Supplement 1: Hypothesis for the Eroticism and Nurturance Scale

We predicted that a two-factor model encompassing nurturance (e.g., degree to which the relationship is characterized by a strong sense of security, emotional attachment, deep commitment, nurturance, and warmth and comfort) and eroticism (e.g., degree to which the relationship is characterized by passionate love, eroticism, desire and lust, sexual excitement, and bodily pleasure) would emerge. We further sought to explore whether experiences of eroticism and nurturance are impacted by demographic or relational differences among participants in polyamorous (Study 1) and monogamous relationships (Study 2).

Supplement 2: Measures for Demographics and Eroticism and Nurturance Scale

Demographics

As part of the demographic questionnaire, participants were asked to report their gender, race, sexual orientation, and relationship length. To assess gender, participants were asked to select the gender they identify most with from five response choices: (a) "woman", (b) "man", (c) "gender-queer/non-binary", (d) "agender", and (e) "other." To assess sexual orientation, participants were asked to select the orientation they identify most with from five response choices: (a) "heterosexual", (b) "lesbian/gay", (c) "bisexual", (d) "asexual", and (e) "other." To assess relationship length, participants were asked to indicate how long they have been together through listing the number of years, and months together. To assess race, participants in the polyamorous sample (Study 1) were asked to select their race/ethnicity from eight response choices and to select all that applied: (a) Asian/Asian American, (b) African/African American, (c) Hispanic, (d) Native American/Native Alaskan, (e) Native Hawaiian or Asian Pacific Islander, (f) White (non-Hispanic), (g) "biracial"/"multiracial", and/or (h) "other." Multi-racial included all participants who identified with more than one of the available racial categories (including multi-racial). The options for race/ethnicity differed for participants in the monogamous sample (Study 2), such that monogamous participants were asked to select their race/ethnicity from 11 response choices, selecting all that applied: (a) South Asian (e.g., India, Pakistan), (b) East Asian (e.g., China, Korea, Japan), (c) South East Asian (e.g., Vietnam, Thailand), (d) Western European (including Great Britain), (e) Eastern European, (f) Caribbean, (g) South American, (h) African, (i) Middle Eastern, (j) First Nation, and/or (k) "other." Multi-racial included all participants who identified with more than one of the available racial

categories (including multi-racial). Because the categories for race differed, we do not make comparisons across the samples.

Eroticism Scale

We identified five items related to eroticism based on the literature and the research team's conceptualizations of this construct. The items for eroticism were premised on van Anders' (2015) conceptualization of eroticism which incorporated elements of passion, eroticism, desire and lust, sexual excitement, and bodily pleasure (Hatfield & Walster, 1978; Hatfield & Rapson, 1987; Perel, 2007). Participants were asked to rate the five items indicating how characteristic eroticism (e.g., "my relationship with (X[1]) is characterized by…": "passionate love", "eroticism", "desire and lust", "sexual excitement", and "bodily pleasure"; primary α =.95; secondary α =.92; monogamous α =.96) was of their relationship(s). Participants rated each item on a 7-point scale (1 = *Not true at all*, 7 = *Definitely true*). Results from the confirmatory factor analyses, presented in the results (S3) and table summarizing the factor loadings (S4), suggested that the "passionate love" item should be removed, and in doing so the reliability of the Eroticism Scale improved (primary α =.97; secondary α =.96; monogamous α =. 96) as did the model fit. As such, we removed the passionate love item from the Eroticism Scale and the four remaining eroticism items ("eroticism", "desire and lust", "sexual excitement", and "bodily pleasure") were mean aggregated to create a composite score, with higher ratings indicating more eroticism.

Nurturance Scale

We identified five items related to nurturance based on the literature and the research team's conceptualizations of this construct. The items for eroticism were premised on van

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[1] Monogamous participants were asked to provide the initials of their partner, while polyamorous participants were asked to provide the initials of two concurrent partners. In the following discussion of measures, "X" reflects the initials of the participants partner. Polyamorous participants were asked to answer the questions for each partner.

Anders' (2015) conceptualization of nurturance which incorporated elements of security, emotional attachment, commitment, warmth, and comfort (Murray & Milhausen, 2012; Sprecher & Regan, 1998; van Anders, 2015). Participants were asked to rate the five items indicating how characteristic nurturance (e.g., "my relationship with (X) is characterized by…": "a strong sense of security", "emotional attachment", "deep commitment", "nurturance", and "warmth and comfort"; primary α =.86; secondary α =.91; ; monogamous α =.90) was of their relationship(s). Participants rated each item on a 7-point scale (1 = *Not true at all*, 7 = *Definitely true*). The five nurturance items were mean aggregated to create a composite score, with higher ratings indicating more nurturance.

Supplement 3: Data Analytic Strategy and Results

Data Analytic Strategy

Prior to examining the fit of the proposed eroticism and nurturance subscales, we examined the responses to the Eroticism and Nurturance scale items. It was noticed that responses were not normally distributed and were highly left skewed (i.e. majority responded with scores around 6 or 7). Hence, the data were treated as ordinal responses and a confirmatory factor analysis (CFA) was conducted on the polychoric correlation matrix using STATA 14.0 (StataCorp, 2015). We fit the two predicted subscales, eroticism and nurturance, on each of their respective items (described in S2). Relative and absolute goodness of fit indices were assessed using: (a) the chi-squared statistic (χ^2 and df), (b) the comparative fit index (CFI), (c) the Tucker–Lewis Index (TLI), (d) the root mean square error of approximation (RMSEA), and (e) the standardized root mean squared residual (SMSR) and based on the standards established in the literature for fit indices (Hu & Bentler, 1999; Bentler, 1990; Browne & Cudeck, 1989; Joreskog & Sorbom, 1984).

Results

CFA for Eroticism and Nurturance Scale for Polyamorous Participants (Study 1).
Among individuals in polygamous relationships, our hypothesized model showed poor fit for both primary partners ($\chi^2(34) = 521.20$, CFI = .93, TLI = .91, RMSEA = .14, [CI: .13,.15], SMSR = .10) and secondary partners ($\chi2(34) = 584.11$, CFI = .91, TLI = .89, RMSEA = .15 [CI: .14,.17], SMSR = .12.), as shown by a high RMSEA (> .10 indicates poor fit). While all items had significant factor loadings ($p < .001$), the item "passionate love" had a much lower loading compared to other items in the eroticism subscale (.70 for primary partners; .54 for secondary partners, see S4). We reran the CFA removing the "passionate love" item from the model and

doing this improved model fit to an acceptable degree for both primary (χ^2(26) = 249.79, CFI = .96, TLI = .95, RMSEA = .10 [CI: .09,.12], SMSR = .07) and secondary partners (χ^2(26) = 173.15, CFI = .97, TLI = .96, RMSEA = .09 [CI: .08, .10], SMSR = .03). Standardized regression paths were also closer together for each item within their respective scale for both primary (eroticism: λs ranging from .93 to .97; nurturance: λs ranging from .69 to .80) and secondary partners (eroticism: λs ranging from .90 to .97; nurturance: λs ranging from .78 to .87) when this item was removed. Hence, we proceeded with the nine remaining items in the scale, with eroticism containing four items and nurturance five items.

Exploratory Analyses Assessing Eroticism and Nurturance by Sociodemographic Characteristics Among Polyamorous Participants (Study 1). Neither eroticism nor nurturance varied significantly by gender identity. However, nurturance and eroticism for both primary and secondary partners varied significantly by sexual orientation. The strongest differences in eroticism were observed between asexuals and heterosexuals. Specifically, asexuals reported significantly lower eroticism compared to heterosexuals for both primary (b = -2.67, 95% CI [-4.19, -1.16], p = .003) and secondary partners (b = -3.36, 95% CI [-4.67, -2.06], p < .001). Additionally, bisexual participants reported greater nurturance in their relationship with primary partners compared to heterosexuals (b = 0.23, 95% CI [0.05, 0.40], p = .01), and both bisexual (*b:* 0.35 [0.04, 0.66], p = .03) and lesbian/gay (b = 0.86, 95% CI [0.03, 1.70], p = .04) participants reported greater eroticism in their relationship with their primary partners compared to heterosexuals, although these effects were small (see S5).

There were no significant differences in levels of eroticism among the various polyamorous relationship configurations, however, polyamorous participants who identified their partners as non-primary reported lower levels of nurturance for their pseudo-primary partner

compared to ratings for primary partners in primary-secondary configurations (b = -0.53, 95%

CI [-0.70, -0.36], $p < .001$). Among secondary partners, nurturance was higher among those who

identified their relationship as co-primary (b = 1.39, 95% CI [1.10, 1.68], $p < .001$) and non-

primary (b = 0.97, 95% CI [0.71, 1.23], $p < .001$) compared to secondary partners in primary-

secondary relationships (see S5).

   CFA for Eroticism and Nurturance Scale for Monogamous Participants (Study 2). We

then assessed the fit of the proposed Eroticism and Nurturance Scale among monogamous

participants. The CFA including the 10 items (five for nurturance and five for eroticism)

revealed poor fit (where RMSEA > 0.10), $\chi^2(34) = 1019.03$, CFI = .96, TLI = .94, RMSEA = .12

[CI: .11,.12], SMSR = .04). Consistent with the results from Study 1 with polyamorous

participants, removing the "passionate love" item from the eroticism scale improved the fit to an

acceptable degree, $\chi^2(26) = 497.10$, CFI = .98, TLI = .97, RMSEA = .09 [CI: .08,.10], SMSR =

.03. Standardized regression paths were also closer together for each item within their respective

scale and ranged in a similar manner to polyamorists (eroticism: λs ranging from .88 to .97;

nurturance: λs ranging from .69 to .89; see S4). Hence the 9-item model seems to be well-suited

for both polyamorists and monogamists and we proceed using these 9 items (five items for

nurturance, and four for eroticism) in the remainder of the analyses.

   Exploratory Analyses Assessing Eroticism and Nurturance by Sociodemographic

Characteristics Among Monogamous Participants (Study 2). Similar to polyamorous

participants, both gender and sexual orientation were not significantly associated with nurturance

or eroticism (see S6).

Supplement 4. Factor Loadings and Standardized Regression factors for Hypothesized 2-Factor Model

Factors	Primary Partners ($n = 758$)		Secondary Partners ($n = 679$)		Monogamous Partners ($n = 2,163$)	
	Model 1	Model 2	Model 1	Model 2	Model 1	Model 2
Factor 1: Eroticism						
Eroticism	.94***[a]	.94***	.90***	.90***	.87***[a]	.88***
Passionate love	.70***	-	.54***	-	.89***	-
Sexual excitement	.96***	.97***	.97***	.97***	.92***	.92***
Bodily pleasure	.93***	.93***	.90***	.90***	.97***	.97***
Desire and lust	.94***	.94***	.94***	.94***	.94***	.95***
Factor 2: Nurturance						
Strong sense of security	.73***	.73***	.78***	.78***	.69***	.69***
Emotional attachment	.78***	.78***	.87***	.87***	.79***	.80***
Deep commitment	.69***	.69***	.79***	.79***	.85***	.85***
Nurturance	.80***	.80***	.84***	.84***	.79***	.79***
Warmth and comfort	.77***	.77***	.85***	.85***	.89***	.89***
Covariance between nurturance and eroticism [95% CI]	.25 [.18, .33]	.24 [.16, .31]	.22 [.15, .30]	.21 [.13, .28]	.68 [.65, .71]	.66 [.64, .69]

[a] ***$p < .001$.

Supplement 5: Univariate Association of Nurturance and Eroticism by Gender Identity, Sexual Orientation, Relationship Length and Primary Status for Polyamorous Participants (Study 1)

	B (95% CI) for Nurturance		*B* (95% CI) for Eroticism	
	Primary Partners	Secondary Partners	Primary Partners	Secondary Partners
Primary Status				
Primary-secondary	Ref (0.00)	Ref (0.00)	Ref (0.00)	Ref (0.00)
Co-primaries	-0.07 (-0.27, 0.13)	1.39 (1.10, 1.68)***	-0.35 (-0.74, 0.04)	0.16 (-0.18, 0.50)
Non-primaries	-0.59 (-0.77, -0.41)***	0.97 (0.71, 1.23)***	-0.05 (-0.41, 0.30)	-0.10 (-0.41, 0.20)
Gender Identity				
Woman	Ref (0.00)	Ref (0.00)	Ref (0.00)	Ref (0.00)
Man	-0.02 (-0.20, 0.15)	0.00 (-0.27, 0.27)	-0.03 (-0.34, 0.28)	0.27 (-0.02, 0.56)
Genderqueer/Non-binary	-0.07 (-0.33, 0.20)	0.19 (-0.21, 0.58)	-0.11 (-0.58, 0.36)	-0.31 (-0.74, 0.11)
Agender	0.02 (-0.65, 0.59)	0.57 (-0.30, 1.44)	-0.23 (-1.32, 0.86)	0.22 (-0.72, 1.15)
Other	-0.40 (-1.26, 0.47)	-0.27 (-1.60, 1.06)	-0.60 (-2.13, 0.92)	-1.49 (-2.93, -0.05)*
Sexual Orientation				
Heterosexual	Ref (0.00)	Ref (0.00)	Ref (0.00)	Ref (0.00)
Lesbian / gay	-0.11 (-0.59, 0.37)	0.42 (-0.33, 1.16)	0.86 (0.03, 1.70)*	0.11 (-0.69, 0.90)
Bisexual	0.23 (0.05, 0.40)*	-0.08 (-0.35, 0.18)	0.35 (0.04, 0.66)*	-0.24 (-0.52, 0.05)
Asexual	0.83 (-0.04, 1.69)	1.00 (-0.22, 2.23)	-2.67 (-4.19, -1.16)**	-3.36 (-4.67, -2.06)***
Other	0.02 (-0.19, 0.24)	0.18 (-0.13, 0.50)	0.39 (0.02, 0.77)*	-0.29 (-0.63, 0.05)
Relationship length (Years)	0.03 (0.02, 0.04) ***	0.07 (0.04, 0.09) ***	-0.05 (-0.09, -0.04) ***	-0.06 (-0.09, -0.03) ***

*** $p < .001$; ** $p < 0.01$; * $p < 0.05$

Supplement 6: Univariate Association of Nurturance and Eroticism by Gender Identity, Sexual Orientation, and Relationship Length for Monogamous Participants (Study 2)

	B (95% CI) for Nurturance	*B* (95% CI) for Eroticism
Gender Identity		
Woman	Ref (0.00)	Ref (0.00)
Man	-.09 (-.21, .03)	.15 (.00, .29)
Sexual Orientation		
Heterosexual	Ref (0.00)	Ref (0.00)
Lesbian / gay	.27 (-.15, .68)	.22 (-.27, .73)
Bisexual	.08 (-.20, .36)	.08 (-.26, .42)
Relationship length (Years)	-.01 (-.01, .00)**	-.02 (-.03, -.02)**

*Other genders and sexual orientations are too small to be shown

** significant under .05 level

[a] adjusted for relationship length

b relationship length adjusted for age