9%)	2681 (77.6%)	370 (88.1%)	<.001	Cramér's <i>V</i> = 0.079
Reported Ongoing Medical Issue	831 (21.1%)	775 (22.4%)	50 (11.9%)		
<i>Anxiety/Depression</i>					
No Reported Anxiety or Depression	3196 (81.3%)	2852 (82.5%)	306 (73.0%)	<.001	Cramér's <i>V</i> = 0.075
Reported Ongoing (>6 mo)	734 (18.7%)	603 (17.5%)	113 (27.0%)		
<i>Current Sexual Partner</i>					
No Sexual Partner	783 (19.9%)	685 (18.4%)	125 (29.8%)	<.001	Cramér's <i>V</i> = 0.104
One Sexual Partner	2762 (70.2%)	2493 (72.1%)	240 (57.1%)		
Two or more Sexual Partners	388 (9.9%)	329 (9.5%)	55 (13.1%)		
Frequency of Partnered Sex (1–10) [‡]	6 (IQR: 5–7)	6 (IQR: 5–7)	6 (IQR: 5–7)	.553	$r = 0.01$
Sexual Relationship Satisfaction (1–5) [‡]	4 (IQR: 3–4)	4 (IQR: 3–4)	4 (IQR: 3–4)	.073	$r = 0.03$
Composite IIEF Score (4–20) [‡]	7.04 (3.2)	7.03 (3.1)	7.14 (3.5)	.53	Cohen's <i>d</i> = 0.04
Frequency of Masturbation (0–10) [‡]	6 (IQR: 4–7)	6 (IQR: 4–7)	7 (IQR: 6–8)	<.001	$r = 0.180$
Frequency of Pornography Use (0–5) [‡]	5 (IQR: 3–5)	5 (IQR: 3–5)	5 (IQR: 4–5)	<.001	$r = 0.114$

Boldface *p*-values indicate $P < .05$.

*Categorical variables are presented as n (%) and evaluated using the chi-square test. Continuous variables are presented as means (SD) and compared using Welch's *t*-tests for independent samples. Ordinal variables are presented as medians (IQR) and compared using Mann-Whitney tests. Effect sizes for Mann-Whitney tests are calculated as follows: $r = z/\sqrt{n}$.

[†]Overall Sample column includes bisexual respondents ($n = 56$).

[‡]Ranges for each of the ordinal scales. More details about the response categories are provided in the Appendix.

Table 2. Prevalence of PE as determined by ejaculatory control (PEDT items) in gay and straight men ($n = 3878$)

Sexual orientation	No PE	Probable PE	Definite PE
Straight	2756 (79.7%)	543 (15.7%)	159 (4.6%)
Gay	353 (84.0%)	55 (13.1%)	12 (2.9%)

Note: Comparison of rates of no vs probable + definite PE across gay and straight men: $z = 2.09$, $P = .037$.

PEDT = Premature Ejaculation Diagnostic Tool.

significantly associated with PE categorization included lower education ($P < .001$), not having a current sexual partner (aOR = 2.02 [95% CI: 1.31–3.09], $P < .001$), lower frequency of partnered sex ($P < .001$), lower frequency of masturbation ($P < .001$), greater problems with erectile function ($P = .005$), and lower sexual satisfaction in one's relationship (aOR = 0.83 [95% CI: 0.75–0.91], $P < .001$). Together these variables generated a pseudo R^2 value (0.25) indicating a very good model fit and negating the significant relationship between sexual orientation and prevalence.

Comparison of Gay and Straight Men on EL, Bother/Distress, and Sexual Satisfaction (Aims 2–3)

Comparing across PE status, as expected, men with probable/definite PE showed significantly shorter EL Average, EL Min, greater bother/distress, lower satisfaction/pleasure, and lower sexual satisfaction than men without PE (all $P \leq .001$) (data not shown). However, within just the gay group, bother/distress and sexual satisfaction between PE and non-PE men were significant only for the definite PE group ($P < .001$ for each).

Table 3. Logistic regression predicting PE prevalence based on PEDT categorization of probable/definite PE ($n = 3189$)

Predictor variable	Adjusted OR (95% CI)	P-value
Age	0.99 (0.98, 1.01)	.41
Level of Educational Attainment	0.86 (0.81, 0.91)	<.001
Chronic Medical Issue		
No Reported Medical Conditions	1.00	
Reported Medical Issue	1.07 (0.85, 1.35)	.55
Ongoing Anxiety/Depression		
No Reported Anxiety/Depression	1.00	
Reported Anxiety/Depression	1.26 (0.99, 1.61)	.06
Current Sexual Partner(s)		
One Sexual Partner	1.00	
No Sexual Partner	2.02 (1.31, 3.09)	.001
Two or More Sexual Partners	0.68 (0.48, 0.93)	.02
Sexual Orientation		
Heterosexual	1.00	
Bisexual	0.85 (0.33, 1.95)	.72
Homosexual	0.87 (0.60, 1.22)	.43
Frequency of Partnered Sex	0.85 (0.79, 0.91)	<.001
Composite IIEF Score	1.04 (1.01, 1.08)	.005
Frequency of Masturbation	0.89 (0.85, 0.94)	<.001
Frequency of Pornography Use	0.99 (0.94, 1.06)	.92
Sexual Relationship Satisfaction	0.83 (0.75, 0.91)	<.001
Origin of Data Collection		
Hungary	1.00	
USA-Other	1.10 (0.83, 1.45)	.49
Pseudo R-squared	Value	
Cox and Snell	0.26	
McFadden	0.25	
Nagelkerke	0.37	

Boldface p-values indicate $P < .05$.

Notes: The likelihood ratio test indicates that the overall model performed better than the intercept-only model: $\chi^2[14] = 186.75$ ($P < .001$). Odds ratios (ORs) are given, with greater deviation from 1.0 typically representing greater effects. When the odds ratio is larger than 1, the covariate predicts higher odds of falling into the PE category; when the odds ratio is smaller than 1, the covariate predicts lower odds of falling into the PE category.

IIEF = International Index of Erectile Function; PEDT = Premature Ejaculation Diagnostic Tool.

Table 4. Comparison of PE-related measures between gay and straight men with normal ejaculatory function, with any PE, and with only definite PE

Variable [†]	Straight <i>n</i> = 2120	Gay <i>n</i> = 243	<i>P</i> -value [‡]	Effect size
WITHOUT PE (PEDT < 9)				
PEDT Composite Score	4.77 (1.7)	5.00 (1.7)	.046	0.14
EL Average	5 (IQR: 4–6)	5 (IQR: 4–6)	.201	0.03
EL Min	5.34 (3.7)	5.91 (3.6)	.031	0.16
Satisfaction/Pleasure	5 (IQR: 4–5)	5 (IQR: 4–5)	.823	0.005
Bother/Distress	3 (IQR: 2–4)	3 (IQR: 1–4)	.035	0.06
WITH ANY PE (PEDT ≥ 9)				
PEDT Composite Score	11.07 (2.0)	10.91 (2.0)	.542	0.08
EL Average	3 (IQR: 3–4)	4 (IQR: 3–5)	<.001**	0.12
EL Min	3.29 (2.8)	3.92 (3.3)	.215	0.22
Satisfaction/Pleasure	4 (IQR: 4–5)	4 (IQR: 4–5)	.205	0.05
Bother/Distress	4 (IQR: 3–5)	3 (IQR: 2–4)	<.001**	0.16
DEFINITE PE ONLY (PEDT ≥ 13)				
PEDT Composite Score	14.09 (0.9)	14.58 (0.7)	.03	0.58
EL Average	2 (IQR: 1–3)	3 (IQR: 3–4.25)	.004*	0.22
EL Min	1.98 (1.8)	2.86 (1.2)	.11	0.51
Satisfaction/Pleasure	4 (IQR: 3–5)	5 (IQR: 4.25–5)	.015	0.19
Bother/Distress	5 (IQR: 4–5)	4 (IQR: 2.75–4.25)	.11	0.14

[†]Continuous variables are presented as means (SD) and compared using Welch's *t*-tests for independent samples. Ordinal variables are presented as medians (IQR) and compared using Mann-Whitney tests. Effect sizes for Mann-Whitney tests are calculated as follows: $r = z/\sqrt{n}$.

[‡]Due to the number of comparisons, alpha was set at 0.01.

Significant predictors are reported as follows:

* $P \leq .01$,

** $P < .001$. EL = ejaculation latency; PEDT = Premature Ejaculation Diagnostic Tool.

Comparing gay men against straight men *having normal ejaculatory function*, no differences in EL, bother/distress, or satisfaction/pleasure between groups were significant at the 0.01 threshold (Table 4). Comparing gay men against straight men with *probable* or *definite* PE, gay men reported longer EL Average ($P < .001$) and lower bother/distress ($P < .001$) than straight men; other comparisons were not significant. Comparing gay men against straight men with only *definite* PE—although sample sizes were small—gay men showed longer EL Average ($P = .004$).

Comparison of Type of Sexual Activity on EL, Bother/Distress, and Sexual Satisfaction (Aim 4)

The role of three predominant sexual activity types (vaginal intercourse, insertive anal intercourse, and non-penetrative sex) was assessed on PE parameters that included PEDT scores (ie, ejaculatory control), EL, bother/distress, and sexual satisfaction (Table 5). In general, insertive anal sex resulted in significantly longer ELs (EL Average, EL Min) in all men, whether reporting no, probable and definite, or only definite PE ($P \leq .01$). EL averages were also significantly longer for the non-penetrative activity group in men with probable and definite, or only definite PE ($P < .01$). Differences in bother/distress and satisfaction based on type of sexual activity were minimal, with only pleasure being greater among men with definite PE engaging in anal sex ($P = .01$).

Predicting EL Average and Bother/Distress Using Multivariate Regression Analysis (Aim 5)

Preliminary Correlations. Spearman correlations were generated among PE diagnostic variables and a set of relevant covariates related to demographic and sexual parameters to avoid redundancy in the regression models. Regarding PE-diagnostic variables, the strongest correlation occurred between EL and PEDT scores ($r_s = -0.48$, $P < .001$). No correlations among predictor covariates exceeded 0.60, a conservative collinearity threshold, so no variables were excluded from the planned analysis.

Multiple Regression Analysis to Predict EL Average and Bother/Distress. Sexual orientation, type of sexual activity clusters, PE-related variables, other sexual parameters, and several demographic variables were assessed as predictors of EL using multiple linear regression analysis (Table 6, adjusted $R^2 = 0.25$). Most relevant to this study, sexual orientation was not a significant predictor of EL ($\beta = -0.01$, $SE = 0.15$, $P = .94$). Stronger predictors of shorter ELs were membership in the vaginal intercourse cluster, poor ejaculatory control (PEDT score, $\beta = -0.27$, $SE = 0.01$, $P < .001$), and lower anxiety. Higher PE-related bother/distress moderately predicted shorter EL Average ($\beta = -0.07$, $SE = 0.03$, $P = .03$). Advancing age and data origin (entered as control covariates) were also related to shorter ELs.

Table 5. Comparison of PE-related measures across sexual activity clusters for men with normal ejaculatory function, with any PE, and with only definite PE

Variable [†]	Vaginal sex <i>n</i> = 1453	Anal sex <i>n</i> = 623	Non-penetrative <i>n</i> = 131	<i>P</i> -value	Effect size
WITHOUT PE (PEDT < 9)					
PEDT‡ Composite Score	4.79 (1.7) ^a	4.67 (1.6) ^a	5.00 (1.7) ^a	.09	0.002
EL Average‡	5 (IQR: 4–6) ^a	5 (IQR: 4–6) ^b	5 (IQR: 4–6) ^a	<.001**	0.02
EL Min‡	5.21 (3.6) ^a	5.79 (3.7) ^b	5.88 (3.8) ^{a,b}	.003*	0.006
Satisfaction/Pleasure	5 (IQR: 4–5) ^a	5 (IQR: 4–5) ^a	5 (IQR: 4–5) ^a	.49	0.0003
Bother/Distress	3 (IQR: 2–4) ^a	3 (IQR: 2–4) ^a	3 (IQR: 1–3) ^a	.03	0.002
WITH ANY PE (PEDT ≥ 9)					
PEDT‡ Composite Score	11.15 (2.0) ^a	10.87 (1.9) ^a	11.01 (1.8) ^a	.34	0.003
EL Average‡	3 (IQR: 2–4) ^a	4 (IQR: 3–5) ^b	4 (IQR: 3–5) ^b	<.001**	0.02
EL Min‡	3.02 (2.5) ^a	4.03 (3.4) ^b	4.32 (3.4) ^b	<.001**	0.03
Satisfaction/Pleasure	4 (IQR: 4–5) ^a	4 (IQR: 4–5) ^a	4 (IQR: 3–5) ^a	.19	0.002
Bother/Distress	4 (IQR: 3–5) ^a	4 (IQR: 3–5) ^a	3 (IQR: 3–5) ^a	.23	0.001
DEFINITE PE (PEDT ≥ 13)					
PEDT‡ Composite Score	14.10 (0.87) ^a	14.32 (0.78) ^a	14.07 (0.9) ^a	.52	0.008
EL Average‡	2 (IQR: 1–3) ^a	3 (IQR: 2–3) ^b	3 (IQR: 2–3) ^b	.005*	0.05
EL Min‡	1.80 (1.28) ^a	2.90 (3.11) ^b	2.73 (2.0) ^{a,b}	.01*	0.06
Satisfaction/Pleasure	4 (IQR: 3–5) ^a	5 (IQR: 4–5) ^b	4 (IQR: 3–4.5) ^a	.01*	0.04
Bother/Distress	5 (IQR: 4–5) ^a	4 (IQR: 4–5) ^a	4 (IQR: 3–4.5) ^a	.15	0.01

[†]Continuous variables are presented as means (SD) and compared using one-way ANOVA with Tukey honestly significant difference (HSD) post-hoc tests. Effect sizes for continuous variables are presented as partial η^2 values. Ordinal variables are presented as medians (IQR). Ordinal comparisons were performed using Kruskal-Wallis tests with Dunn's post-hoc tests. For the post-hoc analyses, different superscript letters indicate significant differences between groups. ‡Due to the number of comparisons, alpha was set at 0.01.

Significant predictors are reported as follows:

* $P < .01$,

** $P < .001$.

EL = ejaculation latency; PEDT = Premature Ejaculation Diagnostic Tool.

A comparable set of predictor covariates was used to predict bother/distress using ordered logistic regression (Table 6, pseudo $R^2 = .18$). Sexual orientation (gay orientation aOR = 0.57 [95% CI: 0.42–0.78]) and ongoing anxiety/depression (aOR = 1.58 [95% CI: 1.27–1.96]) were the strongest predictors of distress. Moderate predictors of higher distress included shorter ELs, poorer ejaculatory control (higher PEDT score, aOR = 1.15 [95% CI: 1.12–1.19]), membership in the vaginal intercourse cluster relative to non-penetrative sex, and lower erectile functioning. Lower age was weakly associated with higher distress.

DISCUSSION

To our knowledge, this is the first comprehensive analysis comparing gay and straight men and different types of partnered sexual activity within a single sample in relationship to parameters used to define PE. In this analysis, we examined men with varying levels of PE, ranging from normal ejaculatory function to probable and definite PE. These findings both affirm several prior assumptions regarding the relevance of the PE criteria to non-heterosexual men^{8,16,37} and offer new insight into the relationships among sexual orientation, type of sexual activity, and PE diagnostic criteria.

ELs and Bother/Distress in Gay vs Straight Men

We first note PEDT subscale scores for ejaculatory control showed similarly high levels of internal reliability for both gay and straight men, affording confidence in this measure as one for predicting the other two measures related to PE, namely EL and bother/distress.

Men with PE (gay and straight) differed on EL and bother/distress from men without PE, confirming expected differences between groups on PE-related measures.⁷ Furthermore, gay and straight men with normal ejaculatory function did not differ on any of the PE-related measures (EL, bother/distress, and satisfaction), suggesting similarity between these two groups. In contrast, gay men with PE showed significantly longer average ELs and—to a lesser extent—lower PE-related bother/distress than straight men, a pattern hinted at by two previous reports.^{7,8} Thus, even though gay and straight men showed similarity in their levels of ejaculatory control (as indicated by PEDT scores), gay men displayed less severe symptomology in terms of their ELs. The longer ELs in gay men with PE may well account for their generally lower PE-related bother/distress.

Lower bother/distress in gay men may result not only from their longer ELs, but also from the lower demand characteristics related to specific types of partnered sexual activity.

Table 6. Multiple linear regression predicting EL average, and ordinal logistic regression predicting bother/distress

Predictor variable	EL average [†]	P-value	Bother/Distress [‡]	P-value
Age	-0.01 (0.004)	.002	0.97 (0.96, 0.98)	<.001
<i>Ongoing Anxiety/Depression</i>				
No Reported Anxiety/Depression	—		1.00	
Reported Anxiety/Depression	0.33 (0.10)	<.001	1.58 (1.27, 1.96)	<.001
<i>Sexual Orientation</i>				
Straight	—		1.00	
Gay	-0.01 (0.15)	.94	0.57 (0.42, 0.78)	<.001
<i>Partnered Sex Activity Cluster</i>				
Vaginal Intercourse Only	—		1.00	
Insertive Anal Intercourse	0.21 (0.10)	.03	1.02 (0.82, 1.27)	.83
Non-Penetrative Sex Roles	0.38 (0.15)	.01	0.71 (0.51, 0.97)	.03
Frequency of Partnered Sex	0.04 (0.03)	.14	0.94 (0.89, 1.004)	.07
Composite IIEF Score	0.01 (0.01)	.67	1.18 (1.14, 1.21)	<.001
Composite PEDT Score	-0.27 (0.01)	<.001	1.15 (1.12, 1.19)	<.001
EL Average	—		0.95 (0.90, 0.99)	.04
Bother/Distress	-0.07 (0.03)	.03	—	
Satisfaction/Pleasure	-0.04 (0.05)	.38	0.96 (0.86, 1.07)	.48
Sexual Relationship Satisfaction	0.04 (0.04)	.31	1.01 (0.92, 1.10)	.86
<i>Origin of Data Collection</i>				
Hungary	—		1.00	
USA	-0.38 (0.10)	<.001	1.14 (0.91, 1.42)	.26
McKelvey-Zavoina Pseudo R-squared	—		0.18	
Adjusted R-squared	0.25		—	

Boldface p-values indicate $P < .05$.

[†]For EL Average, beta coefficients are provided. These coefficients can be interpreted by their direction (direct or inverse) and absolute size, with larger values indicating stronger relationships to the outcome variable (EL Average).

[‡]For bother/distress, odds ratios (ORs) are given, with greater deviation from 1.0 typically representing greater effects. When the odds ratio is larger than 1, the covariate predicts higher odds of falling into the higher response levels/categories (more distress); when the odds ratio is smaller than 1, the covariate predicts higher odds of falling into any of the preceding or smaller categories (less distress).

* $P < .05$, ** $P < .01$, *** $P < .001$.

EL = ejaculation latency; IIEF = International Index of Erectile Function; PEDT = Premature Ejaculation Diagnostic Tool.

Specifically, heterosexual men engaging in vaginal intercourse are likely cognizant of the demand characteristics of partnered sex, as vaginal intercourse is often tied to a (female) partner's physical arousal, pleasure, and orgasm. Heterosexual men may also assume that their partners prefer longer ELs during penile-vaginal sex, with limited focus on other non-penetrative activities that may be highly pleasurable for women. In contrast, insertive anal or oral sex—more typical of gay men—may have little bearing on a male partner's physically-derived sexual arousal/pleasure.^{9,10} These differences may explain why gay men (whether or not they report PE) seem less concerned about the timing of their ejaculation⁸ and, as found in this study, less bothered if they feel lower ejaculatory control than straight men.

ELs and Bother/Distress Related to Type of Sexual Activity

If indeed the differences in PE symptomology between gay and straight men are primarily related to differences in the predominant types of sexual activity practiced by these groups (rather than

sexual orientation status *per se*), then understanding the relationship between type of sexual activity and PE diagnostic parameters is paramount.¹⁶ In this study, we were able to define three groups of men based on predominant types of sexual activity: those who reported only vaginal intercourse, those who included insertive anal intercourse, and those engaging in neither penetrative vaginal nor anal sex. As might be expected, the practice of vaginal intercourse was nearly exclusive to straight men (99.7% vs 0.3%), insertive anal intercourse predominated in gay men (71.1% vs 28.9%), and non-penetrative sex was practiced by slightly more straight men than gay men (56.8% vs 45.2%). Our analyses indicated that, independent of PE status, vaginal sex invariably resulted in shorter ELs (average and minimum) than either insertive anal or non-penetrative sexual activities, with the ELs for the latter two types of activities showing—more often than not—similarity to one other. Such results argue that the lower PE symptomology in gay men (longer ELs and lower bother/distress) may be attributed primarily to their preferred type of sexual activity, more so than to their sexual orientation. This interpretation is strengthened by post-hoc analysis indicating that gay and straight men practicing insertive anal sex did not differ on either EL parameter

assessed in this study ($P \geq .37$). The longer ELs from insertive anal sex may have also explained the greater self-reported sexual satisfaction in men with definite PE.

Regression analysis shed further light on the relationships among sexual orientation, specific types of sexual activities, and PE-related diagnostic criteria, and did so within a larger multivariate context. Specifically, when other relevant variables were assessed simultaneously, sexual orientation was no longer a significant predictor of EL. As might be expected, both lack of ejaculatory control and higher distress/bother predicted shorter ELs, and type of sexual activity continued to play a role. Regression on bother/distress as an outcome variable identified being gay and having non-penetrative sex (more common among gay than straight men) as significant predictors of lower distress. Better ejaculatory control, low anxiety, and better erectile functioning were also significant predictors of lower distress. Together, these regression analyses identify the type of sexual activity—in contrast to sexual orientation *per se*—as the more consistent predictor of PE-related measures.

Prevalence of PE

Our data confirmed a previous meta-analysis suggesting that the prevalence of PE (in our study, assessed with the PEDT) is slightly lower in gay men.^{6,16} However, the lower PE prevalence in gay men in our sample requires qualification, as this relationship was no longer apparent when other contextual (demographic and sexual) variables were included in a multivariate analysis. Specifically, educational attainment, frequency of masturbation, and (marginally) sexual relationship satisfaction also predicted higher PEDT scores (and thus prevalence), and these same variables were also ones that differentiated gay men from straight men. Thus, they might well have acted as confounding variables in previous studies examining the relationship between sexual orientation and PE prevalence, thus accounting for disparities in PE prevalence reported across studies.³⁸

In fact, the majority of the covariates predicting PE prevalence in our sample have already been associated with PE—though not in a causal way. For example, men tending toward PE typically are less satisfied with their sexual relationship,³³ have a higher propensity toward erectile problems,^{2,38} report a lower frequency of partnered sex,¹⁵ and would presumably be less likely to initiate new relationships,³⁹ thus explaining having no or one rather than multiple sexual partners. Furthermore, lower education levels have often been associated with increased risk for sexual problems, presumably related to more limited access to relevant information regarding sexual problems and treatment.⁴⁰

Strengths and Limitations

This study was multinational in scope and well powered; it used a standardized diagnostic scale to identify men with PE and was able to differentiate sexual orientation from predominant types of sexual activities within a single sample. Furthermore, these findings have significant clinical implications. Specifically,

in the past, due to the lack of supporting evidence, clinicians and non-heterosexual patients alike could not assume with confidence that the existing diagnostic guidelines for PE could be applied to gay men and types of sexual activities lying outside the traditional realm of penile-vaginal intercourse. The findings from the current study provide strong empirical evidence supporting the broader use of these PE criteria, with only minor qualifications regarding EL and bother/distress. Such patterns, of course, await replication by other research groups.

Several limitations need to be noted. For one, although we implemented precautions to guarantee anonymity, attention checks to eliminate cases having inconsistent responses across the survey, and steps to prevent multiple submissions, online surveys that rely heavily on public and social media for recruitment are subject to biases in education, class, social media access, and other factors. Second, due to the low number of bisexual men in various analytical cells (<10), we were not able to include this group in the analysis, so we are unable to generalize our findings to all non-straight men. Third, we did not use clogged ELs in this study, a procedure that would have been impractical for a study of this type and sample size. However, we note that three large-scale studies have concluded that estimated and clogged ELs can be used interchangeably^{41–43} and, as implied by another analysis, clogged ELs may in some instances be a less reliable/valid measure of EL, given the well-known principle that “the observer always influences what is being observed”.⁴⁴ Finally, a number of men with PE in our study did not identify with either the “lifelong” or “acquired” categories, a pattern similar to one found in another study.⁸ As a result, we did not analyze differences between these groups, although we further note that two recent studies did not find substantive differences in PE-related criteria across men with lifelong vs acquired PE subtypes.^{8,19} Future research might examine the relevance of PE diagnostic criteria in greater detail within PE subtypes of gay and straight men, including those men with comorbid PE and erectile dysfunction as well as those with subclinical manifestations of PE.⁴⁵

CONCLUSIONS

This analysis generally supports the conclusion that the PE diagnostic criteria are applicable to gay and straight men with PE – both groups reported greater distress and shorter ELs than men without PE. At the same time, gay men with PE showed longer ELs than straight men—approximately 30–60 sec on average—and in some instances lower bother/distress. However, predominant type of sexual activity also differed between gay and straight men, with insertive anal sex consistently resulting in longer ELs, also by about 60 sec. In summary, clinicians and health-care professionals can be reasonably confident that all three PE diagnostic criteria apply to gay men, but at the same time, they may need to make accommodation for longer ELs (related to

anal sex) and potentially lower bother/distress in gay populations presenting with symptoms of PE.

Datafile Access

Interested researchers may make reasonable requests to review the output files from our analyses.

Corresponding Author: David L. Rowland, PhD, Department of Psychology, Valparaiso University, 1001 Campus Drive, Valparaiso, IN 46383, USA. Tel: +12194645446; Fax: +12194645446; E-mail: david.rowland@valpo.edu

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STATEMENT OF AUTHORSHIP

DR, SM, KH conceptualization; SM, CW analysis; DR, KH, CW, SM investigation; SM, DR, KH data curation; DR, SM, CW Writing; DR, SM, CW Review and editing; DR, CW, SM Visualization.

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SUPPLEMENTARY MATERIALS

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